

**Student Learning Achievement Committee**  
**GLOSSARY OF PROGRAM ASSESSMENT STRATEGIES**  
**Northern New Mexico College - AY07**

(adapted from [www.umass.edu/oapa/assessment/onlinehandbooks/ch4/#Glossary](http://www.umass.edu/oapa/assessment/onlinehandbooks/ch4/#Glossary))

### **Capstone course**

Capstone courses are intensive, critical, integrative, broadly focused, multi-disciplinary, and summative in terms of program goals and outcomes. Taking place at the end of the sequence of course requirements, they build upon and pull together a program's core curriculum. Class sizes are typically small to encourage intensive interaction and reflection.

*Strengths and Weaknesses:* This method of assessment is often effective in pulling together aspects of a program's courses and requirements, but it requires considerable program-level planning up front, collaboration among faculty, and preparation and analysis by the instructors who teach such courses. Much research supports the notion that capstone courses are of considerable benefit to student learning and achievement.

### **Content analysis**

*Description:* Content analysis is a technique that looks at a group of students, such as majors in a program, and assesses samples of written work that are produced by this group. This assessment method uses outcomes identified as important prior to the analysis or as the analysis proceeds. For example, you might want to determine how well majors in your program write. To use content analysis to assess their writing skills, you will need a representative sample of the writing. Analysis may look at what students actually write or at the underlying meaning of their writing. Results are generally presented in written form giving averages and examples of specific categories of outcomes (e.g., spelling errors). Primary trait analysis, which identifies important characteristics of specific assignments and assigns levels of competency to each trait, can be particularly effective in identifying student learning.

*Strengths and Weaknesses:* Content analysis allows you to assess learning outcomes over a period of time and can be based on products that were not created for program assessment purposes. Because writing samples can be re-examined, content analysis also makes it easier to repeat portions of the study and provides an unobtrusive way to assess student learning. However, accuracy of the assessment is limited to the skill of the person(s) doing the analysis. Data is also limited by the set of written work and may not be relevant to technical skills valued by a particular field or major that involve hands-on performance. Pre-testing coding schemes, using more than one analyst per document, and concrete materials and coding schemes can improve the reliability of this technique.

## **Course-embedded assessment**

*Description:* Course-embedded assessment refers to methods of assessing student learning within the classroom environment, using course goals, outcomes, and content to gauge the extent of the learning that is taking place. This technique generates information about what and how students are learning within the program and classroom environment, using existing information that faculty routinely collect (test performance, short answer performance, quizzes, essays, etc.) or through assessment instruments introduced into a course specifically for the purpose of measuring student learning.

*Strengths and Weaknesses:* This method of assessment is often effective and easy to use because it builds on the curricular structure of the course and often does not require additional time for data collection since the data comes from existing assignments and course requirements. Course-embedded assessment does, however, take some preparation and analysis time and, while well documented for improving individual courses, there is less documentation on its value for program assessment.

## **Culminating assignments**

*Description:* Culminating assignments offer students the opportunity to put together the knowledge and skills they have acquired in the major, provide a final common experience for majors, and offer faculty a way to assess student achievement across a number of discipline-specific areas. Culminating assignments are generally designed for completion in the students' last semester before graduation. Their purpose is to integrate knowledge, concepts, skills, and values that students are expected to have acquired in the program during the course of their study. This is obviously a curricular structure as well as an assessment technique and may consist of a single culminating course (a "capstone" course) or a small group of assignments designed to measure competencies of students who are completing the program.

*Strengths and Weaknesses:* Many colleges and universities are using capstone courses to collect data on student learning in a specific major or in general education or core requirement programs. Putting together an effective and comprehensive capstone course can be a challenge, however, particularly for those programs that mesh hands-on technical skills with less easily measurable learning outcomes. Also, there is a great deal of start-up time to developing appropriate and systematic methods for assessing these or other culminating experiences.

