

COURSE LEARNING OUTCOMES HANDBOOK¹

**American University of Beirut
Center for Teaching and Learning**

**VERSION 4
February 2007**

¹ This handbook was developed by a task force composed of the following faculty members: Thurayya Arayssi, Saouma BouJaude, Amal BouZeineddine, Nesreen Ghaddar, Marjorie Henningsen, Murad Jurdak, Fadl Moukalled, and Waddah Nasr.

About this Handbook

This handbook was prepared by faculty at AUB for faculty at AUB at the request of the Center for Teaching and Learning. The handbook draws on many available resources from within AUB and from other universities engaged in similar efforts to assess the quality of the courses they offer with an eye toward continual improvement. This handbook is intended as a resource to help faculty through the process of developing and articulating course learning outcomes that will feed into the development and implementation of comprehensive and ongoing program and course assessment. At its core, this effort is mainly about holding ourselves accountable for the quality of the courses we offer our students and for what our students learn in our courses.

Terminology

As you go through your process of developing course goals and learning outcomes you may consult a variety of resources and you may encounter slightly different terminology used to describe similar ideas. Below is a description of some of the terminology we have adopted for the learning outcomes effort at AUB.

Educational Objectives. Educational objectives are expressed in broad statements that describe the academic and/or professional accomplishments that the course, the program, or the institution is preparing students to achieve.

Course General Instructional Objectives. General instructional objectives (or goals) of the course help define the overall conceptual knowledge and the kind of performance capacities you want students to have developed upon completion of the course. General instructional objective statements are usually at a general level and are used to conceptualize broad learning goals for students in the course. They should be aligned with program goals.

Learning Outcomes. Learning outcomes are significant and essential learning that students are expected to have achieved and can demonstrate at the end of a course or program. In other words, learning outcomes identify what the learner will know and be able to do by the end of a course or program².

Course Learning Outcomes. Course learning outcome statements articulate more specifically the knowledge, performance, values, and attitudes that you expect students to be able to demonstrate by the end of the course in order to meet the general instructional objectives.

Educational objectives form a hierarchy. The educational objectives of a course, for example, should serve the objectives of the program(s) in which this course is included; similarly the educational objectives of a program should serve the institutional goals that in turn serve the mission of the institution. Learning outcomes are similarly related. The learning outcomes of a course support the learning outcomes of the program which includes this course. In the same manner the learning outcomes at any level should be aligned with the educational objectives of that level. Again, statements of goals and learning outcomes are useful tools for developing and implementing ongoing assessment and continual improvement.

² Adapted from <http://dental.gbrown.ca/programs/InsAdult/currlo.htm>

Potential Benefits of Assessment at the Course Level³

<i>Because assessment can provide information about the knowledge and skills students have as they enter a course</i>	Faculty members can design instruction to target the knowledge and skill levels students should have upon finishing a course and better determine the levels of thinking or reasoning appropriate for a particular course.
<i>Because assessment can provide reliable data on student learning</i>	Faculty members can rely <i>less</i> on anecdotal comments on student evaluations as indicators of success in teaching and <i>more</i> on achieved student learning outcomes.
<i>Because assessment can make available richer data about the effects of the curriculum or teaching methods</i>	Faculty members can engage in more productive conversations about the status of student achievement and make better decisions about how to improve it.
<i>Because assessment can yield more reliable data about instruction</i>	Faculty members can make valid decisions about innovations or experimental projects in instruction and share successes more easily.
<i>Because assessment can provide evidence that faculty members make a difference in student learning</i>	Faculty members can enjoy greater satisfaction in their work as educators.
<i>Because assessment rests largely in the hands of the faculty</i>	Faculty members can become the primary decision makers in regard to setting learning goals, identifying processes for assessing them, determining whether they have been reached, and recommending future directions.

³ Adapted from OAPA Handbook Program-based Review and Assessment, U Mass Amherst (Fall 2001)

Part 1: Getting Started with Course Learning Outcomes

The purpose of this chapter:

To help you assess where you are in terms of preparing student learning outcomes for your courses and to help you begin the process.

Student Learning Outcomes: What are they and why do we need them at the course level?

