



Los Angeles Harbor College SLO Assessment Handbook 2019-2023

Reviewed and approved by The Assessment Committee (Date Pending)

Adopted by the Academic Senate (Date Pending)

Adopted by the College Planning Council (CPC) (Date Pending)

LOS ANGELES HARBOR COLLEGE MISSION

Los Angeles Harbor College serves our diverse community by providing access to associate and transfer degrees, certificates, economic and workforce development, and adult and noncredit instruction. We promote equity, diversity, and student success through academic programs and support services that ensure our students become productive members of a global society.

VISION

Harbor College provides a stimulating learning environment that prepares members within the community to meet goals and opportunities successfully.

VALUES

Student Success, Excellence, Integrity, A Supportive Environment, Personal and Institutional Accountability, and Civic Responsibility

Institutional Student Learning Outcomes

- ISLO 1 - Communication: Use oral, written, and non-verbal modes of expression appropriate to the audience and purpose.
- ISLO 2 - Cognition: Use critical thinking skills and quantitative reasoning to analyze, synthesize, and evaluate ideas and information to interpret real world information in the context of a discipline.
- ISLO 3 - Information Literacy and Technological Competency: Utilize technology for research and learning skills necessary to achieve educational, professional, and personal objectives.
- ISLO 4 - Social Responsibility and Ethics: Demonstrate sensitivity to and respect for others by promoting equity, diversity, and success by participating as responsible citizens that empower self, others, and the community.

I. Assessment

What is assessment?

- Stassen, Doherty, and Poe (2001) define assessment as “the systematic collection and analysis of information to improve student learning” (p. 5). Assessment is a process that involves reflection on purposes, discussion and specification of educational goals, development of indicators of the extent to which those goals are being achieved, and, based on the evidence, curricular and program modifications designed to increase the likelihood that students will learn what we want them to learn. Student assessment enables instructors to measure the effectiveness of their teaching by linking student performance to specific learning objectives. As a result, teachers are able to institutionalize effective teaching choices and revise ineffective ones in their pedagogy. Assessment, therefore, offers a means for enhancing teaching and learning, allowing instructors to use assessment result to develop a series of activities that will help us do better the things we believe are important.

What are the different levels of assessment?

- As noted by Hutchings (2011), assessment at its heart is about goals. In particular, it is about “teaching towards goals that you and your colleagues have agreed upon” (p. 1). To this end, there are three typical levels of assessment: the institutional level, the program or department level, and the course level.
 - The National Institute of Learning Outcomes Assessment provides useful distinctions among these three levels.
 - At the **institutional level**, universities assess whether or not their students are graduating with the skills necessary to become productive members of society and their professions regardless of the major chosen. These skills can include the goals of critical thinking and writing; oral and written communication, and quantitative reasoning. University-wide learning goals can also include substantive knowledge across a wide variety of disciplines usually achieved through the completion of general education requirements.
 - At the **program or department level**, faculty develop the goals they wish their majors to achieve both in terms of knowledge and the practical skills. The outcomes here center on the question: What do our students need to know and be able to do to work in this particular profession or field?
 - At the **course level**, desired goals and outcomes for a specific course -- both in terms of knowledge and skills are set out, preferably as part of the course design process, and then assessed throughout the semester.
-

II. Student, Program, and Institutional Level Outcomes

What are Student Learning Outcomes (SLOs)?

- **Student Learning Outcomes (SLOs)** at the course-level focus on what a student will be able to do as a result of completing a course. These outcomes may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred as a result of a specified course.

What is the difference between Course Objective and Student Learning Outcomes (SLOs)?

- **Course Objectives** are small steps that lead toward a goal; for instance, course objective include the discrete course content that faculty cover within a discipline. Objectives are usually more numerous and create a framework for the overarching Student Learning Outcomes which address synthesizing, evaluating and analyzing many of the objectives.

Who is responsible for creating and approving Student Learning Outcomes (SLOs)?

- All college courses are required to have Student Learning Outcomes (SLOs). College faculty that are a part of the department/program with expertise in the subject matter for the course the SLOs are being created for are responsible for creating student learning outcomes. New or revised SLOs must be approved through the curriculum process outline in the Curriculum Handbook. Approved Student Learning Outcome statements must be included in all course syllabi.

What are some useful tips for creating outcomes?

