

Developing an Assessment Plan to Learn About Student Learning

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All too frequently higher education institutions view the commitment to assessing their students' learning and development as a periodic activity — most often driven by an impending accreditation visit. That is, about one to two years before an accreditation visit, institutions engage in a flurry of assessment activities — from creating assessment plans and committees to designing and implementing methods to assess student learning. Institutions hope these assessment efforts will satisfy accreditors' criteria for institutional effectiveness, an institution's capacity to verify that it is achieving its mission and purposes. Assessing student learning and development, that is, finding out how well students achieve educational objectives, is one of the primary means by which institutions demonstrate their institutional effectiveness.

Unfortunately, however, this periodic approach to assessment — a compliance approach — is based on an external motivator, namely accreditation, rather than on an internal motivator—institutional curiosity. Institutional curiosity seeks answers to questions about which students learn, what they learn, how well they learn, when they learn, and explores how pedagogies and educational experiences develop and foster student learning. When institutional curiosity drives assessment, faculty and professional staff across an institution raise these kinds of questions and jointly seek answers to them, based on the understanding that students' learning and development occur over time both inside and outside of the classroom. Assessment becomes a collective means whereby colleagues discover the fit between institutional or programmatic expectations for student achievement and patterns of actual student achievement.

These patterns may verify that certain cohorts of students achieve at an institution's level of expectation but other cohorts do not. When assessment results do not match institutional or programmatic expectations, that is, when they don't fit, then faculty and staff collectively have

the opportunity to determine how to improve student performance. Assessment, then, becomes a lens through which an institution assesses itself through its students' work.

Innovations in pedagogy or integration of diverse methods of teaching and learning into a program of study, redesign of a program, reconceptualizing the role of advising, or establishing stronger connections between the curriculum and the co-curriculum represent some of the kinds of changes that faculty and staff may undertake to improve student learning and development based on their interpretations of assessment results.

How does this process of inquiry work if an institution is committed to learning about student learning to improve the quality of its education? The appended Assessment Guide is designed to assist institutions conceptualize a plan that integrates assessment into their cultures so that over time assessment becomes systematic and organic practice. The Guide consists of three major parts:

- Part I: Determining Your Institution's Expectations
- Part II: Determining Timing, Identifying Cohort(s), and Assigning Responsibility
- Part III: Interpreting and Sharing Results to Enhance Institutional Effectiveness.

For purposes of discussion, each part is broken down into sub-activities that, in turn, include examples of how some institutions have responded to each of these activities. However, in reality, decisions across these sub-activities are interrelated. Decisions about what to assess — student outcomes — are related to decisions about how to assess; These decisions, in turn, should be linked with what and how students have learned. Rather than prescribing a lock-step linear process, the Guide identifies major issues an institution needs to address in its plan if it intends to integrate assessment into its culture as an ongoing, not an episodic, means of improving student learning.

ASSESSMENT GUIDE

Part I: Determining Your Institution's Expectations

A. State Expected Outcomes	B. Identify Where Expected Outcomes are Addressed	C. Determine Methods and Criteria to Assess Outcomes	D. State Institution's or Program's Level of Expected Performance	E. Identify and Collect Baseline Information
<p><u>For example:</u></p> <ul style="list-style-type: none"> • Derive supportable inferences from statistical and graphical data • Analyze a social problem from interdisciplinary perspectives • Evaluate proposed solutions to a community issue 	<p><u>For example, in:</u></p> <ul style="list-style-type: none"> • Courses • Programs • Services • Internships • Community Service Projects • Work experiences • Independent Studies 	<p><u>Examples:</u></p> <ul style="list-style-type: none"> • Test • In-class writing sample • In-class analysis of a problem • In-class collaborative problem solving project • Portfolio • Performance • Simulation • Focus Group 	<p><u>Examples:</u></p> <ul style="list-style-type: none"> • Numerical Score on a national examination • Numerical score on a licensure examination • Holistic score on ability to solve a mathematical problem • Mastery level score on a culminating project • Mastery level score on writing samples 	<p><u>By means of:</u></p> <ul style="list-style-type: none"> • Standardized tests • Locally designed tests or other instruments • In-class writing exercise • In-class case study • Portfolio • Performance