Course-level student learning outcomes are written in statements describing what students are expected to learn in a course. They serve as tools for 1) articulating what we want students to know and be able to do as a result of their learning experiences in a course, and 2) designing assessment tools in order to know whether or not the outcomes have been realized. Whether we like to write them down or not, we all have goals in mind for what we want our students to know and be able to do as a result of a semester spent with us. The ideas do exist, so this process is simply about writing them down and making them clear for students.

We need learning outcome statements at the course level because they

- make course learning expectations transparent;
- increase students' awareness of and reflection on their own learning;
- help students understand where they are supposed to be headed or what they are aiming for as learners;
- help establish a common language among faculty, students, and other stakeholders for describing and assessing course content;
- provide advisers with a useful tool for helping advisees make decisions about course registration;
- help faculty self-assess/reflect on practice;
- define potential evidence bases for course revision and design; and
- may satisfy important accreditation requirements by external evaluators.

Begin with Self-assessment

Developing student learning outcomes is an ongoing iterative process that begins with self-examination. The rubric below is designed to help you assess where you are in terms of your own process of developing student learning outcomes for your courses and to help you decide how to move forward from where you are.

	Beginning	Making Progress	Advanced
Articulating Goals and Outcomes	Goals and outcomes are clear in my mind; syllabi describe course content, but not learning goals or outcomes.	Broad course goals are written in syllabi, but not consistently articulated from the student learning perspective, or they might still be a bit vague or general.	Goals and outcomes are well defined and articulated in writing, either in course syllabi or other internal documents.
Analysis and Assessment	Relations among how I teach, my goals, and how I assess and evaluate students are not that clear.	I'm trying to align my assessment with how I teach and what I want students to learn, but my assessment is still not where I want it to be; I find that I don't have much convincing data on which to base decisions.	Assessment tools are clearly tied to learning outcomes and the way I teach; plan for collecting evidence on learning outcomes is clear, complete, and feasible.
Reflection and Revision	Decisions are made about individual evaluations and course adjustments based on relatively little data or one predominant type of data.	I'm collecting some interesting data, but I don't have time to do anything with it or I'm struggling with how to use it in evaluation and course adjustments.	I actually analyze the data I collect and use it to make decisions and adjustments for future iterations of the course; I have found ways to integrate multiple forms of assessment for the purposes of evaluating students on the learning outcomes I have articulated.
Multiple Perspectives	I rarely consult others in developing courses; I do not solicit systematic feedback from students beyond instructor course evaluations (ICE).	I consult other sources and talk to colleagues, but I haven't tried to map my courses with the larger program; I don't consistently collect systematic feedback from students.	I have a clear sense of how my course and specified learning outcomes fit into the larger program; I consistently ask for systematic feedback from students; I regularly consult literature, web, and/or colleagues here or at other institutions in case updates are needed.

If you find yourself past the beginning point, having articulated learning outcomes and ready to go more in-depth into developing a clear assessment plan, then you might want to skip to Chapter 4 of this handbook.

Beginning at the Beginning

If you feel you are still at the very beginning of your process, don't worry. It can take some time to get to the advanced stage, but you have to start somewhere. You can start small. You may want to follow these steps:⁴

- Begin by brainstorming about what ideal students at the end of the course should be like, be able to do, demonstrate that they know, etc. Try to articulate learner characteristics in terms of how students would be able to demonstrate each outcome (see the attached verb list for help). In other words, how would you know that they had learned “it”; what would you look for to know that they had learned “it.” Try to vary as much as possible the forms of assessment you plan to use.
- Focus on intended learning outcomes, i.e., ideal outcomes for student learning.
- Write something down. Once you get started in earnest, it will begin to become easier. Consult the next chapter, “**Guidelines for Writing Course Learning Outcomes,**” for more help.
- If you are having trouble brainstorming, then begin with what you currently do. Write down your current course goals and match them up with how you assess them. If you ran into a student a year later, what would you hope they could still do or say related to the course? Examine the assessment tools you use or the major assignments you give in the course. Ask yourself about the purpose of each in terms of what the students learn from it and in terms of what it can and cannot tell you about what students know and are able to do. What is challenging for the students? For you? What have you felt successful about in the past? What do you feel unsatisfied with? Engaging in this reflective process honestly can help you get started in articulating your expectations for students and aligning them with how you teach and assess.
- Consult with colleagues for advice and to avoid too much unnecessary repetition across courses. You should have a clear idea of how the course and the learning outcomes will fit into a larger program. Also consult web resources from within your discipline—student learning outcomes are being worked on virtually everywhere, so it helps to see what others are doing in their courses.
- Try to separate learning outcomes that are at different levels of specificity. For example, there may be some learning outcomes that result from the accumulation of all the experiences in the course. These should definitely be included in the syllabus as they help students understand the point of taking the course. On the other hand you may have five to ten specific learning outcomes tied to a single session or lecture. These could be presented in advance of the lecture or as an introduction to the lecture and not necessarily included in the syllabus handed out at the beginning of the course.

