Academic Program Assessment Planning Guide

Student Learning Outcomes Assessment

www.rit.edu/outcomes

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Mission and Goals

The Office of Student Learning Outcomes Assessment (SLOA) provides leadership and centralized support for assessment processes focused on fostering quality learning, promoting academic excellence, and advancing institutional effectiveness. We collaborate with the campus community to establish meaningful, manageable, and sustainable student learning outcomes assessment practices.

The Student Learning Outcomes Assessment Office has the following goals:

- Support program and institutional level assessment processes (planning, implementing, analyzing, summarizing, sharing and using results)
- Support a commitment to a continuous improvement model to advance student learning and institutional effectiveness
- Collaborate with programs, colleges, and divisions to ensure the university meets the required assessment standards for accreditation
- Implement technologies to support meaningful and sustainable outcomes assessment practices

Guidelines for Program Level Assessment Planning

The following guide outlines best practices in program level assessment planning.

☐ Step 1. Gather and review program related materials

- ✓ Catalog, website and printed program materials
- ✓ Mission Statement (College and Department OR Department or Program Philosophy)
- ✓ RIT Academic Program Profile – Essential Outcomes
- ✓ Current Assessment Plan, Program Goals and Student Learning Outcomes (SLOs)
- ✓ Discipline-specific standards and/or professional organization resources
- ✓ Recent accreditation/program review self-study reports, recommendations and action plan
- ✓ Previous Assessment Data Reports including survey data – advising, senior, and alumni; course data - evaluations, capstone/portfolio data, course embedded assignments

☐ Step 2. Follow the steps outlined below to complete the Program Level Assessment Plan

Working in collaboration with faculty – review the program's mission and scope of the plan

A. Review/create and list 4-6 **Program Goals**.

B. Develop measureable program level **Student Learning Outcomes** for each goal.
   - ✓ Use Bloom's Taxonomy of Cognitive Skills with Action Verb List

C. To the degree possible, align outcomes to the five **RIT Essential Outcomes**.
   - ✓ Check all that apply

D. Brainstorm, evaluate and select appropriate measures to assess if learning outcomes have been achieved.
   - ✓ Identify **Data Source** (course-level assignments/rubrics) and
   - ✓ **Method of Measurement**
     - Use *curriculum mapping techniques* to identify courses which map with desired program goals and outcomes.
     - Develop manageable and sustainable data collection procedures.

E. Identify and list **Benchmarks** – standards: target achievement level stating desired level of student success.

F. Establish **Timelines** to develop a realistic assessment cycle. Determine **Data Collection** and **Analysis** processes.

G. Identify **Contact** for data analysis; list **Key Findings.**
   - ✓ Appoint faculty or a committee to guide and implement assessment plan.

H. List **how Results will be Used** and **Disseminated** and recommendations for **Action Items** to inform and improve academic planning process.

Need Assistance? Contact SLOA for Consultation, Resources, and Support

SLOA Office: 585.475.2310

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Program Level Assessment Planning Overview

The goal of creating an academic program assessment plan is to facilitate continuous program level improvement. A quality assessment plan reflects specific program goals, measureable student learning outcomes and a well-articulated plan for timely implementation, strategic data collection and analysis, and use of findings to inform, confirm, and support program level change and accomplishments.

Why is the assessment of student learning important? Assessment helps programs:

- ★ Discover through empirical evidence – "what students are learning"
- ★ Identify gaps in student-learning areas
- ★ Inform teaching pedagogy by aligning best practices with learner's needs
- ★ Make informed decisions; guide curriculum and course action and revision
- ★ Demonstrate overall program effectiveness; showcase student learning - "what works"

Adapted from *9 Principles of Good Practice for Assessing Student Learning*, http://www.aahe.org.principl.htm

