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I. Introduction

Assessment for student learning and institutional improvement is a core value and ongoing activity at the University of Missouri-Kansas City. Our assessment initiatives are guided by assessment and evaluation standards from the North Central Association’s Higher Learning Commission (HLC), a variety of professional organizations, and a synthesis of best assessment practices from colleges and universities across the country.

Outcomes assessment requirements and methodologies in higher education have evolved considerably. An established consensus (reflected in the work of assessment theorists and practitioners, and in the standards of regional accrediting organizations) suggests that colleges and universities should be actively engaged in assessing learning at all levels of the institution, focusing on graduate as well as undergraduate education, on the classroom and course as well as the program and degree. Although interpretation of nationally normed tests and institutional data remains a common assessment practice in higher education, many colleges and universities have reduced their dependence on these techniques in favor of a comprehensive analysis of work students actually do in classes.

UMKC has been charged by visiting accreditors from the Higher Learning Commission to “articulate an institutional policy statement on assessment, including definitions of assessment and student outcomes assessment, an overall philosophy of assessment, and expectations of departments, schools, colleges, and the University.” The HLC also recommended that “regular assessment reports and data should be reported at the department or unit level.” The present document serves to delineate these expectations, to indicate how assessment is defined at UMKC, and to serve as a resource guide for best outcomes assessment practices.

II. Assessment at UMKC: Definition and Principles

Learning outcomes assessment at UMKC is coordinated by the Assistant Vice Provost for Assessment and the University Assessment Committee (comprised of 17 members—see Appendix A). The University Assessment Committee defines the purpose and philosophy of assessment at UMKC as follows:

*The primary purpose of assessment is to create an environment that promotes educational excellence through evidence-based dialogue about academic programs and services. Successful assessment accomplishes this by: encouraging us to think deeply about the outcomes we desire for our students and the methods by which those outcomes might be encouraged; giving us reliable data upon which to measure whether our students are achieving those outcomes or whether our methods are contributing to or detracting from that achievement; and stimulating us to achieve and maintain high quality teaching and learning.*

*Secondarily, assessment also enables us to communicate the effectiveness of our efforts to a variety of stakeholders and to use resources more wisely in carrying out the mission*
and goals of the University. Assessment facilitates these functions by: providing a basis for communicating our achievements to our constituents in an objective and accountable fashion; and providing a basis for making resource allocation decisions.

Our working definition of assessment (taken from Thomas Angelo’s November 1995 AAHE Bulletin article, cited in the Appendix) emphasizes the first of these two purposes: “Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public, setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance.”

III. Process for Assessing Student Learning Outcomes at the Degree Level

Assessment plans are required for all academic degrees, including undergraduate and graduate majors, free-standing minors (i.e., those without a major), and certificates. These assessment plans are currently being entered into a software program called WEAVEonline (available at https://app.weaveonline.com/umkc/login.aspx). This helps us to organize and document our efforts for the Higher Learning Commission. An assessment coordinator or two has been identified to facilitate the assessment efforts for each degree. UMKC has also developed an Academic Assessment website with many resources, available at http://www.umkc.edu/provost/academic-assessment/default.asp

By October 1st of each year, the faculty members for each academic degree have been asked to outline their mission statement, goals, learning outcomes, measures, achievement targets, findings, and action plans in WEAVEonline for their Assessment Annual Report. Each of these items is defined in the “Glossary” section later in this paper. With the understanding that assessment plan development is an iterative process, many departments are working on developing or refining their rubrics, implementing their action plans, and getting more faculty involved in the process.

Feedback on assessment plans is provided by the University Assessment Committee, which uses an assessment plan rubric that outlines the criteria for evaluating the assessment plans (see http://www.umkc.edu/provost/academic-assessment/downloads/assessment-plan-rubric-form-template.docx to access this template).