- The most common problem with Learning Outcomes is that they are not assessable. Sometimes, learning outcomes are too vague or too specific. To assess an outcome, it must be measurable (observable).
- SLOs are the verb-begun statements, often based on Bloom's taxonomy (see diagram on the right), that define the specific knowledge, skills and abilities that we expect our students to master in our classes.
- Verbs to avoid: understand, appreciate, comprehend, grasp, know, see, accept, be aware of, be conscious of, learn, perceive, value, get, apprehend, be familiar with



- Questions to ask if your outcomes are good:
 - Is the Learning Outcome observable?
 - Can you and the students know when it is achieved?
 - What evidence would you need to see if it has been reached?
 - What sorts of behaviors or performances would you associate with someone who has reached the state?
 - If a student completed your course having mastered these outcomes, would you consider your course a success?
 - Why do these Learning Outcomes matter to you or your department?
 - How do these Learning Outcomes build on what has come before in the program?
 - How do these Learning Outcomes prepare the students for what comes after?

What are Program Level Outcomes?

- **Program Learning Outcomes** focus on students' *cumulative learning across courses* at the end of the program. While course level outcomes describe what a student is expected to be able to do as a result of completing the course, are more specific, and are written by instructors to align with the Program Learning Outcomes (PLOs), Program Learning Outcomes identify the general skills, attitudes, and knowledge expected to be obtained upon completion of all of the courses that are a part of a program. When creating Program Level Outcomes, consider what skill, knowledge, or behaviors you would expect a student to have once completing all the required courses in the program.
- Accreditation Standards II.A.1 and II.A.6 require college programs to demonstrate that “The institution's principal degree programs are congruent with its mission, are based on recognized higher education field(s) of study, are of sufficient content and length, are conducted at levels of quality and rigor appropriate to the degrees offered, and **culminate in identified student outcomes.**” Additionally, Standard II.A.13. requires that “All degree programs include focused study in at least one area of inquiry or in an established interdisciplinary core. The identification of specialized courses in an area of inquiry or interdisciplinary core is based upon student learning outcomes and competencies, and include mastery, at the appropriate degree level, of key theories and practices within the field of study.”
- **General Education Learning Outcomes (GELOs)** are a specific type of Program Level Outcome. GELOs are Program Level Outcomes for the College's General Education Programs. *The College's GELOs were revised by the GELO Workgroup in June of 2021 to align with the College's ISLOs, and since the College's ISLOs are aligned with Accreditation Standard II.A.11, the CSU Golden Four, and the College's GE Areas, the College's GELOs cover all of the general education learning areas that are a part of the program and include the necessary skills students should possess when completing our general education program. Revisions to General Education Learning Outcomes are the responsibility of the Assessment Committee and any revisions must be approved through the curriculum process as outlined in the Curriculum Handbook. Revisions must then be update in the College Catalogue.

GELO and ISLO Alignment

GELO	ISLOs
GELO 1 - Demonstrate proficiency in verbal, written, and non-verbal communication appropriate to the audience and purpose.	ISLO 1 - Communication: Use oral, written, and non-verbal modes of expression appropriate to the audience and purpose.
GELO 2 - Employ qualitative and quantitative reasoning to solve problems and demonstrate the ability to form conclusions based on the analysis of evidence.	ISLO 2 - Cognition: Use critical thinking skills and quantitative reasoning to analyze, synthesize, and evaluate ideas and information to interpret real world information in the context of a discipline.
GELO 3 - Utilize technology for research and learning skills necessary to achieve educational, professional, and personal objectives.	ISLO 3 - Information Literacy and Technological Competency: Utilize technology for research and learning skills necessary to achieve educational, professional, and personal objectives.
GELO 4 - Describe social constructs that guide ethical decision-making and the role of human events and forms of expression in shaping society.	ISLO 4 - Social Responsibility and Ethics: Demonstrate sensitivity to and respect for others by promoting equity, diversity, and success by participating as responsible citizens that empower self, others, and the community.