Review your Program's Assessment Planning Process

Has the program:	Yes	No
• Collaboratively articulated student-learning outcome statements?	☐	☐
• Discussed the design of the curriculum, mapping where and how students progressively learn outcomes and build competencies?	☐	☐
• Oriented new and adjunct faculty to these outcomes?	☐	☐
• Worked together to develop and distribute criteria, benchmarks, scoring rubrics to assess student achievement?	☐	☐
• Allocate time to convene to discuss, analyze, interpret and use assessment results to identify strengths, inform teaching practice and reflect on ways to improve student learning and achievement?	☐	☐

Adapted from Peggy Maki's Department Template for *Assessing Your Student's Learning*

A quality assessment plan is principled - connected to institutional values and initiatives, practical, comprehensive, and continuous. Programs drive assessment planning through collaboration, reflective and deliberate preparation, gradual implementation, and feedback into its continuous improvement efforts.

Consider ways in which your program can support, strengthen, and sustain its program level assessment efforts.

The Academic Program Assessment Planning Guide is designed to assist your program in completing the **Program Level Outcomes Assessment Plan.**

Program Level Assessment Planning

The first step in guiding the program level assessment process is a review of the program's current mission statement. A program mission should reflect a "conceptual convergence" or agreement among faculty addressing who it serves, it what ways, and with what end result (Hatfield, S. 1999).

Mission statements are most often located in college catalogs (on-line and printed versions), program websites and other printed materials. The mission should provide the program with an initial point of reference, concise statement of the general values and principles which guide the curriculum, and statement of vision.

Use the following questions to facilitate discussion among program faculty.	Yes	No
• Is the mission distinctive from other programs or units?	☐	☐
• Does the mission clearly support RIT's mission?	☐	☐
• Are the program's key stakeholders clearly identified?	☐	☐
• Is the most important function or outcome of your program listed?	☐	☐
• Does the mission indicate the primary purpose of the program?	☐	☐

I. Program Goals

Program goals bridge to the mission, are more concrete concepts, narrowed and focused to the discipline and key concepts and competencies. Explicit goals can help you focus the design and structure of your program and guide the development and implementation of specific and measurable student learning outcomes. Ask yourself:

- What would a successful graduate of the program look like today and in the future?
- What are the major academic goals students should achieve upon completion of the program?
- What would a successful student know and be able to do by the end of the program?

Remember that the goal statements can be slightly broad and theoretical. Consider these samples:

- Recognize the importance of innovation in global competitiveness and apply best practices in the management of business processes.
- Provide historical and theoretical perspectives on museums and collecting in a local, national and international context.

Programs should err on the side that "less is more" and develop and list 4-6 critical goals on the **Program Level Assessment Plan Form**.

II. Student Learning Outcomes (SLOs)

SLOs are more specific and describe specific learning behaviors that students should demonstrate as a result of their participation and or completion of the program.

Program SLOs transform goal generalizations into specific student performance and behaviors that demonstrate student learning and skill development.

Use the following questions to guide the development of program SLO's:

- For each of your stated goals, what are the specific student behaviors, knowledge, skills, or abilities that would tell you this goal is being achieved?
- Ideally what evidence needs to be present or what specific behavior needs to be visible in order to see that your students are achieving the major goals you have established?
- In your experience, what evidence tells you when students have met these goals – how do you know when they're "getting" it?

Use Bloom's Taxonomy of Cognitive Skills with Action Verb List to create SLOs for each goal.

List 1-2 measurable SLOs on the **Program Level Outcomes Assessment Plan form**.