Departments and schools should be routinely engaged in course- and program-focused outcomes assessment, with project cycles undertaken and completed every year. Departments and schools should also participate in institution-level assessments as requested, helping to define, measure, and improve general education outcomes and other outcomes related to the institution as a whole.

In addition, the new program evaluation (PEC) process requires every department and school to develop and implement a comprehensive strategy to identify and assess achievement of student
learning outcomes in each of their programs. Information about the PEC process can be found here: http://info.umkc.edu/pec/

Here are some suggested strategies for developing and implementing your assessment plan:

1. Work collaboratively to identify the mission statement, goals, and learning outcomes for each program in your school or department, including graduate and undergraduate degrees. Many schools will need to ensure that their learning outcomes align properly with accreditation standards that govern those professions.
2. Identify method(s) of assessing one or more outcomes. (It’s much better to complete a single assessment cycle focused on a single outcome than to begin many such cycles without finishing any one of them.) Make sure the assessment method is clearly linked to the specific SLO and is well suited for assessing the intended SLO. Try to employ two methods of assessment, at least one of them direct.
3. Conduct assessments, gather and interpret results, and use results to improve teaching and learning.
4. Develop an action plan, including a timeline, for future assessment cycles.
5. As you implement your assessment strategies, document everything you’re doing as evidence to be presented in annual assessment reports, program evaluations, etc.

Need Assistance?
When questions arise, please contact Nathan Lindsay, Assistant Vice Provost for Assessment (ext. 6084, e-mail lindsayn@umkc.edu).

IV. General Guidelines for Assessing Student Learning Outcomes at the Degree Level
Assessment of student learning at the program level can either be direct, focusing on actual student work (essays, exams, nationally normed tests) where we look for evidence that learning has been achieved, or indirect, where we look for signs that learning has taken place through proxies or such “performance indicators” as surveys, focus groups, retention or transfer rates, etc. Both methods of assessment can be valuable, and in fact the assessment experts agree that no single assessment method should ever be relied on exclusively. The first step to any assessment plan is to define the student learning outcomes for the program (or course) under consideration: the things we want students to be able to do (or think or know) by the time they’ve finished a course of study.

Student Learning Outcomes

Student learning outcomes for courses or programs should share the following characteristics:

They should describe the broadest and most comprehensive goals of the course or program, what assessment theorist Mark Battersby refers to as “integrated complexes of knowledge” or competencies. They should focus on what a student should be able to do with the knowledge covered, not simply on what the instructor will cover. Courses and programs may typically have three to five
outcomes, though fewer or more are possible.

They should employ active verbs, usually taken from the higher levels of Bloom’s taxonomy (reprinted in the appendix to this document)—e.g., students should be able to “analyze” or “evaluate,” not “define” or “describe.”

As much as possible, they should be written in intelligible language, understandable to students.

As often as possible, they should be arrived at collaboratively, as instructors who teach the same class or in the same program come to consensus about the key objectives of that unit of instruction. (For course-level SLOs, instructors will undoubtedly have SLOs of their own in addition to consensus ones.) Adjunct instructors—and students themselves—should be involved in the process of developing SLOs as much as possible.

SLOs should be measurable. Ideally, they should contain or make reference to the product (papers, projects, performances, portfolios, tests, etc. through which students demonstrate competency) and the standard (e.g., “with at least 80% accuracy”) or criterion by which success is measured. When the behavior/product and standard are specified, the SLO is sometimes referred to as made “operational.”

