Syracuse University

Institutional Effectiveness and Assessment

September 2018

Syracuse University Guide for Developing an Assessment and Action Plan:

Co-Curricular Programs and Units

To follow this and additional works visit, assessment.syr.edu/resources.

Table of Contents

Syracuse University Assessment

Syracuse University is accountable to a number of external stakeholders including New York State, various specialized accreditors, and the Middle States Commission on Higher Education (MSCHE). Middle States accreditation operates on an eight-year self-study cycle with a periodic review report submitted in year four. In recent years, the accreditation landscape has changed to more centrally focus on the outcomes of student learning experiences and institutional effectiveness.

To demonstrate our commitment to not only meet standards set by accrediting bodies, but to provide our students with an outstanding educational experience in and out of the classroom, Syracuse University continues to enhance our culture of assessment and continual improvement.

Assessment is integral to maintaining quality and effectiveness at any institution of higher education. It relies on the contributions of all academic, co-curricular, and functional areas campus-wide in meeting Syracuse University's mission and goals. Within the culture of assessment, the mission and goals of each academic, co-curricular, and functional program/unit should align with the overall mission of the University and each program and unit has developed an assessment and action plan.

An assessment and action plan can be viewed as a process for continual improvement of the learning environment, products, processes, and services, as well as a tool for managing resources. It should be meaningful to its stakeholders and the results used to inform decision-making. From the results of assessment, each area determines what actions could be taken to improve the student experience, take those actions, and then measure whether the actions were effective.
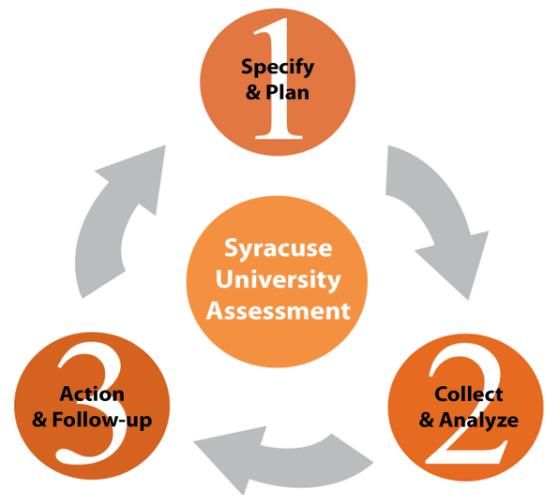
Assessment Working Team

Institutional Effectiveness and Assessment (IEA) has put together an Assessment Working Team (AWT) whose members are available to consult with and provide support and resources to academic programs, co-curricular programs/units, and functional areas as they develop and implement assessment and action plans. If you have assessment-related questions, or are interested in a consultation, department/ unit meeting or workshop for your area, please contact the AWT at assessment@syr.edu.

Co-Curricular Programs and Units

Co-curricular programs and units include a unique mix of programs and services that focus on student learning and development outside of the classroom (e.g., Learning Communities, Health Promotion, McNair Scholars Program, Falcone Center for Entrepreneurship, Mary Ann Shaw Center for Public and Community Service, etc.). Programs and units with co-curricular initiatives have goals and outcomes that are both student-focused and operational. Student-focused goals will be further defined as containing student learning and/or developmental outcomes.

Introduction to Assessment and Action Plans

This guide focuses on developing an assessment and action plan for co-curricular programs and units. The process for conducting assessment is organized into three phases:

Phase 1—Specify and Plan*: Identify goals that align with the program/unit's mission and strategic plan. For each goal, develop specific and measurable outcomes. Outcomes may focus on student learning/developmental and operational aspects. Select direct and indirect measures and determine corresponding criteria to assess each measure.

Phase 2— Collect and Analyze: Collect data for measures specified in Phase 1. Analyze and interpret results.