			Critical Thinking		
Knowledge	**Comprehension**	**Application**	**Analysis**	**Synthesis**	**Evaluation**
Count **Define** **Describe** **Draw** **Identify** **Labels** **List** **Match** **Name** **Outlines** **Point** **Quote** **Read** **Recall** **Recite** **Recognize** **Record** **Repeat** **Reproduces** **Selects** **State** **Write**	**Associate** **Compute** **Convert** **Defend** **Discuss** **Distinguish** **Estimate** **Explain** **Extend** **Extrapolate** **Generalize** **Give examples** **Infer** **Paraphrase** **Predict** **Rewrite** **Summarize**	**Add** **Apply** **Calculate** **Change** **Classify** **Complete** **Compute** **Demonstrate** **Discover** **Divide** **Examine** **Graph** **Interpolate** **Manipulate** **Modify** **Operate** **Prepare** **Produce** **Show** **Solve** **Subtract** **Translate** **Use**	**Analyze** **Arrange** **Breakdown** **Combine** **Design** **Detect** **Develop** **Diagram** **Differentiate** **Discriminate** **Illustrate** **Infer** **Outline** **Point out** **Relate** **Select** **Separate** **Subdivide** **Utilize**	**Categorize** **Combine** **Compile** **Compose** **Create** **Drive** **Design** **Devise** **Explain** **Generate** **Group** **Integrate** **Modify** **Order** **Organize** **Plan** **Prescribe** **Propose** **Rearrange** **Reconstruct** **Related** **Reorganize** **Revise** **Rewrite** **Summarize** **Transform** **Specify**	**Appraise** **Assess** **Compare** **Conclude** **Contrast** **Criticize** **Critique** **Determine** **Grade** **Interpret** **Judge** **Justify** **Measure** **Rank** **Rate** **Support** **Test**

III. RIT Essential Outcomes

RIT's Academic Program Profile provides guidance and direction for developing and evaluating all academic undergraduate and graduate degree programs at RIT. It helps program faculty, governance groups, and the administration design and assess programs on the basis of how well they fit RIT's vision, mission, and values.

- To the degree possible, align each program goal and corresponding student learning outcome to the five RIT Essential Outcomes on the **Program Level Outcomes Assessment Plan form**.
- Check all that apply

IV. Data Source/Method of Measurement and Curriculum Mapping

Review Existing Assessment Methods

Review current practices for gathering information on student performance
(e.g. first-day survey, project, capstone, class assignments)

- Are the assessments directly related and aligned to program goals and student learning outcomes?
- What formal/informal and direct/indirect methods (see samples below) do you use which tie to your intended program goals and student learning outcomes?
- Are there gaps between the information collected and program goals and SLO's?
- What other information do you need to gather in order to understand whether students are achieving these SLOs?

Identify Assessment Methods of Assessing Student Learning

Direct Methods - Clear and Compelling Evidence of What Students Are Learning

- Ratings of student skills by field experience supervisors
- Scores and pass rates on appropriate licensure/ certification exams (e.g., Praxis, NLN) or other published tests (e.g., Major Field Tests) that assess key learning outcomes
- "Capstone" experiences such as research projects, presentations, theses, dissertations, oral defenses, exhibitions, or performances, scored using a rubric
- Portfolios of student work
- Score gains between pre- and post tests (published or local) or writing samples
- Student reflections on their values, attitudes and beliefs, if developing those are intended outcomes of the program

Indirect Methods - Evidence that Students Are "Probably" Learning, But Exactly What or How Much is Less Clear

- Course grades*
- Assignment grades, if not accompanied by a rubric or scoring guide
- Admission rates into graduate programs and graduation rates
- Placement rates of graduates into appropriate career positions and starting salaries
- Student ratings of their knowledge, skills and reflections on what they have learned in the program
- Student/alumni satisfaction with learning, collected through surveys, exit interviews, or focus groups
- Student participation rates in faculty research, publications and conference presentations
- Honors, awards, and scholarships earned by students and alumni

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

***Grades and Assessment**

There is a difference between assessment and grading, but they do have one common characteristic as they both intend to identify what students have learned. Grades alone do not always give direct evidence to identify which specific student learning outcomes and at what levels students have learned. Some course grades also include additional student behaviors that are not related to student learning outcomes (e.g. attendance and participation). Grades need to be clearly linked and aligned to learning goals and rubrics to suffice as direct evidence for assessment purposes.

List the type of assessment opportunity (course or experience) and data source (method/measure – assignment/rubric) for each student learning outcome listed on the **Program Level Outcomes Assessment Plan form**.