Part I (See related graphic)

The columns under Part I, Determining Your Institution's Expectations, identify consensus-based decisions faculty, staff, and administrators need to make about desired learning outcomes and the methods and criteria to assess those outcomes. Student learning outcomes state what students should know and be able to do as a result of their course work and educational experiences at an institution or in a program of study. These outcomes encompass areas of knowledge and understanding, abilities, habits of mind, modes of inquiry, dispositions or values. They are drawn from an institution's mission and purpose statements, from the mission statement of an institution's general education curriculum, from the mission statement of a major, a program, or service. For example, under Part I, Column A, State Expected Outcomes, a program or major might say that it expects its undergraduate students to "derive supportable inferences from statistical and graphical data." An institution that takes an interdisciplinary approach to general education might state that it expects students to "analyze a social problem from interdisciplinary perspectives." Key to describing expected outcomes are active verbs that capture the desired student learning or development, such as *design, create, analyze, apply*. Outcomes describe an eventual expectation for student learning at the institutional or programmatic level, or they describe developmental expectations that enable faculty, staff, and administrators to track learning and development over time.

Along with stating expected outcomes, peers need to identify if, in fact, they provide sufficient educational opportunities inside and outside of the classroom to develop the desired outcomes they assert they teach or develop. If, for example, an institution asserts in its mission statement that it develops interdisciplinary problem-solvers, then identifying the range of educational opportunities that develops this kind of problem-solving is essential. Courses may be one means, but not all students develop an ability at the same time or under the same pedagogies. Are there ample opportunities for students to practice the ways of knowing and modes of inquiry characteristic of interdisciplinary thinking or are these opportunities addressed in only one or two courses? Do students practice or apply

interdisciplinary modes of thinking, deepen their learning, as they participate in services and programs that complement the curriculum?

To assure that students have sufficient and various kinds of educational opportunities to learn or develop desired outcomes, faculty and staff often engage in curricular and co-curricular mapping. During this process representatives from across an institution identify the depth and breadth of opportunities inside and outside of the classroom that intentionally address the development of desired outcomes. Multiple opportunities enable students to reflect on and practice the outcomes an institution or program asserts it develops. Furthermore, variation in teaching and learning strategies and educational opportunities contributes to students' diverse ways of learning. Column B provides a list of possible opportunities that might foster a desired outcome. That is, an institution has to assure itself that it has translated its mission and purposes into its programs and services to more greatly assure that students have opportunities to learn and develop what an institution values. If the results of mapping reveal insufficient or limited opportunities for students to develop a desired outcome, then an institution needs to question its educational intentionality. Without ample opportunities to reflect on and practice desired outcomes, students will likely not transfer, build upon, or deepen the learning and development an institution or program values.

Consensus about methods of capturing student learning is another focal activity represented in Column C. What quantitative and qualitative methods, and combinations of these, will provide useful and accurate measures of student achievement — standardized tests, performances, computer simulations, licensure exams, locally designed case studies, portfolios, focus groups, interviews, surveys? Decisions about whether to use standardized tests or locally designed assessment methods, such as case studies, simulations, portfolios, observations of collaborative problem solving, for example, should be based on how well a method aligns with what and how students have learned at an institution or within a program and how well a method measures what it purports to measure.

Standardized tests may measure how well students have learned information, but they may

not demonstrate how well students can solve problems using that information. Using multiple methods of assessment contributes to a more comprehensive interpretation of student achievement. Some students may perform well on multiple choice questions in a discipline but not well on writing assignments that require them to apply what they have learned in that discipline. No two programs or majors may choose the same method of assessment. Whereas members in one department believe that standardized test results enable them to understand how well students learn, members of another department might not select standardized tests, believing, instead, that results of a locally designed instrument or student portfolios provide more relevant evidence of student learning. Some institutions use standardized assessment methods that focus on students' general education outcomes; others use capstone projects to assess how well students integrate general education into their majors.