⁴ *The ideas herein are drawn from many sources including Kansas State University website, Ball State University website, University of California at Santa Barbara website, University of Washington website, and materials developed for the AUB-CTL Seminar for Learning and Teaching Excellence.*

- Think about what kinds of experiences students will need to have in order to achieve the learning outcomes you have articulated. Also think about what forms of evidence you will collect in order to know whether the outcomes have been met and how you will organize the data in order to analyze them.
- As much as possible, learning outcomes should be measurable. However, some outcomes are difficult to measure. These can be included in statements, but the challenge remains for a faculty member or a department or an entire faculty to work toward ways of trying to measure all learning outcomes. For each articulated outcome ask yourself, “What should I take as evidence that my course (or our program) is successful in terms of student learning of [any particular outcome].” Some outcomes may be assessed within a single course, while others need a longer term in order to be assessed in a convincing way.

Part 2: Guidelines for Writing Course Learning Outcomes

The purpose of this chapter:

To help you with the nuts and bolts of the process of writing course learning outcomes.

How Do We Write Course Learning Outcomes?

In order to develop clear, specific learning outcomes, we should start by writing general instructional objectives.

What are course general instructional objectives?

General instructional objectives in a course describe what concepts and skills you want students to develop upon completion of the course. They are expressed in **broad statements** that can also be theoretical. General instructional objectives should be aligned with program goals. When developing course general instructional objectives, you may want to ask yourself the following questions:

- ❖ What is it that I want to help **students learn in the course**?
- ❖ What do I want students to **retain from this course** a year from now?
- ❖ How does this course help in my **students' academic/professional growth**?
- ❖ How does this course **relate to program goals as well as other courses** in the program?

The worksheets found in Appendices 2B and 2C may help you with defining general instructional objectives and beginning to tie them to specific course learning outcomes. You may also want to use the worksheet in Appendix 2B to help you finalize your general instructional objectives.

Writing Course Learning Outcomes

Once you have begun the process of defining course learning outcomes (see “**Getting Started**” chapter), you may want to use the guidelines below to help you develop clear statements of those learning outcomes:

- ❖ Check whether your students' intended performance **is observable**.
- ❖ Check whether you can **assess/measure** your students' observable performance.
- ❖ **Align** course learning outcomes with the mission and goals of your program.
- ❖ Indicate the **type and level** of knowledge, attitude, and skills which are expected of students upon completion of the course. (**Refer to Appendix 2A**)
- ❖ Make sure each statement has **one action** verb. Do not include more than one expectation in one statement because the required assessment methods may differ.

- ❖ Focus on the **learning result** (i.e., product or performance) that the student will exhibit and not the learning process or your instruction.
- ❖ Write learning outcomes which can be measured by more than one assessment method.

Classifying Types and Levels of Learning Outcomes

In order to construct learning outcomes, you may find it helpful to categorize the kinds of products and performances you expect from students. As you consider what you want students to be able to do as a result of their learning experiences in your course, it might help to consider a taxonomy of knowledge such as Bloom's taxonomy (this taxonomy was also introduced in the *Program Learning Outcomes Handbook*). As you may recall, Bloom defined three different domains of knowledge:

- ❖ *Cognitive domain* (thinking, knowledge): student cognitive behavior is categorized into six levels ranging from simple (knowledge) to more complex behaviors (evaluation).
- ❖ *Affective domain* (feeling, attitudes): this domain ranges from receiving to internalizing.
- ❖ *Psychomotor domain* (doing, skills): this taxonomy ranges from the simple act of perception to the highest level of behavior, organization.