Curriculum Mapping

Curriculum mapping is a method to align instruction with desired goals and program outcomes. It can also be used to explore what is taught and how. Mapping is designed to document what courses are taught and when, reveal gaps in the curriculum, and help design an assessment plan. It improves communication among faculty about curriculum, promotes program coherence, increases the likelihood that students achieve program level outcomes and encourages reflective practice.

A curriculum map is created by setting up a table with one column for each program learning outcome and one row for each course or required internship, research, or co-op experience.

Once the chart is established, faculty enter an indicator of level for each learning outcome and course/experience **"I"** indicates students are **introduced** to the outcome. **"R"** indicates the outcome is **reinforced** and students afforded opportunities to practice. **"M"** indicates that students have had sufficient practice and can now demonstrate **mastery**. Each outcome is introduced, reinforced/practiced, and then mastered at some point in the program.

"A" indicates where evidence might be collected and evaluated for program level **assessment.** Collection might occur at the beginning and end of the program if comparisons across years are desired. It is important that all program level outcomes have at least one "A" as each needs to be assessed. Not every outcome is assessed every semester, the timeline for collection is indicated on the assessment plan. Program faculty then analyze, discuss, and revise the curriculum map, as needed. See the curriculum map example provided on page 7.

REQUIRED COURSES AND EXPERIENCES I = Introduce R = Reinforce M = Mastery A = Assessment Opportunity	Program Level LEARNING OUTCOMES						
	Demonstrate knowledge of key historical materials, theoretical perspectives, institutional practices, and legal and ethical concerns	Analyze and identify the materials from which historical and or artistic objects are made	Develop visual and hand skills for recognizing and analyzing materials that compose cultural objects and processes by which they have been constructed	Develop appropriate research skills	Analyze the conservation needs of an object and identify best practices	Illustrate research and computer skills	Exhibit knowledge of actual museum work through personal experience
0533-370 Intro to Museums Collecting	I, A		I	I		I	I
0533-422 Art Materials and Photography	R	I, A	R	R	I		
0533-423 Artists' Materials: Panel Paintings		R					
0533-424 Legal and Ethical Issues for Collecting Institutions	R		R, A			R	
0533-425 Display and Exhibition		R			R, A		
0533-426 Collections, Management & Museum Administrators			R				
0533-427 Fundraising, grant Writing & Marketing for Nonprofits				R,A			
0533-437 Forensic Investigation	R	R, A				R	
0533-438 Art Conservation					R		
Internship	M	M	M	M	M	M	M,A

V. Benchmarks and Standards - Measures of Success

Statements of Student Success – How well are my students learning? Each student learning outcome should have an established baseline measure which indicates an acceptable level of student achievement. Benchmarks or standards determine what the acceptable level of achievement is for each outcome. Defining acceptability or unacceptability will depend upon the importance of the outcome and type of measure (direct or indirect).

Setting benchmarks is a multiple-step process to help explain how well students are learning (in order for any score or average to have meaning, it needs to be compared to something). The first step is to (1) choose the kind of standard or benchmark, (2) set the appropriate standard or benchmark, and (3) set targets for students' collective performance.

A few tips to help you get started:

- Do some research - appropriate disciplinary associations, web search for examples, colleagues, peer programs
- Benchmarks can be established from local (competency-based or criterion-referenced) or external (certification or licensure examinations) standards
- Involve others in the standards-setting process - work with faculty, students, employers
- Use samples of student work to inform your discussion - implement assessment on a small scale and gather work samples to help determine exemplary to inadequate work.
- Benchmarking is a continuous process so once you have set your initial standards and targets, you may want to adjust or modify based on your implementation.

(*Assessing Student Learning: A Common Sense Guide* by Linda Suskie. 2009)

Determine a benchmark or standard (usually a %) for each student learning outcome on the **Program Level Outcomes Assessment Plan form**.

VI. Timelines and Data Collection/Analysis

Consider how the program will collect assessment data on an established cycle. When is the best time to measure and collect student learning outcomes data? **Be selective, strategic and realistic.** Develop an assessment cycle that will enhance and support external (accreditation) and internal (academic program review) commitments.