Phase 3—Action and Follow-up: Indicate actions to be taken to enhance the program/unit's goals. After actions are implemented, determine and document the impact(s).
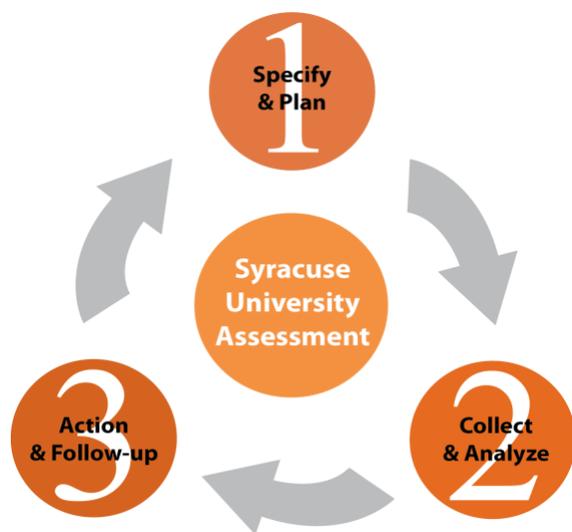
The appendices at the end of this guide provide various resources that may be useful to you as you develop your assessment and action plan.

Appendix A: Glossary

Appendix B: Learning and Developmental Outcome Action Verbs

Appendix C: Direct and Indirect Measures Examples

The Assessment Working Team has also assembled other resources to support program/unit assessment efforts, which you can find at http://assessment.syr.edu.

Phase 1—Specify and Plan

During this first phase, the focus is on identifying:

- Goals and outcomes
- Information and measures needed to examine the effectiveness of these outcomes
- Criteria to determine if the goals and outcomes have been achieved

I. Goals

Programs and units with co-curricular initiatives begin Phase 1 by identifying goals. Goals are general long-term aims or purposes of a unit that reflect the charge of the unit and align with its mission. Goals should be broadly stated, meaningful, achievable, and provide a framework for identifying outcomes. During this phase, a comprehensive set of two to four student-focused and operational goals should be identified.

Student-Focused Goals	
Definition	**Student-focused goals** are the long-term aims or purposes of a unit that address the education or development of students. They should be written using active verbs that describe what students should be able to do, know, or produce over time as a result of participation in the unit.
Example	Decrease students' high-risk drinking.

Operational Goals	
Definition	**Operational goals** are the general long-term aims or purposes of a unit that address general components such as efficiency, communication, and support systems of the unit.
Example	Ensure the planned services are maintained in a fiscally responsible manner.

II.   Outcomes

Once the goals have been identified, associated outcomes should be written. Each goal should have two or more outcomes. When writing these statements, remember that outcomes should be specific, measurable, and attainable within an anticipated timeframe.

Student-focused goals should be broken down into either learning outcomes or developmental outcomes. For example, the student-focused goal of "Decrease students' high-risk drinking" is broken down into student learning outcomes and student developmental outcomes, as well as operational outcomes. The definitions of each of these types of outcomes and examples are provided below.

Student Learning Outcomes	
Definition	**Learning outcomes** are statements describing specific student behaviors that evidence the acquisition of desired knowledge, skills, abilities, capacities, attitudes, or dispositions. They should be written using active verbs that describe what students should be able to do, know, or produce over time as a result of participation in a co-curricular program or unit.
Example	Students who complete the Making Good Decisions Program will be able to identify strategies to reduce the negative consequences of high-risk drinking.

Student Developmental Outcomes	
Definition	**Developmental outcomes** describe the affective dimensions to be instilled or enhanced; assess affective dimensions or attitudes and values (not cognitive abilities); and consider growth in ethical, spiritual, emotional, and social responsibility dimensions (Bresciani, 2001; Denny, 2009 as cited in Culp & Dungy, 2012). These outcomes may detail how students exhibit an increase in self-discipline, become more respectful of others' values, involve themselves in community service, engage in reflective spirituality, etc.
Example	Students who participate in Office of Health Promotion alcohol awareness programming will encourage others students to drink responsibly.

Operational Outcomes	
Definition	**Operational outcomes** are specific statements of what the overall goal is intended to achieve. They should be written using active verbs that describe what the unit will do to ensure the goal is attainable.
Example	The Office of Health Promotion will offer alcohol awareness and educational programs on a monthly basis to promote healthy choices concerning the use of alcohol.

For examples of student learning and developmental outcome action verbs, see **Appendix B**.

III.   Direct and Indirect Measures

For each **operational outcome**, at least one measure should be identified. **Operational measures** should provide information and evidence to determine the effectiveness and efficiency of the processes, services, support systems, and programs that relate to the ability of the program or unit to achieve their goals and outcomes.