Sample program-level SLOs, therefore, might look something like this:

(a simple SLO for English majors) “At graduation, English majors are able to write a clear, coherent, persuasive, and correct essay demonstrating their ability to analyze and interpret texts, to apply secondary criticism to them, and to explain their contexts.” (University of Texas-Arlington)

(an operational SLO for English majors) “80% of a sample of senior-level English majors in upper-division literature courses will be able to score at least 70% on a test designed to measure their success in identifying authors, in placing them in their historical periods, in identifying the literary genres that they produce, and in knowing the titles of their major works.” (University of Texas-Arlington)

(a simple SLO for Biology majors): “[Students should be able to] apply ethical principles of the discipline in regard to animal and human subjects, environmental protection, use of sources, and collaboration with colleagues.” (Walvoord, 2004)

(an SLO for honors Political Science majors): “[Students should be able to] identify a problem [in the discipline], situate it within an appropriate literature, pose a particular hypothesis or intellectual puzzle, then use original sources to test the hypothesis or solve the puzzle.” (Walvoord, 2004)

(an SLO for Economics majors): “[Students should be able to] use statistical
methods to analyze economic questions” (Walvoord, 2004).

(an SLO for the MBA at Central Michigan University): “[Students should be able to] apply the strategic management process and formulate firm strategy.”

(an SLO for the J.D. degree at Georgia State University): “Students will demonstrate effective use of the tools of legal research (both hard copy and online tools), be able to create an effective research plan for assessing a legal problem, and demonstrate the ability to use appropriate citation form for advocacy and expositive legal writing.”

**Direct Assessment Methods**

Some effective direct assessment methods that can be employed to measure achievement of SLOs in courses or programs include:

*Embedded assessment*, in which instructors use existing tests, exams, or writing prompts to identify learning trends in a particular course or group of related courses. A particular department might agree to give a common final in which questions are mapped to specific learning outcomes for the course, then the results aggregated. (A variation of this approach would require all instructors in a course to ask a set of common questions on a part of an exam, but permit them to develop instructor-specific questions for the rest of the exam.) Another department might simply decide to look at student writing on a variety of late-term essay assignments for evidence that certain learning outcomes have been met. The main advantage of embedded assessment is that it simplifies the assessment process, asking instructors to evaluate existing student work, but in a different way than they usually do and for a different purpose. It’s usually good practice to collect such assessment data so as to make evaluation of individual instructors impossible.

*Portfolios*, which require students (or instructors) to assemble a group of projects from a single class or group of classes as a way of demonstrating that achievement of learning outcomes has taken place—and to reveal areas of learning deficiency. This is a particularly effective method of assessing institutional learning outcomes.

*Capstone courses* are usually ones taken in a student’s senior year and intended to allow students to demonstrate comprehensive knowledge and skill in the particular major. Capstone courses (and capstone projects usually required in such course) integrate knowledge and skills associated with the entire sequence of courses that make up the program. Assessing student performance in these classes therefore approximates assessment of student performance in the major as a whole.

*Standardized tests*, particularly nationally normed tests of such institution-wide learning outcomes as critical thinking or writing, or discipline-specific tests like the
ETS Major Field Achievement Tests. Standardized tests may be useful measures if instructors agree to teach the skills that such tests can be shown to measure, and they have the advantage of providing departments with a national standard by which to measure their students. But standardized tests are costly to administer; students are often insufficiently motivated to do their best work when taking them; and as noted, they may not measure what faculty in the program actually teach.

Indirect Assessment Methods

Student surveys and focus groups. A substantial body of evidence suggests that student self-reported learning gains correlate modestly with real learning gains. You may want to consider surveying students (or a sampling of students) at the end of a course of instruction (or after graduation from a program) to determine what they see as their level of achievement of the course or program’s learning outcomes. You may also want to gather a representative group of students together for more informal conversation about a particular course or program when it has ended, asking them open-ended questions about its effect upon them. Surveys of alumni can also produce meaningful assessment data. These techniques are particularly valuable when done in conjunction with more direct assessment measures.

Faculty surveys. Instructors can be asked, via questionnaires, about what they perceive to be strengths and weaknesses among their students.

Data likely to be kept by Offices of Institutional Research on retention, success, and persistence, job placement information, rates of acceptance into graduate programs, demographics, etc. may also be strong assessment tools, if analyzed and mapped to specific SLOs.