In general, it is recommended that a program assess two or three SLOs on an annual basis. A staggered approach (e.g. 4-6 goals/corresponding student learning outcomes = three-year period to complete the assessment cycle) maximizes faculty resources and a program's capacity to collect, analyze and review findings, make recommendations, and develop action plans accordingly.

- Identify when and how assessment data will be collected, aggregated and analyzed on the **Program Level Outcomes Assessment Plan form**.
- Implementation of the plan should be on-going. Each program should select 1-2 SLOs to assess (if not currently listed in their plan) annually.

VII. Data Analysis and Key Findings

The analysis of assessment data provides evidence of student learning. Assessment data can distinguish patterns of consistency, evidence of learning within distinct student populations, and identify gaps in or achievement of program outcomes.

Data analysis may include one of the easiest methods - the collection, analysis and spreadsheet development of scoring guides and rubric data, to more complex and sophisticated quantitative and or qualitative methodologies.

- Determine who will be responsible for data analysis. Appoint faculty leadership or a committee structure to guide and implement the program assessment plan
- List any key findings that are currently available on the **Program Level Outcomes Assessment Plan form**. If there are no current findings, indicate the target date when data may be available.

VIII. Use of Results, Action Items and Dissemination

This phase of assessment planning is often referred to as "closing the loop." One of the most challenging aspects of assessment is using the data to inform and reflect upon current practice and facilitate program change. Using assessment results is a key element in supporting a program's continuous, quality improvement processes.

Disseminate and discuss findings among faculty, staff and students (if appropriate), as well as deans, department chairs, college curriculum committees and governing bodies.

Use the following questions to guide the discussion:

- What are the three most important things to share about the results?
- How will the results impact decisions on curriculum and instruction?
- In what ways are you able to "close the loop" and use data to confirm outcomes or improve the program?

Develop a sustainable, action plan as a result of these discussions.

- Identify how results are used and shared including recommendations or action items on the **Program Level Outcomes Assessment Plan form**.

Sharing Results

Here are some ways academic programs can share their assessment plans and findings.

- Publicize results to faculty, students, alumni, prospective students, administrators, donors
- Department Websites – post summaries of relevant results related to course goals, program goals, current department or college initiatives
- Alumni or departmental newsletters
- External - Accreditation agencies/Internal - Academic Program Review processes
- Recruiting/admissions brochures
- Student orientation materials
- Awards ceremonies
- Publications or research forums

(adapted from Cal State Chico, 1998)

RIT Rubric for Academic Program Level Assessment Plan

The rubric illustrated below is utilized by SLOA to provide faculty and programs with feedback on the development of their Program Level Assessment Plan. This tool serves as a guide to inform and support faculty in the assessment process.