Accreditation Standard and ISLO Alignment

ISLOs	Accreditation Standard: II.A.11.					
	Communication Competency	Information Competency	Quantitative Competency	Analytical Inquiry Skills	Ethical Reasoning	The ability to engage in diverse perspectives
Communication	X	X		X	X	X
Cognition		X	X	X	X	X
Information Literacy and Technological Competency		X		X		
Social Responsibility & Ethics		X		X	X	X

CSU Golden Four and ISLO Alignment

ISLOs	CSU Golden Four			
	Oral Communication	Written Communication	Critical Thinking	Mathematics /Quantitative Reasoning
Communication	X	X		
Cognition			X	X
Information Literacy and Technological Competency			X	
Social Responsibility & Ethics			X	

ISLO and LAHC GE Area Alignment

ISLOs	Corresponds to LAHC GE Areas					
	Natural Sciences	Social & Behavioral Sciences	Humanities	Language & Rationality	Health & Physical Education	Math
Communication	X	X	X	X	X	X
Cognition	X	X	X	X	X	X
Information Literacy and Technological Competency		X	X	X		
Social Responsibility & Ethics		X	X	X	X	

Who is responsible for creating and approving Program Learning Outcomes (PLOs)?

- All college programs that culminate in a degree or certificate are required to have Program Level Outcomes (PLOs). College faculty that are a part of the department/discipline with expertise in the subject matter are responsible for creating Program Level Outcomes. New or revised Program Level Outcomes must be approved through the curriculum process outlined in the Curriculum Handbook. Once approved, PLOs must be added or updated in the College Catalogue.

What are Institutional Level Outcomes?

- **Institutional Level Outcomes (ISLOs)** include the knowledge, skills, abilities, and attitudes that students are expected to develop as a result of their overall experiences with any aspect of the college, including courses, programs, and student services.

Who is responsible for creating and approving Institutional Learning Outcomes (ISLOs)?

- Institutional Level Outcomes (ISLOs) are reviewed during the Strategic Educational Master Plan (SEMP) evaluation. The Assessment Committee is responsible for forming an ISLO Revision Workgroup once the SEMP evaluation is complete to review and make any necessary changes to the ISLO statements.
- The College's ISLOs were last revised in October of 2018 by an ISLO Workgroup. The revised College mission, the CSU Golden Four, Bloom's Taxonomy, and data from the closing of the Strategic Educational Master Plan (SEMP) and SLO Assessment results were used to revise the ISLOs.

How can Student Learning Outcomes, Program Level Outcomes, and Institutional Outcomes be aligned?

- To create program level outcomes, analyze the institutional student learning outcomes. Consider what students are expected to learn from the program that reflects at least one more institutional program outcome. Then, create statements that reflect what students are expected to learn as a result of taking all of the courses in a program that are aligned with one or more institutional outcome.
 - To create course outcomes, analyze the program outcomes and course objectives and create broader statements that reflect general statements about what students are expected to learn from the course and is aligned with at least on one more program outcome.
 - The alignment of SLOs to ISLOs ensure the College meets standard II.A.11. (ISLOs are already aligned to II.A.11), stating “The institution includes in all of its programs, student learning outcomes, appropriate to the program level, in communication competency, information competency, quantitative competency, analytic inquiry skills, ethical reasoning, the ability to engage diverse perspectives, and other program-specific learning outcomes.”
-

III. Harbor's Assessment-based Planning Model

How does Student Learning Outcome Assessment Align with the college mission and the institutional planning model?

Accreditation Standard 1.B.5 states that assessment of the college mission is done in part through assessment of course student learning outcomes. Harbor's Assessment Based Planning System (HAPS) is based on the roll-up model.



The roll-up model assumes that course Student Learning Outcomes, Program Learning Outcomes, and Institutional Outcomes are aligned. The college's mission was also revised to align with the ISLOs. Based on the roll-up model, if we are assessing student learning outcomes at the course level, we are in turn assessing the college's mission.

The assessment of SLOs is useful in helping instructors know where their teaching and learning activities have and have not been successful. It also allows instructors to gather information about students' strengths and weaknesses. In turn, this information can be used to inform teaching practices and can aid in program review.

Student assessment enables instructors to measure the effectiveness of their teaching by linking student performance to specific learning objectives. As a result, teachers are able to institutionalize effective teaching choices and revise ineffective ones in their pedagogy. In addition, this information can be used to inform program review.

The college's program review was purposely designed to align with the college's mission and the goals and objectives in the strategic educational master plan (SEMP) and is directly tied to resource allocation. This alignment connects what is happening at the course level to the planning that occurs at the institution level.



It allows academic departments to identify strengths, areas of improvement, and to establish goals for student success based on institution set standards and targets and student learning outcome assessment results, thereby providing a means for evaluating how well the college is accomplishing its mission and meeting strategic goals and targets.