Developing agreement about scoring methods is related to decisions about methods of assessment. In the case of standardized or licensure examinations, faculty may rely on nationally normed scores against which to judge their students' achievement. When colleagues develop their own assessment methods, such as portfolios or case studies, they also need to develop a way to assess student performance. This consensus-based activity involves developing criteria that characterize achievement of an outcome and developing scoring ranges that identify students' level of achievement, known as rubrics. For example, mathematics faculty might identify four traits they desire to see students demonstrate in solving an advanced level mathematical problem: (1) conceptual understanding, (2) system of notation, (3) logical formulation, (4) solution to the problem. In addition, they might identify four levels to score those characteristics: exemplary, proficient, acceptable, unacceptable. Or these levels might be indicated through a numerical range, 1-4. Within a department or program, deciding on traits and scoring levels is best accomplished through the work of a team, often with representatives from relevant support areas, such as the library or student services, that contribute to students' learning. In the case of stating institution-wide outcomes, interdisciplinary teams often work together to

achieve consensus about desired traits and levels of performance.

Column D provides examples of some scoring methods that institutions or programs have used to assess their students' learning. In the first two examples, departments relied on criteria and scoring ranges established by national testing services or professional organizations. In the remaining examples in that column, however, institutions and departments created their own criteria and scoring ranges for their locally designed assessment methods. Students' numerical score on a standardized test in a major could serve as one way to interpret student achievement. Student's score on a portfolio ranked according to levels of expertise could serve as another way to interpret student achievement.

Establishing baseline data for entry level students enables programs and an institution to chart how well students learn and develop over time. Column E, Identify and Collect Baseline Information, lists some methods an institution or program might use to chart students' chronological achievement. For example, using a case study when students enter a program, using it again at mid-point in students' careers, and then again at the end of their careers, could reveal how well students develop disciplinary problem-solving abilities.

Part II (See related graphic)

Part II of the Assessment Guide focuses on how and when institutions or programs within an institution decide to assess desired outcomes — from identifying cohorts of students based on institutional demographics to identifying appropriate times to assess students' level of achievement. Determining whom an institution will assess, Column A, should also be incorporated into an institution's assessment plan. Institutions may choose to track all students or cohorts of students. Tracking may mean collecting the same examples of student performance or using the same instrument semester after semester. Student demographics at an institution or within a program become a way to track cohort performance. If an institution's profile consists of non-traditional aged students and first-generation immigrant students, then tracking these cohorts' performance, and sampling representative diversity within those groups, would provide

ASSESSMENT GUIDE

Part II: Determining Timing, Identifying Cohort(s), and Assigning Responsibility

A. Determine Whom You Will Assess

For example:

- All Students
- Student cohorts, such as:
 - ✓ At risk students
 - ✓ Historically underrepresented students
 - ✓ Students with SATS over 1200
 - ✓ Traditional-aged students
 - ✓ Certificate-seeking students
 - ✓ International students
 - ✓ First generation immigrant students

B. Establish a Schedule for Assessment

For example:

- Upon matriculation
- At the end of a specific semester
- At the completion of a required set of courses
- Upon completion of a certain number of credits
- Upon program completion
- Upon graduation
- Upon employment
- A number of years after graduation

C. Determine Who Will Interpret Results

For example:

- Outside Evaluators:
 - ✓ Representatives from agencies
 - ✓ Faculty at neighboring institutions
 - ✓ Employers
 - ✓ Alumni
- Inside Evaluators:
 - ✓ Librarian on team for natural science majors
 - ✓ Student affairs representatives on team to assess general education portfolio
 - ✓ Interdisciplinary Team
 - ✓ Assessment Committee
 - ✓ Writing Center
 - ✓ Academic Support Center
 - ✓ Student Affairs Office

valuable information about how well each cohort and populations within each cohort achieve an institution's or a program's expectations. Results of cohort analysis bring focus to assessment interpretations and eventually to pedagogical or curricular changes. In addition, connecting other sources of data about cohorts, such as their enrollment patterns or their participation in support services, provides information that assists in interpreting assessment results. An institution might find, for example, that poor cohort performance may be affected by students' reluctance to seek assistance or their failure to enroll in certain kinds of courses.