For each student-focused outcome, identify both **direct and indirect measures** that provide information and evidence to determine how well the program or unit is achieving the outcome. While there is no specific amount of evidence or number of measures expected per outcome, each outcome should have appropriate measures to ensure that its success can be assessed.

Direct measures are viewed as stronger evidence because they provide information of actual student learning or development, or operational outcomes. Below is an example of a specified direct measure tied to a specific learning outcome.

Outcome Example	Direct Measure
Students who complete the *Making Good Decisions Program* will be able to use strategies to reduce the negative consequences of high-risk drinking.	In end-of-workshop role-play situations, students will use strategies presented during the program.

Indirect measures operate best as a support to the information gathered through direct measures. Information is often gathered through surveys, interviews, and focus groups. It reflects the opinions and perceptions about an outcome that may have been measured directly. Below is an example of a specified indirect measure tied to a specific developmental learning outcome.

Outcome Example	Indirect Measure
Students who participate in Office of Health Promotion alcohol educational programming will encourage others students to drink responsibly.	Program survey will include questions asking participants of their perceptions of their ability to encourage responsible drinking.

Why is the survey an indirect measure? While the survey will provide insight into participants' comfort level, which may be impacted by their learning or development, it does not measure actual actions taken by students. Indirect measures support direct measures as additional evidence. A direct measure for this could be a think-aloud or an observed simulation where participants practice assisting someone in need and are scored using a rubric.[1]

For examples of direct and indirect measures of student learning and developmental outcomes, see **Appendix C**.

---

[1]For more information on developing rubrics, visit the IEA website at assessment.syr.edu.

IV.   Criteria

Establish criteria for each outcome. A criterion must be indicated for each identified measure and should be realistic. Before setting criteria, you should look at past information about the program/unit or do some research on criteria set at other institutions.

Criteria	
Definition	Criteria is a metric that provides an indication of performance of specific outcomes. It can be used as a driver for improvement.
Example	For developmental outcome: Students who participate in Office of Health Promotion alcohol educational programming will encourage others students to drink responsibly. • Measure: Reported EMIs • Criteria: 25% drop in EMIs

Phase 2—Collect and Analyze

Phase 2 consists of collecting the information specified under measures and interpreting the results. Well-defined outcomes, measures, and criteria make it easier to collect the evidence identified in Phase 1 and analyze the results. During an assessment cycle, this phase will be completed for the outcomes being investigated. To begin this phase:

- Determine the plan for collecting the information.
- Specify the persons responsible for collecting the information.
- Specify the persons responsible for analyzing the information.

I. Collect and Record Results

Collect and record the results of the assessment activities. Writing the results in detail increases the ability to interpret the information. If possible, include references to written reports. For surveys or institutional data, include exact numbers and percentages of participants surveyed, which measure was used, and when the results were collected.

II. Analyze and Interpret Results

When analyzing and interpreting results, it is not sufficient to simply say your students are doing well or the program is successful. Determine what the results indicate. The interpretation should be as specific as possible to help make recommendations in Phase 3. When reviewing data consider the following questions:

- What are the strengths and weaknesses identified in the results of the outcome being assessed?
- What processes and services are operating as expected?
- What can be improved?

This discussion will lead to Phase 3 of the assessment process where actions may be identified.

Phase 3—Action and Follow-up

Based on the results and interpretation documented in Phase 2, the co-curricular program or unit can decide what areas are in need of improvement, determine how processes or services should be modified, or conclude that the processes and services are operating as expected.

I.   Action

Specify what action will be taken to use results for the purpose of improvement. Based on the interpretation, the following questions should be considered:

- What actions should the program/unit take, if any?
- How should any identified changes be made?

The assessment process should foster action. Focus on a few action items each year and decide who will be responsible, what the timeframe will be, and the priority level of the action. As you implement your planned actions, keep written records of activities related to the action as documentation of the process. Certain action items may be long term and results are reported in subsequent years.

II.   Plan for Follow-Up

Follow-up refers to the plan for determining whether or not the action steps successfully improved the
co-curricular program or unit. If actions have been taken and the impact of those actions have been studied, those findings can be documented here.

Based on the example on the previous page from the Office of Health Promotion, the following example shows the associated Phase 3 action and follow-up reporting.

PHASE 3	
Action	**Follow-Up**
Revise program: Have individuals talk about real-life experiences and how they handled it (versus just using scenarios) and have participants discuss how they would've handled it.	After making program changes, criteria are met.