Action plans are generated from the comprehensive self-evaluation that takes place during the program review process, and provides a basis for the allocation of resources. The resource requests are then reviewed at the division level, cluster level, and finally at the college level, thereby ensuring that planning guides budget decisions.



VI. Development of Assessments

What are examples of methods of assessment can one use?

- Formative and summative questions would probe what individual students are learning and how well they are meeting the goals of a course (whether related to disciplinary content or to using transferable intellectual and practical skills).
- Typical assessment questions at this level:
 - Is the student learning as expected?
 - Has the student's work improved over the semester?
 - How well has the student achieved the learning outcomes set for the course?
 - What are the student's strengths and weaknesses?
 - How well is the instructor communicating with and engaging the student?
- Sources of evidence: All student work embedded in the course (for example quizzes and exams, papers, projects, presentations, and portfolios) can provide evidence. This is the level of assessment at which instructor-assigned grades typically provide feedback to students about their progress and success.
- While the holistic assignment of grades (an A, B, or F) is a way to evaluate student work, such grades represent averaged estimates of overall quality and communicate little to students about their strengths, weaknesses, or ways to improve. A better way to aid learning is through analytical assessments, which can be as simple as written comments on student papers or as structured as the use of a detailed rubric for an assignment; such analysis can reveal precisely which concepts a student finds challenging” (Miller and Leskes, 2005, p. 4).

How do grades and outcome assessments differ?

- Instructors often conflate assessment with grading. It must be understood that student assessment is *more* than just grading. Assessment links student performance to specific learning objectives in order to provide useful information to instructors and students about student achievement.
- Traditional grading on the other hand, according to Stassen et al. (2001) does not provide the level of detailed and specific information essential to link student performance with improvement. “Because grades don't tell you about student performance on individual (or specific) learning goals or outcomes, they provide little information on the overall success of your course in helping students to attain the specific and distinct learning objectives of interest” (Stassen et al., 2001, pg. 6).
- Miller and Leskes (2005) also caution against the use of holistic grades (A to F) because they fail to provide the tailored and actionable feedback needed to nurture meaningful student development. These grades “represent averaged estimates of overall quality and communicate little to students about their strengths, weaknesses, or ways to improve. Instructors, therefore, must always remember that grading is an aspect of student assessment, but does not constitute its totality.

VII. The SLO Assessment Process at Harbor College

2019-2023 Assessment Cycle

- Los Angeles Harbor College began the 5th Assessment Cycle in Fall of 2020. The 5th cycle will be a 3-year cycle (Year 1: 20-21, Year 2: 21-22, and Year 3: 22-23) aligning with the closing of the Strategic Master Plan (SEMP) in Spring of 2023. All course SLOs must be assessed in the assessment cycle.

Yearly SLO Obligation

- Each year, one SLO needs to be assessed per course. All course SLOs must be assessed in the SLO cycle. (Therefore, if you have more than 5, you will need to assess more than one course SLO per year.)
- Each division/department is responsible for setting up a plan to ensure all course SLOs are assessed in the cycle.

SLO Assessment in eLumen

- **SLO Data Management System:** In Spring of 2020, the College moved from Sharepoint to eLumen, an online system that manages SLOs and the assessment cycle, for SLO assessment. eLumen allows faculty to see how well students are meeting the outcomes at the course, program and institutional levels. Most importantly, it gives faculty the opportunity to identify areas in courses that might need to be improved in the future.
- **SLO Statements:** All approved course SLO statements are in eLumen. These statements must be included in course syllabi. Any changes to these statements must be submitted to the Curriculum Committee and undergo the approval process designated in the Curriculum Handbook.
- **Creating and Planning Course Assessments:** Only Division Chairs, Department Coordinators, or Course Coordinators have access to create and plan SLO course assessments. The assigned coordinator (coordinators are assigned by division chairs) will choose which SLO(s) are assessed, when they are assessed, and which course sections will be assessed. The course coordinator will also be responsible for collaborating with the instructors teaching the course to design the activity used to measure the specific area of the Student Learning Outcome chosen to assess. Once the activity has been agreed on, the course coordinator will create the assessment and plan the assessment in eLumen. Instructions on creating and planning SLO assessment is on the LAHC SLO website.
- **Entering Course Assessment Results:** ELumen has the ability to disaggregate the data at the student level. In order to do so, each student must receive an individual assessment score. Elumen facilitates this process by linking their system to course rosters. Course rosters are uploaded into Elumen and instructors will be able to see each student's name and provide them with an assessment score.
- **SLOs Assessment Results and Unit Planning/Program Review with Annual Updates:** A summary of the SLO Assessment results will be included in the Unit Planning/Program

Review with Annual Updates. Action plans, specifying measurable improvements, will be created as a part of Unit Planning/Program Review in the case that the College standard is not met (students will score 70% or higher on the assessment activity). Progress on these action plans will be detailed each year during the annual update of the unit plan/program review.