## **Curriculum analysis**

*Description:* Curriculum analysis involves a systematic review of course syllabi, textbooks, exams, and other materials to help you clarify learning objectives, explore differences and similarities between course sections, and/or assess the effectiveness of instructional materials. It offers a way to document which courses will cover which objectives and helps in sequencing courses within a program.

*Strengths and Weaknesses:* Using curriculum analysis as an assessment tool can be a valuable way of tracking what is being taught where. It can provide assurance that specific learning goals and objectives are being covered in the program and can pinpoint areas where additional coverage is needed. This method, however, can be time-consuming, and there may be little consistency between how learning objectives are addressed in one course and how they are taught in another.

### **Employer surveys**

*Description:* Employer surveys help the division members determine if their graduates have the necessary job skills and if there are other skills that employers particularly value that graduates are not acquiring in the program. This type of assessment method can provide information about the curriculum, programs and student outcomes that other methods cannot: on-the-job, field-specific information about the application and value of the skills that the program offers.

*Strengths and Weaknesses:* Employer surveys provide external data that cannot be replicated on campus and can help faculty and students identify the relevance of educational programs, although, as is true in any survey, ambiguous, poorly worded questions will generate problematic data. Additionally, though data collected this way may provide valuable information on current opinion, responses may not provide enough detail to make decisions about specific changes in the curriculum or program. Also, it is sometimes difficult to determine who should be surveyed, and obtaining an acceptable response rate can be cost and time intensive.

### **Focus groups**

*Description:* Focus groups are structured discussions among homogeneous groups of 6-10 individuals who respond to specific open-ended questions designed to collect data about the beliefs, attitudes and experiences of those in the group. This is a form of group interview where a facilitator raises the topics for discussion and collects data on the results. Emphasis is on insights and ideas.

*Strengths and Weaknesses:* Focus groups can provide a wide variety of data about participants' experiences, attitudes, views and suggestions, and results can be easily understood and used. These groups allow a small number of individuals to discuss a specific topic in detail, in a non-threatening environment. Data collected in this way, however, is not useful for quantitative results, and qualitative data can be time-consuming and difficult to analyze because of the large amount of non-standardized information. The success of this method depends on a skilled, unbiased moderator and appropriate groups of participants.

### **Graduate surveys**

*Description:* Surveying graduates can provide a wide variety of information about program satisfaction, how well students are prepared for their careers, what types of jobs

or graduate degrees majors have gone on to obtain, starting salaries for graduates, and the skills that are needed to succeed in the job market or in graduate study. These surveys provide the opportunity to collect data on which areas of the program should be changed, altered, improved or expanded.

*Strengths and Weaknesses:* Surveying is usually a relatively inexpensive way to collect program data from individuals who have a vested interest in helping you improve your program as well as offering the opportunity for improving and continuing department relationships with program graduates. However, without an easily accessible and up-to-date database of graduates, they can be difficult to locate. It also takes time to develop an effective survey and ensure an acceptable response rate.

## **Observations**

*Description:* Observation as a method of assessment is an unobtrusive tool that can yield significant information about how and why students learn. You may choose to observe any relevant interactive event, such as classes, labs, or social gatherings. This tool is generally used when you are interested in how students study, are concerned about the effectiveness of study sessions or other supplementary activities, or when you are focusing on the relationship between out-of-class behavior and in-class performance. Data collected through observation can be correlated with test scores and/or course grades to help provide further insight into student learning.

*Strengths and Weaknesses:* Data collected through observation can yield important insight into student behavior that may be difficult to gauge through other assessment methods. This method is typically designed to describe findings within a particular context and often allows for interaction between the researcher and students that can add depth to the information collected. It is especially useful for studying subtleties of attitudes and behavior. Observed data, however, is not precise. Conclusions may be suggestive rather than definitive, and others may feel that this method provides less reliable data than other collection methods.