(For a definition of each domain and examples of action verbs for each level, refer to Appendix 2A)

Please note that we refer to Bloom's taxonomy because it is general enough to apply across a variety of disciplines. There may be alternative taxonomies that are specific to your discipline and therefore more useful for you. The important point is that using some kind of systematic categorization scheme will help tremendously with respect to accounting for all your intended learning outcomes as you develop and implement your continuous assessment and improvement plan.

Tips: How many learning outcomes in a course should we develop?

You may want to develop as many outcomes as needed in order to indicate clearly to the students what they will gain from the course. When writing your course student learning outcomes (SLO), you may want to consider the following:

- ❖ Each major topic in the course should have **one to three** learning outcomes.
- ❖ Each 45-hour or three-credit course should have between **five and twelve** learning outcomes

Examples:

1. Bio 100/101

General Instructional Objective/Goal:

Students will be able to understand how the biological sciences explain the natural world.

Specific Learning Outcome:

Students will

1. Design an experiment, based on a reasonable scientific hypothesis, to demonstrate how an environmental factor affects a living organism.
2. Choose two biological concepts from the following list and explain how they are related: ecology, cell function, evolution, and genetics.

2. English 110

General Instructional Objective/Goal:

Students will understand how major works of literature explore the human condition and examine human values.

Specific Learning Outcome:

Students will be able to

1. Identify the characteristics inherent in literature, such as emotional, intellectual, and aesthetic design in problems concerning the human condition.
2. Relate the characteristics of literature to larger cultural and human values.

More examples of specific learning outcomes

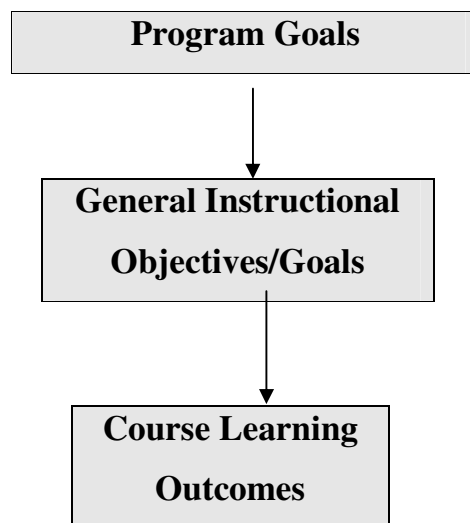
At the end of this course, students will be able to

- ❖ Use change theory to develop family-centered care within the context of nursing practice.
- ❖ Design improved bias circuits using negative feedback.
- ❖ Demonstrate the safe use of welding equipment.
- ❖ In an anatomy module, describe the muscle insertion points in the femur.
- ❖ In a public health module, describe the effect Chadwick had upon various law reforms.
- ❖ In a community care module, demonstrate the appropriate behavior when visiting a patient at home.
- ❖ In a clinical skills module, demonstrate effectively basic resuscitation techniques on a mannequin.
- ❖ For Med III perform an appropriate examination.
- ❖ For Med IV collate all patient information for ward rounds.

Once you have finalized your list of course learning outcomes, you may want to use the worksheet in **Appendix 2D** to help you assess the quality of the learning outcomes you have developed and make adjustments as necessary.

Aligning Program Goals, Course Goals, and Learning Outcomes

When developing specific learning outcomes, it is important to go back to your course general instructional objectives and generate specific learning outcomes from them. Remember that you have already aligned general instructional objectives with program goals. Thus your course learning outcomes are drawn from general instructional objectives that are aligned with program goals which are in turn aligned with the program mission. This level of coherence is vitally important for developing an ongoing assessment and improvement plan.



Example

University Mission: Broad exposure to the liberal arts . . .for students to develop their powers of written and spoken expression. . .

Program Goal: The study of English enables students to improve their writing skills, their articulation . . .