Classroom Assessment Techniques. The UMKC assessment committee encourages instructors to familiarize themselves (and routinely employ) some of the classroom-based assessment techniques that Thomas Angelo and Patricia Cross detail in their text on the subject, cited in the appendix. For example, instructors might use the “minute paper” at the end of a class period to have students respond quickly and anonymously to two questions: “what was the most important thing you learned today?” and “what important question remains unanswered?” CATs are ideal ways of helping instructors in specific classes determine what their students know and don’t know, or are having difficulty learning. When you adjust teaching practices in light of the information you gather from a CAT, you’re completing the feedback loop that is successful outcomes assessment. If members of your discipline agree to employ CATs regularly, consider detailing their efforts in a document that can become part of an annual assessment report.

One caveat: indirect assessment measures should be used to augment, not substitute for, more direct measures. Ideally, in fact, multiple assessment methods should be employed whenever possible, so that student surveys (for example) can become a
useful additional check against data derived from doing embedded assessment or administering standardized tests.

**Additional Tools for Assessing Student Learning**

*Scoring rubrics* enable us to assess student performance captured in portfolios, capstone courses, essays, speeches, or other presentations. Individual instructors can employ them on their own, too. Look at a specific assignment—an essay, a demonstration, an oral report—in which student learning cannot be measured with numerical precision. Develop (whether alone or with others) a scoring guide or checklist that will indicate various skill levels for various “primary traits,” with clearly delineated language suggesting the degree to which the assignment demonstrates evidence that the SLO has been achieved. If our SLO were “students should be able to converse orally in a foreign language,” a simple rubric might include the following (which is not exhaustive):

<table>
<thead>
<tr>
<th>Category</th>
<th>Exceeds Expectations</th>
<th>Meets Expectations</th>
<th>Does Not Meet Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensibility</td>
<td>Easily understood by native speakers, even those unaccustomed to interacting with language learners. Clear evidence of culturally appropriate language,</td>
<td>Although there may be some confusion about the message, generally understood by those unaccustomed to interacting with language learners.</td>
<td>Generally understood by those accustomed to interacting with language learners.</td>
</tr>
<tr>
<td>Who can understand this person’s meaning? How sympathetic must the listener be? Does it need to be the teacher or could a native speaker understand the speaker? How independent of teaching situation is the conversation?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Control</td>
<td>High degree of accuracy in present, past and future time. Accuracy may decrease when attempting to handle abstract topics</td>
<td>Most accurate with connected discourse in present time. Accuracy decreases when narrating and describing in time frames other than present.</td>
<td>Most accurate with connected sentence-level discourse in present time. Accuracy decreases as language becomes complex.</td>
</tr>
<tr>
<td>Accuracy, form, appropriate vocabulary, degree of fluency</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

UMKC Foreign Languages and Literatures: Assessment Tool for Oral Proficiency Interview adapted from “Interpersonal Mode Rubric Pre-Advanced Learner” 2003 ACTFL

This is an example of an *analytic* rubric, in which multiple performance criteria, or primary traits, are assessed individually. A *holistic* rubric aggregates these criteria into a single grading scale, so that (for example) and “A” essay might be distinguished by all of the features noted under “Exceeds Expectations.” A holistic rubric is useful for grading purposes, but it is typically too crude a measure to be employed in outcomes assessment work.

Rubrics can be developed collaboratively with students, and in the classroom setting they have the
additional advantage of helping to make grading practices as transparent as possible. As assessment tools, part of their value is that they require faculty to “norm” themselves against a set of consensus evaluative criteria, enabling us to define (and hold to) our common teaching goals more sharply than we might otherwise do. Rubrics also let us identify specific areas where our students are having trouble achieving significant learning outcomes for our courses.