Process/Stage → Element	Initial	Emerging	Developed	Highly Developed
Program Goals Sample: Determine the processes of urbanization and modernization in the developing world.	Program goals do not reflect key concepts of the field or are related to student learning.	Some program level goals relate to student learning and represent concepts of field or program goals are vague and not measurable.	Manageable 3-5 goals reflect student learning. Clear purposes and intentions of a specific field or focus of study. Are realistic, specific, and measurable.	Comprehensively and meaningfully defined goals. Represent fundamental and important aspects of program. Clearly describe what all students are asked to do, using action verbs. Are measurable through one or more indicator.
Student Learning Outcomes (SLOs) Sample: Analyze cities as products of modernization, as expressions of various processes, such as investment and employment.	No SLOs defined.	SLOs identify basic knowledge and conceptual understandings, but too broad and vague to measure or not specifically identified.	SLOs are defined, more specific and less vague. Clearly identify how students will be different because of the learning experience. Potential to measure.	Anchored in verbs, clearly identifies the actions, behaviors, dispositions, and ways of thinking or knowing that students should be able to demonstrate. Well written and measurable.
Data Source - Assessment Opportunity (Curriculum Mapping)	No mapping to courses or experiences in the program.	Selected courses or experiences are listed, but not linked to SLOs or courses and experiences are not specifically identified.	Selected courses, experiences, and assignments are indicated and varied and appropriately linked to SLOs.	Courses and experiences listed and linked to SLOs, clearly defined assignments. Clear continuum of learning. Assessment is planned and purposeful.
Method and Measures	Methods and measures are not listed or too general (e.g., courses, exams)	Multiple methods of assessing SLOs are included in the plan. Courses and experiences are identified including assignment.	Performance assessments are identified and clearly link to SLOs. Rubric is identified and used to evaluate the SLOs.	Multiple methods and measures are included across the curriculum and rubrics or scoring guides are identified.
Benchmarks/Standards	No benchmarks or standards/statements of student success indicated.	Minimum, general, standards are set for every SLO. Standard is realistic. No specific rubric benchmark identified.	Standards are identified and appropriate for all SLOs or rubrics.	Standards are identified and vary depending on the circumstances (e.g., fundamental skills vs capstone skills). Considered multiple targets as appropriate.
Timeline (who, when, and how the assessment plan is managed)	No clear timeline developed or responsibility assigned. No technology in place or timeline only.	Core working group of faculty emerging. Data collection procedures identified. Possible uses for technology identified	Timeline includes all SLOs and when the data is collected, aggregated, and analyzed. Includes identified faculty or resources for data collection, faculty committee for analysis. Technology identified and used to manage data.	All SLOs are measured in program assessment cycle and across the continuum of the program (early, middle, end). Clear timeline identified, data collection points, aggregation/analysis by faculty committees working with program committees, college and institutional assessment efforts and goals. Use of tech supports sustainable plan.
Data analysis including key findings	No person or process identified. No key findings.	Person or process identified, but no key findings identified.	Both person and process identified. Key findings listed.	Analysis process and responsibilities have been identified and implemented. Data has been analyzed by faculty and key findings identified and disseminated.
Results/Action Items and Dissemination	No use of findings or sharing of information, actions, processes indicated.	Results/findings discussed among faculty. No identification of strengths or improvement/ recommendations	Findings are discussed among faculty and identification of strengths and areas of improvement included.	Processes identified. Faculty recommendations for improvements or actions listed. Stakeholder communication is identified and transparent.

Originally borrowed from WASC, adapted by BA Holzman, Office of Academic Planning and Institutional Effectiveness, SFSU, 2006. Addition/revisions by Cheryl L. Ney, Academic Programs and Undergraduate Education, Cal Poly, 2007. Additions/revisions by Anne Wahl, Student Learning Outcomes Assessment Office, RIT, 2010

Program Level Outcomes Assessment Plan

Program Name/College: ____ College Contact for Program Assessment: ____________________________________

Program Goals	Student Learning Outcomes	Academic Program Profile	Data Source/Measure Curriculum Mapping	Benchmark	Timeline	Data Analysis Key Findings	Use of Results Action Items and Dissemination
Please List program level goals	Students will be able to: (task, capability, knowledge, skills, and dispositions) Use measurable verbs.	Alignment to the five RIT essential outcomes - check all that apply ☒ Double click on the check box and find the **Default Value** and click **Checked** to check the box. To uncheck, the box, double click and then click **Not Checked.**	Assessment opportunity (course/experience) method/measures, assignment/rubric)	Standard, target, or achievement level (usually a %) Statement of student Success	Identify when and how data are collected, aggregated, and analyzed	Identify who is responsible and list key findings	Identify how results are used and shared. List any recommendations or action items
		☐ Critical Thinking ☐ Ethical Reasoning ☐ Integrative Literacies ☐ Global Interconnectedness ☐ Creative/Innovative Thinking					
		☐ Critical Thinking ☐ Ethical Reasoning ☐ Integrative Literacies ☐ Global Interconnectedness ☐ Creative/Innovative Thinking					
		☐ Critical Thinking ☐ Ethical Reasoning ☐ Integrative Literacies ☐ Global Interconnectedness ☐ Creative/Innovative Thinking					
		☐ Critical Thinking ☐ Ethical Reasoning ☐ Integrative Literacies ☐ Global Interconnectedness ☐ Creative/Innovative Thinking					
		☐ Critical Thinking ☐ Ethical Reasoning ☐ Integrative Literacies ☐ Global Interconnectedness ☐ Creative/Innovative Thinking					