## **Performance-based assessments**

*Description:* Performance-based assessments use student activities to assess skills and knowledge. Such activities can include class assignments, projects, presentations, performances, and similar tasks. At its most effective, performance-based assessments are linked to the curriculum and use real samples of student work. This type of assessment generally requires students to use critical thinking and problem-solving skills within a context relevant to their field or major. The performance is rated according to criteria spelled out in a rubric by faculty or other qualified observers. The student receives feedback on the performance and evaluation.

*Strengths and Weaknesses:* Performance-based assessment scan yield valuable insight into student learning and provide students with comprehensive information on improving their skills. Communication between faculty and students is often strengthened,

and the opportunity for students' self-assessment is increased. Performance-based assessments, like all assessment methods, are based on clear statements about learning outcomes. This type of assessment is often labor-intensive, is sometimes separate from the daily routine of faculty and students, and may be seen as an intrusion or an additional burden. Articulating the skills that will be examined and specifying the criteria for evaluation may be both time-consuming and difficult.

## **Portfolios**

*Description:* Portfolios are collections of student work over time that are used to demonstrate student growth and achievement in identified areas. Portfolios can offer information about student learning, assess learning in general education and the major, and evaluate targeted areas of instruction and learning. A portfolio may contain all or some of the following: research papers, process reports, tests and exams, case studies, audiotapes, videotapes, personal essays, journals, self-evaluations, and computational exercises. Portfolios are often useful and sometimes required for certification, licensure, or external accreditation reviews.

*Strengths and Weaknesses:* Portfolios not only demonstrate learning over time, but can be valuable resources when students apply to transfer colleges and universities or for jobs. Portfolios also encourage students to take greater responsibility for their work and open lines of discussion between faculty and students and among faculty involved in the evaluation process. Portfolios are, however, time-consuming and require extended effort on the part of both students and faculty. Also, because portfolios contain multiple samples of student work, they are difficult to assess and to store and may, in some contexts, require too much time and effort from students and faculty alike.

## **Pre- and post-tests**

*Description:* This method of assessment uses locally developed and administered tests and exams at the beginning and end of a course or program in order to monitor student progression and learning across pre-defined periods of time. Results can be used to identify areas of skill deficiency and to track improvement within the assigned time frame. Tests used for assessment purposes are designed to collect data that can be used along with other institutional data to describe student achievement.

*Strengths and Weaknesses:* Pre-test/post-test evaluations can be an effective way to collect information on students when they enter and leave a particular program or course, and provide assessment data over a period of time. They can sample student knowledge quickly and allow comparisons between different students groups, or the same group over time. They do, however, require additional time to develop and administer and can pose problems for data collection and storage. Care should be taken to ensure that the tests measure what they are intended to measure over time (and that they fit with program learning outcomes) and that there is consistency in test items, administration, and application of scoring standards.

## Reflective essays

*Description:* Reflective essays may be used as an assessment tool to gauge how well students understand class content and issues. They are generally short essays (5 to 10 minutes) on topics related to the course curriculum and may be given as in-class assignments or homework. Reflective essays may be voluntary or required, open-ended questions on surveys required in student portfolios or capstone composition courses.

*Strengths and Weaknesses:* Reflective essays as an assessment tool can offer data on student opinions and perspectives at a particular moment in a class. Essays will provide a wide array of different responses and might lead to increased discussion among faculty and students. On the other hand, poorly worded, ambiguous questions will yield little, and opinions and perceptions may vary in accuracy. Analysis of essay content also takes additional time and expertise.

## Scoring rubrics

*Description:* Scoring rubrics are typically grids that outline identified criteria for successfully completing an assignment or task and establish levels for meeting these criteria. Rubrics can be used to score everything from essays to performances. Holistic rubrics produce a global score for a product or performance. Primary trait analysis uses separate scoring of individual characteristics or criteria of the product or performance.