There are many resources on rubrics that are available on campus, including two new pages discussing rubrics on UMKC’s Blackboard Support Site:

http://www.umkc.edu/ia/its/support/blackboard/faculty/rubrics.asp
http://www.umkc.edu/ia/its/support/blackboard/faculty/rubrics-bb.asp

Course-Program Matrices, described more fully in Appendix C, enable departments and schools to map learning outcomes of individual courses against desired outcomes for the programs that comprise those courses. This allows us to demonstrate that students who complete the courses successfully have achieved the programmatic outcomes. It also reveals gaps in curriculum (programmatic outcomes without courses that map to those outcomes) that need to be addressed.

V. Documenting Assessment Plans and Findings

To document its assessment efforts, UMKC utilizes an online software company called WEAVEonline. Here is a description of WEAVEonline that is provided on their website:

“WEAVEonline...addresses the need to develop and maintain continuous improvement processes for both the academic and administrative structures within an institution. It guides and provides for the alignment of multiple processes, including assessment, planning, accreditation, budgeting and institutional priorities.”

According to its website, there are many questions that WEAVEonline can help us answer:

- **Accreditation**: How can our institution track compliance with all of the different accreditation requirements of regional, disciplinary and other agencies?
- **Assessment**: How do we teach assessment to our faculty and staff and make sure they plan for improvements the following year, i.e. create a culture of assessment?
- **Stakeholders**: How can we give different stakeholders–students, faculty, parents, employers, and taxpayers–access to appropriate information?
- **Alignment**: How can we identify where General Education and other core learning outcomes are being introduced, reinforced and emphasized?
- **Resource Allocation**: How do we identify the costs of necessary curricular and other changes that are identified during the reporting of assessment and planning data?
- **Institutional Memory**: How can we be sure that we do not lose our assessment/institutional effectiveness processes with changes in personnel?
- **Strategic Planning**: How can we track implementation of our strategic plan through the department and program level?
- **Audit Management**: How can we know the status of current assessment and planning work and which components are complete or still in need of work?

- **Commitment to Excellence**: How can we demonstrate that we are using the results of our work for continuous improvement?”

To begin using WEAVEonline, faculty and staff can go to: [https://app.weaveonline.com/umkc/login.aspx](https://app.weaveonline.com/umkc/login.aspx). Then, to log in to WEAVEonline, faculty/staff can use their UMKC SSO & password. In getting started, the ‘Quick Start Guide’ may be accessed via the HELP menu on the upper right side of the screen. The “Help For This Page” function under the HELP menu is also very useful. Faculty and staff can contact Nathan Lindsay (<lindsayn@umkc.edu>) for assistance and training regarding WEAVEonline.

### VI. Assessment in General Education

The General Education Program at UMKC is designed to provide students with an opportunity to enhance their capacity for intellectual inquiry and discovery, critical reasoning, and effective communication. These abilities are essential to assisting all students to become life-long learners and providing them with the opportunity to be successful in their chosen fields. The following Student Learning Outcomes provide the foundation for this program and the fulfillment of the University mission. Upon completion of the program of general education, students will show evidence of learning in the following eight areas:

**Communication Skills**: Students will develop effective written, oral, and visual/spatial communication competencies with the ability to communicate with a variety of audiences. They will develop their capacity to interpret information presented in a variety of formats. They will be able to evaluate the context of their message and use proper form and style to engage audiences using a variety of media. They will demonstrate their critical engagement with audiences through reading, listening, reflecting, and responding.

**Technology and Information Literacy**: Students will demonstrate effective use of research resources and can incorporate the information obtained into their academic and creative endeavors. They will demonstrate their ability to locate, evaluate, organize and use research material from a broad range of sources. Students will be able to format and document source material in properly constructed papers, presentations, and a variety of visual formats.

**Scientific Reasoning and Quantitative Analysis**: Students will apply principles and methods of science, math, statistics, and logic to solve problems and draw logical inferences. They will develop a level of quantitative literacy that enables them to comprehend and evaluate information in a broad range of contexts. Students will understand methods and principles of scientific discovery and their application to all areas of learning including the natural and social sciences.