English Composition Course Goals: Students will learn to acknowledge a variety of writing contexts. Students will learn to adjust to a variety of writing contexts.

Learning Outcome: The student will demonstrate through discussion, planning, and writing an awareness that audiences differ.

Learning Outcome: The student will write a draft demonstrating that readers' needs/expectations must be taken into account The student will revise work with a sense of purpose and an awareness of audience.

APPENDIX 2B
Reviewing General Instructional Objectives
Checklist

Faculty: _____ Course: _____

Academic Year: _____ Date Prepared: _____

This checklist is meant to help you verify whether you have developed proper **general instructional objectives**. Responses which fall under “Not Sure” need to be reviewed.

	Yes	No	Not Sure
1. Are your general instructional objectives consistent with your program goals			
2. Are your general instructional objectives broadly stated?			
3. Are your general instructional objectives assessable?			
4. Do your general instructional objectives identify what the students will learn from this course?			
5. Do your general instructional objectives provide a framework for determining the more specific learning outcomes of the course?			
6. Do your general instructional objectives set the basis for assessment?			
7. Do your general instructional objectives relate to general instructional objectives of other courses?			

Appendix 2C
Writing Course Goals and Learning Outcomes
Exercise

Write two statements which specify what your students will be able to do as a result of taking your course:

1. _____

2. _____

Answer the following questions:

1. What do you expect your students to do specifically in each of the statements above?

2. Are the verbs you used action verbs?

3. What type and level of behavior do you expect in each statement?

4. What evidence will you use to measure the students' intended behavior?

5. Explain how each statement is aligned with the program goals.

APPENDIX 2D
Course Specific Learning Outcomes
Reviewing Student Learning Outcomes
Checklist

Faculty: _____ Course: _____

Academic Year: _____ Date Prepared: _____

This checklist is meant to help you verify whether you have developed proper course **specific learning outcomes**. Responses which fall under “Not Sure” need to be reviewed.

	Yes	No	Not Sure
1. Are your specific learning outcomes aligned with your program goals?			
2. Are your specific learning outcomes aligned with your course general instructional objectives?			
3. Do your specific learning outcomes describe learning results and not learning processes?			
4. Are your specific learning outcomes specific about what the students will achieve after completing the course?			
5. Do your specific learning outcomes indicate the type/level (knowledge, skills, attitude) of skills expected of students upon completion of the course?			
6. Are your specific learning outcomes observable and measurable?			
7. Do your specific learning outcomes have a single action verb?			
8. Do your specific learning outcomes describe intended and not actual outcomes?			
9. Do your specific learning outcomes allow for more than one measurement method?			
10. Can your specific learning outcomes be used to identify areas to improve in your course?			

OVERVIEW OF COURSE ASSESSMENT

Purpose of this chapter:

The purpose of the chapter is to define the concept of course assessment, differentiate between assessment and grading, and broadly overview the course assessment process. Details of course assessment will be the subject of a future handbook.

Introduction to Course Assessment

Assessment is basically *a process of gathering systematic evidence* that can be reviewed, analyzed, and possibly used to make evaluative judgments or continual improvement efforts. As such, assessment at the university encompasses the following:

1. **Classroom assessment:** This is the assessment of individual student learning at the course level by the course instructor.
2. **Course assessment:** This is the assessment of a particular course using a variety of sources. Course instructors are in the best position to design a course assessment plan as they know what the course content should be, what students should learn, and how best to determine if they have learned. The information collected from analyzing the results offers valuable insight into how the course can be reinforced to enhance student learning.
3. **Program assessment:** It entails assessing the quality and performance of the students and graduates, program educational goals, program educational outcomes, competency, sufficiency, and diversity of the faculty to cover all of the curricular areas of the program, facilities, and institutional support and financial resources (this is the focus of this chapter).
4. **Institutional assessment:** It involves assessment of campus-wide characteristics and issues.

Definition of Course Assessment

Course-based assessment refers to methods of assessing student learning within the classroom environment, using course goals, objectives, and content to gauge the extent of the learning that is taking place. (*Adapted from OAPA handbook COURSE-Based Review and Assessment – Umass Amherst, 2001*) Course assessment methods can be both formal and informal in nature.