III.   Improving Unit Assessment Processes

After completing Phase 3, staff should be provided an opportunity to recommend improvements to the program or unit's assessment processes. Possible recommendations could include:

- Identifying the need for more, or different, measures for specific objectives.
- Determining the need to streamline the process of collecting information.
- Identifying additional staff members who should be involved in assessment activities.

These recommendations can be documented in the assessment and action plan.

Appendix A

Glossary

Academic Program—Title of a given program within an academic department, usually resulting in a degree (e.g., Turkish, Health and Wellness Minor, Bachelor of Architecture, Master's in Media Studies, Certificate of Advanced Studies in Instructional Design Foundations, Doctorate in Geography, etc.).

Accountability—Using the results of assessment to demonstrate the quality of a program or university to concerned audiences. (Suskie, 2009)

Action Research—Purpose is to inform and improve one's own practice rather than make broad generalizations. Assessment is a form of action research. (Suskie, 2009)

Assessment (of Institutional Effectiveness)—Institutional assessments are essential to identifying gaps in performance of organizations that may be used to inform plans for improvements. Efforts to identify strengths and weaknesses within the organization of the institution via measures of performance will inform improvements to efficiency, effectiveness, and sustainability of organizations.

Assessment (of Learning)—The ongoing process of: (1) establishing clear, measurable expected outcomes of student learning, (2) ensuring that students have sufficient opportunities to achieve those outcomes, (3) systematically gathering, analyzing, and interpreting evidence to determine how well learning matches our expectations, and (4) using the resulting information to understand and improve student learning. (Suskie, 2009)

Criteria (as a standard for assessment)—The values assigned to different levels of qualities, skills, and attributes found through the assessment, or how the work is valued and judged.

Curriculum Map—Shows the degree to which a program's student learning outcomes are addressed in the courses/experiences that make up the curriculum. The rating scale represents a continuum from the beginning of the curriculum to the end of the student's experience in the academic program.

Degree—Degree awarded to student of a given academic department (e.g., BS, BA, MS, MA, CAS, PhD).

Direct Measure of Assessment—Methods that involve direct display of knowledge and skills (test results, written assignments, presentations, classroom assignments) resulting from learning experience in the class/program. (Palomba & Banta, 1999)

Evaluation—The use of assessment findings (evidence/data) to judge program effectiveness; used as a basis for making decisions about program changes or improvement. (Allen, Noel, Rienzi & McMillin, 2002)

Formative Assessment—Assessment conducted during the life of a program (or performance) with the purpose of providing feedback that can be used to modify, shape, and improve the program (or performance). (Banta & Palomba, 2015)

Goals—The general aims or purposes of a unit that are consistent with its mission. Goals should be broadly stated, meaningful, achievable, and provide a framework for identifying outcomes.

Grading—The process by which a teacher assesses student learning through classroom tests, assignments, observations, interactions, performances and other forms of work; the context in which teachers establish that process; and the dialogue that surrounds grades and defines their meaning to various audiences. (Walvoord, 1998)

Indirect Measure of Assessment—Methods that involve perceptions of learning or improvement rather than actual demonstrations of outcome achievement (alumni surveys, employer surveys, exit interviews)

Institutional Effectiveness—The degree to which an institution successfully achieves its mission and goals and is in compliance with accreditation standards. The effectiveness of an institution rests upon the contribution that each of the institution's programs and services makes toward achieving the goals of the institution as a whole.[1]

Learning Objectives—Statements that specify what learners will comprehend or be able to demonstrate as a result of a study activity or course or program. Learning objectives help instructors convey more distinctly to students what is expected of them. Objectives also help instructors develop effective strategies for evaluating student work and study. Objectives are usually stated, using action verbs, as knowledge, skills, and/or attitudes. They should be demonstrable and measurable. (University Senate Committee on Curricula)

Objectives—Statements of what a functional unit strives to achieve. They are specific, measurable, achievable, results-oriented, and time bound.

Operational Objectives—Statements associated with a unit goal indicating what the goal is intended to achieve. Objectives should be written using active verbs that describe what unit will do to ensure the goal is attainable.