Establishing an assessment timetable is the focus of Column B. The assessment of some outcomes, such as students' moral or ethical behavior, for example, may stretch from matriculation to graduation to employment. Other outcomes, such as students' professional writing abilities, may be ones that a program wants to assure itself that its students have achieved by graduation because students' prospective employers expect that level of achievement. In either of these cases, however, institutions should develop a timetable that assesses students' development over time based on desired levels of achievement. For example, assessing students' professional or disciplinary writing abilities after a certain number of courses provides peers with an understanding of how well students are developing as professional writers. Interpretations of student achievement might cause faculty to integrate more writing into students' remaining courses. Assessing students' professional writing abilities in their senior year provides a "last look" at how well students have achieved a program's expected performance. However, that last look may be too late to address disappointing performance.

Assessing student learning over time — known as formative assessment — provides valuable information about how well students are progressing towards an institution's or program's expectations. In addition, interpretations of student achievement can be linked to the kinds of learning experiences that do or do not promote valued outcomes. Interpreting students' performance or achievement over time and sharing assessment results with students enables students to understand their strengths and weaknesses and to reflect on how they need to

improve over the course of their remaining studies. Assessing student learning at the end of a program or course of study — known as summative assessment — provides information about patterns of student achievement without institutional or programmatic opportunity to improve students' achievement and without student opportunity to reflect on how to improve and demonstrate that improvement. Using both formative and summative assessment methods provides an institution or program with a rich understanding of how and what students learn. Results of these assessments may cause colleagues, for example, to introduce new pedagogies that more effectively address diverse learning styles or more effectively develop students' learning in a discipline. Results help answer questions about which kind of pedagogies or educational experiences foster disciplinary behaviors and modes of inquiry. When, for example, do students majoring in anthropology begin to behave and problem solve like anthropologists?

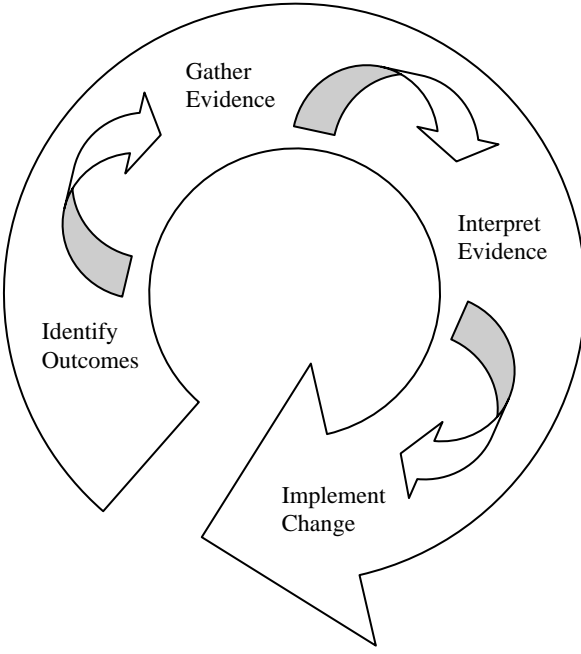
For institution-wide outcomes, as well as those developed in programs and services, peers need to identify who will interpret students' work or performance. As Column C illustrates, the options are numerous, ranging from selecting individuals outside of a program or an institution to selecting those within an institution or program. Employers, neighboring faculty, community representatives, and alumni represent those from the outside communities who may serve on assessment teams. For example, three external evaluators may review student portfolios or student performances in a major based on agreed upon criteria for scoring. Members of educational centers within a college or university may assume the responsibility of assessing student work, such as members of a writing center or a support center. Emerging on campuses are cross-disciplinary teams of faculty and professional staff who score student work, such as students' solution to a problem or their writing samples in a portfolio.