*Strengths and Weaknesses:* Scoring rubrics allow the instructor to efficiently and consistently look at complex products or performances and to define precise outcomes and expectations. They also are easily shared with students. However, developing an effective rubric can be time-consuming and often requires ongoing edits to fine tune criteria and anticipated outcomes.

## Standardized and local test instruments

*Description:* Selecting a standardized instrument (developed outside the College for application to a wide group of students using national/regional norms and standards) or a locally developed assessment tool (created within the College or division for internal use only) depends on specific needs and available resources. Knowing what you want to measure is key to successful selection of standardized instruments, as is administering the assessment to a representative sample in order to develop local norms and standards. Locally developed instruments can be tailored to measure specific performance expectations for a course or group of students.

*Strengths and Weaknesses:* Locally developed instruments are directly linked to local curriculum and can identify student performance on a set of locally important criteria. Putting together a local tool, however, is time-consuming as is development of a scoring key/method. There is also no comparison group and performance cannot be compared to state or national norms. Standardized tests are immediately available for administration and, therefore, are less expensive to develop than creating local tests from scratch.

Changes in performance can be tracked and compared to norm groups and subjectivity/misinterpretation is reduced. However, standardized measures may not link to the College's mission, philosophy, and curricula, and purchasing the tests is usually expensive.

### **Student surveys and exit interviews**

*Description:* Surveys and interviews ask students to respond to a series of questions or statements about their academic experience. Questions can be both open-ended (respondents create answers) and close-ended (respondents answer from a list of simple and unambiguous responses). Surveys and interviews can be written, oral, (face-to-face) or web-based. Types of surveys include in-class questionnaires, mail questionnaires, telephone and web-based questionnaires, and interviews. Interviews include structured, in-person interviews and focus group interviews.

*Strengths and Weaknesses:* Surveys can be relatively inexpensive and easy to administer, can reach participants over a wide area, and are best suited for short and non-sensitive topics. They can give you a sense of what is happening at a given moment in time and can be used to track opinions. Data are reasonably easy to collect and tabulate, yet the sample may not be representative of the population (particularly with a low response rate). Ambiguous, poorly written items and insufficient responses may not generate enough detail for decision-making. An interview can follow-up on evasive answers and explore topics in-depth, collecting rich data, new insights, and focused details. It can, however, be difficult to reach the sample, and data can be time-consuming to analyze. The success of the interview depends ultimately on the skills of the interviewer.

### **Syllabus analysis**

*Description:* Syllabus analysis (as well as systematic review of textbooks, exams, and other curricular material) involves looking at the current course syllabus (written or oral assignments, readings, class discussions/projects and course expectations) to determine if the course is meeting the goals and objectives that the instructor or division has set for it.

*Strengths and Weaknesses:* Use syllabus analysis when you want to clarify learning outcomes; explore differences and similarities between sections of a course; or assess the effectiveness of instructional materials. Syllabus analysis can provide invaluable information to enhance any assessment plan. However, this review is time consuming and, as there may be more than one reviewer, there may not be adequate consistency in collecting and analyzing the data.

### **Transcript analysis**

*Description:* Transcript analysis involves using data from student databases to explore course-taking or grade patterns of students. This tool can give you a picture of students

at a certain point in their academic careers, show you what classes students took and in what order, and identify patterns in student grades. In sum, transcript analysis gives you a more complete picture of students' actual curricular experiences. Specific information can be drawn from transcripts to help answer research questions, and course pattern sequences can be examined to see if there is a coherence to the order of courses taken.

*Strengths and Weaknesses:* Transcript analysis is an indirect and unobtrusive method for data collection using an existing student database. This information can be linked to other variables such as sex or major, or used to measure outcomes. It is important to keep in mind, however, that course patterns may be influenced by other variables in students' lives that don't show up on their transcripts. Also, solutions that arise from results of the analysis may not be practical or easily implemented. It is critical to have specific questions whose answers can lead to realistic change before conducting the analysis.