Program Review—Comprehensive evaluation of an academic degree program that is designed both to foster improvement and demonstrate accountability. (Suskie, 2009)

Rubric—A scoring tool that lays out the specific expectations for an assignment or activity. (Stevens & Levi, 2013)

Standard—The minimal level elements, characteristics, and qualities that must be followed. In the context of curriculum, standards are the minimal level of material within a curriculum that must be taught to students. An accrediting body typically develops standards.

Student Development Outcomes—Statements describing the affective dimensions to be instilled or enhanced; assess affective dimensions or attitudes and values (not cognitive abilities); and consider growth in ethical, spiritual, emotional, and social responsibility dimensions (Bresciani, 2001; Denny, 2009 as cited in Culp & Dungy, 2012). These outcomes may detail how students exhibit an increase in self-discipline, become more respectful of others' values, involve themselves in community service, engage in reflective spirituality, etc.

Student Learning Outcomes—Statements describing specific student behaviors that evidence the acquisition of desired knowledge, skills, abilities, capacities, attitudes, or dispositions. They should be written using active verbs that describe what students should be able to do, know, or produce over time as a result of participation in the program.

Summative Assessment—Assessment conducted after a program has been in operation for a while, or at its conclusion, to make judgments about its quality or worth compared to previously defined standards for performance.

Target—A measure of how effectively and efficiently a functional unit is operating. A target should include three aspects: a level (e.g., prior year metrics or baseline data), a subject/object (e.g., students, faculty, staff, report, or satisfaction level), and a modifier (e.g., percentage increase, decrease, maintained performance, or timeframe).

---

[1] Encouraging and supporting campus wide involvement in improving instructional effectiveness. Presented by Andrea A. Lex, Ph.D., Vice President, Middles States Commission on Higher Education, April 2014, Philadelphia, PA.

Appendix B

Action Verbs

Cognitive Domain

This list of action verbs can be used in the development of program-level outcomes or course-level learning objectives in the **cognitive domain**. It is adapted from Jerrold Kemp's "Shopping List of Verbs" (2014) and based upon Bloom's Taxonomy of Learning. Each column includes (1) category from Bloom's Taxonomy of Learning, (2) definition of the category, and (3) action verbs associated with that category.

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Knowledge of terms, facts, conventions, classifications, etc.	Comprehension of ideas, translations, interpretations, extrapolation	Use of knowledge, problem solving, etc.	Examination of parts of information	Fusion of ideas to produce unique plan, structure, pattern, etc.	Forming judgments based on criteria and evidence
Define Describe Identify Label List Name Recognize Recall Repeat State	Characterize Classify Convert Defend Discuss Distinguish Establish Estimate Explain Express Extend Generalized Illustrate Indicate Infer Locate Paraphrase Predict Recognize Relate Review Rewrite Summarize Translate	Apply Change Choose Compute Demonstrate Discover Dramatize Employ Interpret Manipulate Model Modify Operate Practice Predict Prepare Produce Relate Schedule Show Sketch Solve Use Write	Analyze Appraise Breakdown Calculate Categorize Compare Contrast Criticize Diagram Differentiate Discriminate Distinguish Examine Experiment Identify Illustrate Infer Model Outline Point out Question Relate Select Separate Subdivide Test	Arrange Assemble Collect Combine Comply Compose Construct Create Design Develop Devise Explain Formulate Generate Plan Prepare Rearrange Reconstruct Relate Reorganize Revise Rewrite Set up Synthesize Tell Write	Appraise Argue Assess Choose Compare Conclude Contrast Defend Describe Discriminate Estimate Evaluate Explain Interpret Judge Justify Predict Rate Relate Select Support Value

Affective (Developmental) Domain

This list of action verbs can be used in the development of program-level outcomes or course-level learning objectives in the **affective domain**. It is adapted from Kathy V. Waller's "Writing Instructional Objectives" guide [2]. The "[developmental] affective domain in concerned with changes (growth) in interests, attitudes and values. It is divided into five major classes arranged in hierarchical order based on level of involvement (from receiving, to characterization by a value)" (Waller, n.d., p.4). Each column includes (1) category from Krathwohl's (as cited in Waller, n.d.) affective domain taxonomy (2) definition of the category, and (3) action verbs associated with that category.