Part III (See related graphic)

Part III, Interpreting and Sharing Results to Enhance Institutional Effectiveness, involves making decisions based on interpretations of assessment results and then establishing communication channels to share those interpretations so that an institution acts on and

ASSESSMENT GUIDE

Part III: Interpreting and Sharing Results to Enhance Institutional Effectiveness

A. Interpret How Results Will Inform Teaching/Learning and Decision Making	B. Determine How and With Whom You Will Share interpretations	C. Decide How Your Institution Will Follow-up on Implemented Changes
<p><u>For example:</u></p> <ul style="list-style-type: none">➤ Revise pedagogy, curricula, sequence of courses➤ Ensure collective reinforcement of knowledge, abilities, habits of mind by establishing, for example, quantitative reasoning across the curriculum➤ Design more effective student orientation➤ Describe expected outcomes more effectively➤ Increase connections between in-class and out-of-class learning➤ Shape institutional decision making, planning, and allocation of resources	<p><u>For example:</u></p> <ul style="list-style-type: none">➤ General Education Sub-Committee of the Curriculum Committee through an annual report➤ Department through a periodic report➤ Students through portfolio review day➤ College planning/budgeting groups through periodic reports➤ Board of trustees through periodic reports➤ Accreditors through self-studies	<p>Repeat the assessment cycle after changes have been implemented:</p> <p style="text-align: center;">Assessment Cycle</p>  <pre>graph TD; A[Gather Evidence] --> B[Interpret Evidence]; B --> C[Implement Change]; C --> D[Identify Outcomes]; D --> A;</pre>

supports interpretations to improve student learning. The question underlying assessment results is what has an institution or program learned about its students' learning? Column A, Interpret How Results Will Inform Teaching/Learning and Decision Making, provides some examples of how institutions or programs have interpreted results to change pedagogy, curricula, or practice. Interpretations of student performance might lead to innovations in teaching in general education courses or in redesigning the entire general education curriculum. For example, if an institution were to find that its students did not meet institutional expectations for quantitative reasoning, faculty and staff might conclude they need to take two major steps — develop workshops to help faculty understand how to integrate quantitative reasoning into their courses and integrate quantitative reasoning across the curriculum.

These kinds of changes need to be recognized and addressed at an institution's highest decision making levels to assure that an institution commits the appropriate finances or resources to enact the kinds of changes or innovations that interpretations identify. As the examples in Column B illustrate, interpretations might be shared with program committees or sub-committees, such as a general education subcommittee of a curriculum committee. Boards of trustees should also receive interpretations to inform the institution's strategic planning and budgeting. Accreditors are increasingly interested in learning about what an institution has discovered about student learning and how it intends to improve student outcomes. In addition, students should receive assessment results so that they monitor and improve upon their learning.

If an institution aims to sustain its assessment efforts to continually improve the quality of education, it needs to develop channels of communication whereby it shares interpretations of students' results and incorporates recommended changes into its budgeting, decision making, and strategic planning as these processes will likely need to respond to and support proposed changes. Most institutions have not built into their assessment plans effective channels of communication that share interpretations of student achievement with faculty and staff, as well as with members of an

institution's budgeting and planning bodies—including strategic planning bodies. Assessment is certain to fail if an institution does not develop channels that communicate assessment interpretations and proposed changes to its centers of institutional decision making, planning, and budgeting.

Once an institution or program makes changes to improve the quality of education, the assessment cycle begins anew to discover if proposed changes or innovations do improve student achievement. As Column C illustrates, the assessment cycle once again explores how well students' are learning based on innovations or changes. Do changes in pedagogy or curricular design result in improved student learning?

Motivated by institutional curiosity, assessment will become, over time, an organic process of discovering how and what and which students learn. Launching a commitment to assessment works best when a group within a major or from across a campus, for example, plans how the process will actually work. Initially, limiting the number of outcomes colleagues will assess enables them to determine how an assessment cycle will operate based on existing structures and processes or proposed new ones. The weight of trying to assess too many learning outcomes as an institution is beginning its commitment may unduly tax faculty and professional staff who need to determine how their culture will integrate the process of learning about student learning into institutional rhythms and practices.

An institutional commitment to assessment — a curiosity about learning — will eventually transform institutions into learning communities raising questions about student learning and development. The results of this collaborative inquiry should inspire innovation and creativity in teaching and learning. Among those innovations might be fostering greater alignment between course or disciplinary content and pedagogy, encouraging pedagogical innovations that address differences in learning styles, encouraging greater collaboration between faculty and professional staff to develop or foster desired knowledge, abilities, or dispositions; providing increased opportunities for students to apply concepts, principles, and modes of inquiry that an institution and its programs value.