Glossary

Assessment is the systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development. (Palomba & Banta, 1999)

Course-level Assessment refers to methods of assessing student learning within the classroom environment, using course goals, outcomes and content to gauge the extent of learning that is taking place.

Curriculum Mapping is an analytical approach that allows faculty to identify important components of program curricula, place them in relation to each other in a visual format, and then capture an overarching curricular structure to support cognitive scaffolding for further analysis. A curriculum map is a visual tool that can be used to introduce new students and faculty to the program, curriculum discussion, accreditation requirements, and provides an approach to systematically study the curriculum. Curriculum mapping is especially helpful in implementing an assessment plan. (Cuevas, Matwev & Feit, 2009)

Direct Assessment of Learning occurs when measures of learning are based on student performance or demonstrates the learning itself. Scoring performance on tests, term papers, or the execution of lab skills are examples of direct assessment of learning. Direct assessment of learning can occur within a course (e.g., performance on a series of tests) or could occur across courses or years (comparing writing scores from sophomore to senior year).

Embedded Assessment is a means of gathering information about student learning that is integrated into the teaching and learning processes. Results can be used to assess individual student performance or they can be aggregated to provide information about the course or program. These assessments can be formative or summative, quantitative or qualitative. Example: as part of a course, expecting each senior to complete a research paper that is graded for content and style, but is also assessed for advanced ability to locate and evaluate web-based information and the use of appropriate technology.

Formative Assessment refers to the gathering of information or data about student learning during a course or program that is used to guide improvements in teaching and learning. Formative assessment activities are usually low-stakes or no-stakes; they do not contribute substantially to the final evaluation or grade of the student or may not even be assessed at the individual student level. For example, posing a question in class and asking for a show of hands in support of different response options would be a formative assessment at the class level. Observing how many students responded incorrectly would be used to guide further teaching.

Indirect Assessment of Learning uses perceptions, reflections or secondary evidence to make inferences about student learning. For example, surveys of employers, students' self-assessments, and grades are indirect evidence of learning.

Learning Outcomes are operational statements describing specific student behaviors that evidence the acquisition of desired knowledge, skills, abilities, capacities, attitudes or dispositions. Learning outcomes can be usefully thought of as behavioral criteria for determining whether students are achieving the educational objectives of a program, and, ultimately, whether overall program goals are being successfully met. Outcomes are sometimes treated as synonymous with objectives, though objectives are usually more general statements of what students are expected to achieve in an academic program. (Allen, Noel, Rienzi & McMillin, 2002)

After articulating a mission statement, a department creates goals and outcomes, or locates already existing ones, and connects them to the mission statement, as well as the broader mission and goals of the school and college. Helpful tips on creating learning outcomes and goals from the Middle States Handbook can be found at http://www.msche.org/publications/SLA_Book_0808080728085320.pdf

Rubrics are scoring tools that explicitly represent the performance expectations for an assignment or piece of work. A rubric divides the assigned work into component parts and provides clear descriptions of the characteristics of the work associated with each component, at varying levels of mastery. Rubrics can be used for a wide array of assignments: papers, oral presentations, artistic performances, group projects, etc. Rubrics can be used as scoring or grading guides, to provide formative feedback to support and guide ongoing learning efforts, or both.

Summative Assessment is the gathering of information at the conclusion of a course, program, or undergraduate career to improve learning or to meet accountability demands. When used for improvement, impacts the next cohort of students taking the course or program. Examples: examining student final exams in a course to see if certain specific areas of the curriculum were understood less well than others; analyzing senior projects for the ability to integrate across disciplines.