Receiving	Responding	Valuing	Organization	Characterization
Attend to stimuli	React to stimuli	Attach significance to ideas	Build value system	Internalize values that guide behavior
Ask	Agree	Adopt	Anticipate	Act
Acknowledge	Allow	Aid	Collaborate	Administer
Attend (to)	Answer	Care (for)	Confer	Advance
Follow	Ask	Complete	Consider	Advocate
Listen	Assist	Complement	Consult	Aid
Meet	Attempt	Contribute	Coordinate	Challenge
Observe	Choose	Delay	Design	Change
Receive	Communicate	Encourage	Direct	Commit (to)
	Comply	Endorse	Establish	Counsel
	Conform	Enforce	Facilitate	Criticize
	Cooperate	Evaluate	Follow through	Debate
	Demonstrate	Expedite	Investigate	Defend
	Describe	Foster	Judge	Disagree
	Discuss	Guide	Lead	Dispute
	Display	Initiate	Manage	Empathize
	Exhibit	Interact	Modify	Enhance
	Follow	Join	Organize	Excuse
	Give	Justify	Oversee	Forgive
	Help	Maintain	Plan	Influence
	Identify	Monitor	Qualify	Motivate
	Locate	Praise	Recommend	Negotiate
	Notify	Preserve	Revise	Object
	Obey	Propose	Simplify	Persevere
	Offer	Query	Specify	Persist
	Participate (in)	React	Submit	Praise
	Present	Respect	Synthesize	Profess
	Read	Seek	Test	Promote
	Relay	Share	Vary	Promulgate
	Reply	Study	Weigh	Question
	Report	Subscribe		Reject
	Respond	Suggest		Resolve
	Select	Support		Seek
	Try	Thank		Serve
		Uphold		Strive
				Solve
				Tolerate
				Volunteer (for)

[2] Waller, K. (n.d.). *Writing instructional objectives*. Retrieved from:
http://www.cetla.howard.edu/teaching_resources/Curriculum_Design/docs/Learning%20Objectives.pdf

Skill (Psychomotor) Domain

This list of action verbs can be used in the development of program-level outcomes or course-level learning objectives in the **skills (psychomotor) domain**. It is adapted from University of Central Florida's "UCF Academic Program Assessment Handbook" (2005)[3]. Each column includes (1) category of the skills domain taxonomy (2) definition of the category, and (3) action verbs associated with that category.

Perception	Set	Guided Response	Mechanism	Complex Overt Response	Adaptation	Origination
Use of senses to obtain clues	Readiness to take action	Knowledge of the steps required to perform a task	Perform tasks in habitual manner	Skillful performance of motor acts	Skillful performance of motor acts and modification of movement in problematic or new situation	Creating new movement patterns for problematic or new situation; creates new tasks that incorporate learned ones
Choose Describe Detect Differentiate Distinguish Identify Isolate, Relate Select Separate	Begin Display Explain Move Proceed React Respond Show Start Volunteer	Assemble Build Calibrate Construct Dismantle Display Dissect Fasten Fix Grind Heat Manipulate Measure Mend Mix Organize Sketch Work	Assemble Build Calibrate Construct Dismantle Display Dissect Fasten Fix Grind Heat Manipulate Measure Mend Mix Organize Sketch Work	Assemble Build Calibrate Construct Dismantle Display Dissect Fasten Fix Grind Heat Manipulate Measure Mend Mix Organize Sketch Work	Adapt Alter Change Rearrange Reorganize Revise Vary	Arrange Combine Compose Construct Design Originate

---

[3] University of Central Florida. (2005). Program assessment handbook: Guidelines for planning and implementing quality enhancing efforts of program and student learning outcomes. (February 2008 ed.). Retrieved from: https://oeas.ucf.edu/doc/acad_assess_handbook.pdf

Appendix C

Direct and Indirect Measures Examples[4]