Assessment and Grading

While grades are one measure or way of representing student achievement, they do not provide the kinds of insights needed to achieve the primary goal of assessment, which is to improve teaching and learning. Grades also often do not reflect all the nuances of our understanding of what our students have learned or how much progress they have made with respect to specific course learning outcomes. Specifically,

- grades provide a global evaluation but not sufficient information to reveal which course learning outcomes students are becoming proficient in and which are difficult for them;
- course grades alone do not motivate faculty to improve student learning of particular course outcomes;
- grades sometimes are based on more than knowledge of course content (e.g., participation, attendance, bonus points);
- grading standards often vary widely among different instructors and do not indicate the same degree of mastery of course learning outcomes; and
- grade inflation (easy tests, generous grading, and extra-credit bonuses) sometimes presents a misleading indicator of student knowledge of course learning outcomes.

(Adapted from Course Assessment Handbook, William Peirce, Prince George's Community College, February 2003; OAPA handbook COURSE-Based Review and Assessment – Umass Amherst, 2001)

Grades as Part of Course Assessment

Grades on individual tests, assignments, and projects may be incorporated into the assessment process if they contribute to the focus of course assessment. The focus of course assessment is to determine how well students enrolled in a particular course are learning the content that faculty who teach the course agree that students should learn. Specifically, course assessment helps faculty determine the efficacy of the learning experiences provided in the course.

Benefits of Course Assessment

Course assessment benefits students when it leads to improved learning of the course content; additionally, the faculty also benefit. For students, assessment can mean

- clarifying what their instructors expect from them,
- focusing more on learning as they come to see the connection between learning and course content,
- becoming more self-reflective learners, and
- understanding their strengths and weaknesses.

The course assessment process provides one of the few opportunities for faculty to discuss course content with each other, and, based on the results of an assessment, determine how they can improve student learning in the course. Using assessment results as evidence, instructors might decide to

- revise the course outcomes to include more higher-order thinking and greater intellectual rigor,
- obtain more consistency in large multi-section courses,
- reduce grade inflation by linking test and course grades to mastery of all outcomes,
- explore active learning strategies and other teaching methods,
- explore technological enhancements (labs, equipment, CD tutorial, etc.), using the assessment evidence to support a request for increased funding,
- conduct a retreat or workshop for instructors,

- provide a more learning-centered, student-responsive classroom environment,
- adjust the teaching process to accommodate gaps in learning that can be tied to methods of instruction,
- become more student-responsive in terms of facilitating learning and acquisition of knowledge, and
- explore other ways of assessing outcomes.

(Adapted from Course Assessment Handbook, William Peirce, Prince George's Community College, February 2003; OAPA handbook COURSE-Based Review and Assessment – Umass Amherst, 2001)

The Course Assessment Process

Department chairs have a leadership role in the course assessment process. They should initiate and monitor the assessment of a course from the planning stage to analyzing the results. Assessment can be done at a specific moment or over an extended period. You should think about the length and scope of the course assessment techniques that you will use. For example, you may want to think about collecting long-term or longitudinal data about the course in addition to looking at data from particular time points. At its most basic, the course assessment process can be broken down into three parts:

1. Establishing student learning goals and outcomes for the course (this has been covered in previous chapters).
2. Measuring whether these goals have been met, which requires identifying what information is being and/or should be collected and how this information relates to course goals and learning outcomes. For that purpose course instructors have to answer the following questions:
 - What information on student learning/performance is currently being collected?
 - How informative are each of these to understanding the student learning process?
 - How do these data sources relate to your newly articulated goals and learning outcomes?
 - Are there gaps between the information you collect and your course objectives? What other information is needed to be able to understand whether students are meeting these objectives?
3. Using the results to improve teaching and learning in the course. This means using the gathered information to look critically at whether your existing course syllabus explicitly outlines anticipated learning outcomes and ties course content and requirements to these outcomes. This is the first step in using the assessment process to develop improved communication between instructor and students. It is not possible to assess accurately student learning without an effective syllabus that details course goals, expectations, and requirements.