**Arts and Humanities**: Students will develop an understanding of the human condition by exploring the variety of creative works and methods in the humanities as well as the visual and performing arts. They will be able to explain the historical, cultural and social contexts of the humanities and fine arts.
Students will demonstrate an understanding of the connections between the humanities and other areas of intellectual inquiry.

**Interdisciplinary and Innovative Thinking**: Students will demonstrate the ability to contextualize information and use the proper methods and theories as modes of understanding. Focusing on specific problems and issues, students will demonstrate the ability to consider new modes of analysis drawn from a range of fields. Students will be able to see and understand how thinking beyond disciplinary boundaries leads to innovation in all fields.

**Culture and Diversity**: Students will draw on a variety of disciplines to develop an understanding of the complexities of human cultures, past and present, and come to an informed sense of self and others. Students will demonstrate an awareness of a global culture that may include economic, environmental, political and social issues facing all cultures. They will develop an understanding of the factors defining cultural identities.

**Human Values and Ethical Reasoning**: Students will understand principles of value and civic duty in a wide range of settings, and will demonstrate an understanding of personal values and the values of others. Students will also be able to identify ethical problems utilizing their understanding of ethical theory and moral reasoning.

**Civic and Community Engagement**: Students will be able to identify the problems, challenges, and opportunities of an urban university. Students will also understand their relationship to both a local and global community and the social, political, and cultural issues therein. They will develop an appreciation for the meaning and global impact of urbanization. They will have an understanding of the U.S. and Missouri Constitutions and their impact on issues facing these various communities. They will engage with the UMKC community of learners.

Assessment of General Education will focus on these eight learning outcomes and will consist of course-embedded assessments, standardized instruments, and student surveys/reflections. General education assessment will be coordinated by the University Assessment Committee and the Assistant Vice Provost for Assessment, but will be conducted primarily by faculty who are teaching General Education courses.

**VII. Assessment FAQs**

**1. What Is Outcomes Assessment?**

Outcomes assessment is any systematic inquiry in which the goal is to document learning and to improve the teaching/learning process. It can be understood more precisely as a three-step process of:

1. Defining what students should be able to do, think, or know at the end of a unit of instruction (defining, that is, the *student learning outcomes*).
2. Designing the curriculum and students’ learning experiences to address these outcomes.
3. Determining whether, and to what extent, students can do, think, or know it.
4. Using this information to make improvements in teaching and learning.

If this sounds partly recognizable, that’s because all good teachers instinctively do outcomes assessment all the time. Whenever teachers give a test or assign an essay, look at the responses to see where students have done well or not so well, and reconsider their approach to teaching in light of that information, they’re doing a form of assessment. Outcomes assessment simply makes that process more intentional and systematic.

Faculty sometimes struggle with the vagueness of this concept, often pausing in their work to remind themselves of what “assessment” does and does not mean. Though it over-simplifies a bit, we suggest that you ask yourselves these questions to be sure that you are actually engaged in learning outcomes assessment:

Are you demonstrating, in more tangible ways than simply pointing to grading patterns and institutional data, that learning is taking place in your discipline? If you are, you are doing learning outcomes assessment. You are documenting student learning.

Are you identifying, with some precision, areas in your department where learning is deficient, and working actively to improve learning? If so, you are doing learning outcomes assessment. You are trying to enhance and improve student learning in light of evidence you’ve collected about it.

2. Who Should Do Assessment?

Until fairly recently, outcomes assessment data were mostly gathered by institutional research offices, focusing on key performance indicators like retention, success, persistence, and transfer rates. Results of national student engagement surveys or nationally normed tests of core competencies like writing ability and critical thinking have also been compiled for years and used primarily for accountability purposes. Increasingly, however, the locus of outcomes assessment work has shifted from the institution as a whole (though that is still important) to the various departments and professional schools which the institution comprises. Assessment is the business of each program and school on campus—and by extension, each instructor. Comprehensive assessment plans need to be developed and implemented for graduate and professional degree programs, not simply undergraduate majors. Institution-level outcomes and data germane to those outcomes will still be important, but assessment of program-, course- and even classroom-level outcomes is also increasingly vital. Unless faculty themselves become actively involved in defining and assessing the outcomes they are most directly responsible for, the kinds of improvement assessment can lead to cannot take place.