Outcome Assessment Results Dialogue

- In an effort to demonstrate continuous improvement based on outcome assessments results, an important step in the learning outcomes assessment process is the discussions and the improvements made based on the data collected.
 - **Discipline Level Discussions:** At the department level, discussions of the strengths and weaknesses on the assessment activities are discussed on a yearly basis and the information is summarized in the unit planning/program review process. If areas of improvement are identified based on the results, actions plans are formulated in the unit planning/program review and are updated yearly with progress towards the goals. Ultimately, the data gathered from the outcome assessments can help to inform any necessary program changes.
 - **Division Level Discussions:** At the division level, discussion on the strengths and weaknesses on assessment activities are discussed on a yearly basis to help inform best practices and prioritization of resource allocation for the division. These discussion are evidenced by division meeting agendas/minutes.
 - **Institutional Level Discussions:** At the college level, an evaluation of Institutional Learning Outcomes occurs at College committees, including the Assessment Committee and Student Success Coordinating Committee on an ongoing basis. This evaluation and discussion is intended to help inform best practices and prioritization of resource allocation for the college. These discussion are evidenced by committee agendas/minutes.
 - These processes align with Accreditation Standard I.B.1. requiring that “The institution demonstrates a sustained, substantive and collegial dialog about student outcomes, student equity, academic quality, institutional effectiveness, and continuous improvement of student learning and achievement” and Standard I.B.8. “The institution broadly communicates the results of all of its assessment and evaluation activities so that the institution has a shared understanding of its strengths and weaknesses and sets appropriate priorities.”
-

VIII. Outcome Assessment and Accreditation

The following chart is a cross-walk between the College's Learning Outcomes Process and Accreditation Standards:

Accreditation Standard	College Process
I.A.3 The institution's programs and services are aligned with its mission. The mission guides institutional decision-making, planning, and resource allocation and informs institutional goals for student learning and achievement.	Alignment occurs in the Harbor Assessment-based Planning System.
I.B.1. The institution demonstrates a sustained, substantive and collegial dialog about student outcomes, student equity, academic quality, institutional effectiveness, and continuous improvement of student learning and achievement.	Discussions occur at the department, division and institution level (college committees).
I.B.2. The institution defines and assesses student learning outcomes for all instructional programs and student and learning support services. (ER 11)	SLOs are defined as a part of the curriculum process as outlined in the Curriculum Handbook. SLO Assessments occur on an annual basis.
I.B.4. The institution uses assessment data and organizes its institutional processes to support student learning and student achievement.	Learning outcome assessment data is used in the unit planning/program review with annual updates to inform best practices and program changes.
I.B.5. The institution assesses accomplishment of its mission through program review and evaluation of goals and objectives, student learning outcomes, and student achievement. Quantitative and qualitative data are disaggregated for analysis by program type and mode of delivery.	In the Harbor Assessment-based Planning System, alignment occurs between SLOs-PLOs-ISLOs-Mission, connecting what happens at the course level to the mission. Therefore course level assessment measure accomplishment of the mission.
I.B.6. The institution disaggregates and analyzes learning outcomes and achievement for subpopulations of students. When the institution identifies performance gaps, it implements strategies, which may include	Disaggregated PLO and ISLO data is discussed and used at committee to inform intuitional changes and resource allocation.