(Adapted from Course Assessment Handbook, William Peirce, Prince George's Community College, February 2003; OAPA handbook COURSE-Based Review and Assessment – Umass Amherst, 2001)

Course Assessment Methods

An important element of the assessment process is designing or selecting data collection measures to assess whether or not the course objectives and learning outcomes have been achieved. Assessment methods include indirect and direct measures of learning.

Indirect Measures of Learning. Indirect measures of learning include self-report measures such as surveys distributed to learner—surveys which can be used both in courses and at the program and institutional levels.

Direct Measures of Learning. Direct assessments take a variety of forms such as projects, products, essay/papers, exhibitions, case studies, clinical evaluations, interviews, oral exams, and any number of performance assessments that actively involve students in their learning. Below is a list of course assessment methods. It is intended to be comprehensive, but it is certainly not exhaustive.

1. Annotated bibliographies and literature reviews: show students' own analysis and assessment of what they have read.
2. Behavioral observations: measurements of frequency, duration, and context of subject's actions, but can also include on-line evaluative judgments by the professor. Includes records of attendance and participation, can be recorded on charts or checklists used during class sessions.
3. Examination revisions: student submissions of corrected examinations based on feedback from the professor.
4. Extended project: long-term creative work, research studies, in-depth case studies, term papers. Could be individual or in small groups.
5. Formal reports: written reports of lab or field experiences.
6. In-class writing or performance: on demand demonstrations of knowledge or skills through writing or performance.
7. Informal interviews: interviews of individuals or groups of students during class activities.
8. Journals: records of perceptions of and reflections on experience over time. Could be recorded in writing, audio, video, photo, etc.
9. Locally developed examinations: objective (e.g., matching, fill-in, multiple choice, true/false) or subjective (e.g., essay, short answer) tests and quizzes designed by local staff/faculty.
10. Oral examinations: formal evaluations of student knowledge levels through face-to-face dialogue.
11. Oral presentations or performance: could be individual or in groups, including leading class discussions.
12. Portfolios: collections of work samples usually compiled over time and scored with evaluation rubrics. Types of portfolios include revision portfolios, journals, and artifact portfolios. Could focus on best performance, significant milestones, or growth over time.
13. Short topic homework assignments: problem sets, worksheets, and brief reflection questions.
14. Short undocumented essays: brief commentaries or critiques, summaries, reaction papers, reader response, personal reflection on field experience, etc.
15. Short documented essays: citing and/or integrating of multiple published sources.
16. Simulations: competency-based measurements of abilities in situations that approximate "real world" settings (e.g., microteaching, solving cases, modeling).
17. Writing revisions: multiple drafts of significant writing assignments showing growth over time.
18. Written surveys and questionnaires: student self-assessments, i.e., sharing their perceptions of their own skills/attitudes/behaviors or giving their perceptions of course qualities/attributes.

(Some items were adapted from Prus & Johnson (1994).)

References

1. *Guidelines for Assessment*. California State University, Spring 1993.
2. Hutchings, P. and Marchese. *Watching Assessment: Questions, Stories, Prospects*. *Change: The Magazine of Higher Learning*, 22, 5, pp. 12 – 38, 1990.
3. *Outcomes Assessment Manual*. University of Wisconsin, Madison, April 2000.
4. Pet-Armacost, J., Armacost, R., and Young, D. *Transforming the Assessment Culture: One University's Story* presented at 2003 AAHE Assessment Forum, Seattle, WA, June 2003.
5. Allen, M. and Noel, E. *Outcomes Assessment Handbook*. California State University Bakersfield, March 2002.
6. Harding, L., Dickerson, D., and Kehoe, B. *Guide to Outcomes Assessment of Student Learning*. California State University, Fresno, 1999.
7. Melnyk, S., and Denzler, D. *Operations Management – A Value-Driven Approach*. Irwin, 1995.
8. Palomba, C. and Banta, T. *Assessment Essentials*. San Francisco: Jossey-Bass, 1999.
9. *OAPA handbook Course-Based Review and Assessment – UMass Amherst, Fall 2001*.
10. Prus, J. and Johnson, R., "Assessment and Testing Myths and Realities." *New Directions for Community Colleges*, No. 88, Winter 94.