Direct Evidence of Student Learning Outcomes

- Ratings of student skills by their field experience supervisors or employers
- Scores and pass rates on appropriates licensure or certification exams such as Praxis or National Council Licensure Examination (NCLEX) or other published tests such as Major Field Tests that assess key learning outcomes
- Capstone experiences such as research projects, presentations, theses, dissertations, oral defenses, exhibitions, and performances, scored using a rubric
- Other written work, performances, and presentations, scored using a rubric
- Portfolios of student work
- Scores on locally designed multiple choice or essay tests such as final examinations in key courses, qualifying examinations, and comprehensive examinations, accompanied by test blueprints describing what the test assesses
- Score gains between entry and exit on published or local tests or writing samples
- Observations of student behavior (such as presentations and group discussions), undertaken systematically and with notes recorded systematically
- Summaries and assessments of electronic discussion threads
- Think-alouds, which ask students to think aloud as they work on a problem or assignment
- Classroom response systems (clickers) that allow students in their classroom seats to answer questions posed by the teacher instantly and provide an immediate picture of student understanding
- Feedback from computer-simulated tasks such as information on patterns of action, decisions, and branches
- Student reflections on their values, attitudes, and beliefs

Indirect Evidence of Student Learning Outcomes

- Course grades and grade distributions
- Assignment grades, if not accompanied by a rubric or scoring criteria
- Retention and graduation rates
- For four-year programs, admissions rates into graduate programs and graduation rates from those programs
- Scores on tests required for further study (such as Graduate Record Examinations) that evaluate skills learned over a lifetime
- Quality and reputation of graduate programs into which alumni are accepted
- Placement rates of graduates into appropriate career positions and starting salaries
- Alumni perceptions of their career responsibilities and satisfaction
- Student ratings on their knowledge and skills and reflections on what they have learned over the course of the program
- Questions on end-of-course student evaluation forms that ask about the course rather than the instructor
- Student, alumni, and employer satisfaction with learning, collected through surveys, exit interviews, or focus groups
- Voluntary gifts from alumni and employers
- Student participation rates in faculty research, publications, and conference presentations
- Honors, awards, and scholarships earned by students and alumni

---

[4] Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). CA: Jossey-Bass.

Direct Evidence of Student Developmental Outcomes

Some direct evidence of learning outcomes can be adapted for developmental outcomes. Additional sources of evidence:

- Observations of student behavior (such as presentations and group discussions), undertaken systematically and with notes recorded systematically
- Think-alouds, which ask students to think aloud as they participate in co-curricular initiatives
- Student reflections on their values, attitudes, and beliefs

Indirect Evidence of Student Development Outcomes

Some indirect evidence of learning outcomes can be adapted for developmental outcomes. Additional sources of evidence:

- Alumni perceptions of co-curricular programming and initiatives
- Student ratings on their developmental behaviors and reflections on what they have learned from participation in co-curricular programming and initiatives
- Student satisfaction with co-curricular programming and initiatives collected through surveys or focus groups
- Voluntary gifts from alumni and employers
- Student participation rates in co-curricular programming and initiatives
- Data collected from campus resources and services (e.g., reports on numbers of students accessing services)
- Annual campus life surveys
- Data on use of services and programming

Direct Evidence of Operational Outcomes[5]

Some direct evidence of operational outcomes are listed below:

- staff time
- cost
- materials
- equipment
- other resources
- cost per unit output
- reliability
- accuracy
- courtesy
- competence
- reduction in errors
- audit, external evaluator

Indirect Evidence of Operational Outcomes

Some indirect evidence of operational outcomes are listed below:

- written survey and questionnaires:
    - Students
    - Administration and staff
    - Faculty
    - Stakeholder perception
- interviews
- focus groups

---

[5] University of Central Florida. (2011, February). *Examples of direct and indirect measures* [PowerPoint presentation].
Retrieved from: http://oeas.ucf.edu/doc/Examples_of_direct_and_indirect_measures_Compatibility_Mode.pdf

References:

Lex, A.A. (2014, April). Encouraging and supporting campus wide involvement in improving instructional effectiveness. Middles States Commission on Higher Education, Philadelphia, PA.

Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). CA: Jossey-Bass.

University of Central Florida. (2005). Program assessment handbook: Guidelines for planning and implementing quality enhancing efforts of program and student learning outcomes. (February 2008 ed.). Retrieved from: https://oeas.ucf.edu/doc/acad_assess_handbook.pdf

University of Central Florida. (2011, February). *Examples of direct and indirect measures* [PowerPoint presentation]. Retrieved from: http://oeas.ucf.edu/doc/Examples_of_direct_and_indirect_measures_Compatibility_Mode.pdf

Waller, K. (n.d.). *Writing instructional objectives*. Retrieved from: http://www.cetla.howard.edu/teaching_resources/Curriculum_Design/docs/Learning%20Objectives.pdf