<p>allocation or reallocation of human, fiscal and other resources, to mitigate those gaps and evaluates the efficacy of those strategies.</p>	
<p>I.B.8. The institution broadly communicates the results of all of its assessment and evaluation activities so that the institution has a shared understanding of its strengths and weaknesses and sets appropriate priorities.</p>	<p>Outcomes Assessment data is communicated college-wide through the unit planning/program review process and data is reviewed at College committees to help set priorities and allocate resources.</p>
<p>I.C.1. All instructional programs, regardless of location or means of delivery, including distance education and correspondence education, are offered in fields of study consistent with the institution’s mission, are appropriate to higher education, and culminate in student attainment of identified student learning outcomes, and achievement of degrees, certificates, employment, or transfer to other higher education programs.</p>	<p>All instructional programs have defined Program Level Outcomes.</p>
<p>I.C.3. The institution identifies and regularly assesses learning outcomes for courses, programs, certificates and degrees using established institutional procedures. The institution has officially approved and current course outlines that include student learning outcomes. In every class section students receive a course syllabus that includes learning outcomes from the institution’s officially approved course outline.</p>	<p>Student Learning Outcomes are assessed on an annual basis. All course SLOs are assessed during the SLO cycle.</p>
<p>II.A.1. All instructional programs, regardless of location or means of delivery, including distance education and correspondence education, are offered in fields of study consistent with the institution’s mission, are appropriate to higher education, and culminate in student attainment of identified student learning outcomes, and achievement of degrees, certificates, employment, or transfer to other higher education programs. (ER 9 and ER 11)</p>	<p>Programs demonstrate aligned with the College mission in the unit planning/program review process. Faculty are responsible for creating, evaluation, and revising Program Level Outcomes as a part of the unit planning/program review process.</p>
<p>II.A.11. The institution includes in all of its programs, student learning outcomes,</p>	<p>Discipline faculty with an expertise in the course are responsible for creating student</p>

<p>appropriate to the program level, in communication competency, information competency, quantitative competency, analytic inquiry skills, ethical reasoning, the ability to engage diverse perspectives, and other program-specific learning outcomes.</p>	<p>learning outcomes, ensuring those with knowledge in the area create the outcomes. Student level outcomes are aligned with Institutional Level Outcomes, which have been aligned with the skills in this standard.</p>
<p>II.A.12. The institution requires of all of its degree programs a component of general education based on a carefully considered philosophy for both associate and baccalaureate degrees that is clearly stated in its catalog. The institution, relying on faculty expertise, determines the appropriateness of each course for inclusion in the general education curriculum, based upon student learning outcomes and competencies appropriate to the degree level. The learning outcomes include a student's preparation for and acceptance of responsible participation in civil society, skills for lifelong learning and application of learning, and a broad comprehension of the development of knowledge, practice, and interpretive approaches in the arts and humanities, the sciences, mathematics, and social sciences. (ER 12)</p>	<p>The General Education Learning Outcomes were aligned with the Institutional Learning Outcomes and since the College's ISLOs are aligned with Accreditation Standard II.A.11, the CSU Golden Four, and the College's GE Areas, the College's GELOs cover all of the general education learning areas that are a part of the program and include the necessary skills students should possess when completing our general education program.</p>
<p>II.A.13. All degree programs include focused study in at least one area of inquiry or in an established interdisciplinary core. The identification of specialized courses in an area of inquiry or interdisciplinary core is based upon student learning outcomes and competencies, and include mastery, at the appropriate degree level, of key theories and practices within the field of study.</p>	<p>Course Level Student Learning Outcomes are purposely aligned with Program Level Outcomes. Both SLOs and PLOs are created by faculty with expertise in the area to ensure they covers key theories/practices within the area.</p>
<p>II.A.16. The institution regularly evaluates and improves the quality and currency of all instructional programs offered in the name of the institution, including collegiate, pre-collegiate, career-technical, and continuing and community education courses and programs, regardless of delivery mode or location. The institution systematically strives to improve programs and courses to enhance learning outcomes and achievement for students.</p>	<p>Learning Outcomes are evaluated through the SLO Assessment process and the information is used to inform the action plans in the unit planning/program review.</p>

References

- Hutchings, P. (2010 April). Opening doors to faculty involvement in assessment. (NILOA Occasional Paper No. 4). Urbana, IL: University of Illinois and Indianan University National Institute for Learning Outcomes Assessment. Retrieved from www.learningoutcomesassessment.org/occasionalpaperfour.htm
- Miller, R. & Leskes, A. (2005). Levels of assessment. From the student to the institution. Washington, DC: Association of American Colleges and Universities.
- Stassen, M., Doherty, K., & Poe, M. (2001). Program-based review and assessment: Tools and techniques for program improvement. Office of Academic Planning and Assessment (OAPA), University of Massachusetts, Amherst. Retrieved from http://www.umass.edu/oapa/oapa/publications/online_handbooks/program_based.pdf