3. Is Assessment the Same Thing As Grading?

No—at least not as grading students on papers and exams, and in courses overall, is usually done. Grading and assessing usually have distinctly different purposes. Traditional grading is primarily evaluative, a method for classifying students. Outcomes assessment is primarily ameliorative, designed to improve teaching and learning. The emphasis in outcomes assessment always falls on
Step 4: using information about student learning patterns in order to improve. This is sometimes referred to as “closing the feedback loop”—something that must always be our ultimate aim in doing this kind of assessment. Grades typically reflect an aggregate of competencies achieved (or not achieved) by a student on an assignment or for a class. Knowing that a particular student got a “B” in a course, or even knowing that 20% of the students in a class got an “A” and 30% got a “B,” won’t tell us very much about how well students in general did in achieving particular learning outcomes in the course. Disaggregating those grades using outcomes assessment techniques, however, may reveal that 85% of the students demonstrated competency in a critical thinking outcome, while only 65% demonstrated competency in a written communication outcome. That may lead us to investigate ways of teaching students to write more effectively in the course—resulting ultimately in improved learning.

Grades are also often based on a number of factors (e.g., attendance, participation or effort in class, completion of “extra credit” assignments) that may be unrelated to achievement of learning outcomes for the course. That may be why the GPAs of high school and college students have risen sharply over the last 15 years, while the performance of these same students on standardized tests to measure writing, reading, and critical thinking has markedly declined.

Learning outcomes assessment methodologies may actually help us grade our students more accurately, and give students more useful feedback in time for them to improve the work they later do in the course. However, simply pointing to grading patterns in classes and courses is not a form of learning outcomes assessment.

4. Why Should We Do Assessment?

The best reason for systematically assessing student learning is the intrinsic value of doing so. Effective teaching doesn’t exist in the absence of student learning. Assessment is part of the broad shift in higher education today toward focusing on student learning, and on developing better ways of measuring and improving it. Assessment results implicitly ask us to fit our teaching, as much as we can, not to some set of timeless pedagogical absolutes but to the messy reality of specific classrooms, where actual students in one section of a class may require a substantially different kind of teaching than their counterparts in another. Done well, learning outcomes assessment makes us happier teachers because it makes us better teachers.

It also makes us better teachers because it makes our students better learners. The primary purpose for doing assessment is to improve student learning. Consider the following examples of this process in action:

At the University of Colorado, Classics faculty conducted formative assessment that led them to add more sight-reading exercises in introductory Latin and Greek courses. As a result, they noticed dramatic improvement in the translation skills of their students. Assessment projects undertaken by Theater and Dance, Chemistry/Biochemistry, and English faculty have also led to demonstrable improvement in student performance. (http://www.colorado.edu/pba/outcomes/aoc/h010322_02.htm)
At Iowa State University, faculty in the department of Industrial and Manufacturing Systems Engineering discovered, through their comprehensive assessment processes, that students in the program were not achieving competency in a “global enterprise” learning outcome to the same degree students had done in earlier years. The faculty instituted a collaborative, Internet-based project for students that required them to work with students at University of Stratchclyde in Scotland, National Taiwan University of Science and Technology, and Monterrey Institute of Technology in Mexico. As a result, the faculty observe “that the average survey scores of recent semesters and years are better than the average survey scores of earlier semesters” and that the “average scores of the rubric grading” are also increasing. (http://www.imse.iastate.edu/academics/accreditation/bs-in-ie-program-outcomes/overview.html)

At Portland State University, a faculty member in ESL/Bilingual Education describes the value of assessment this way: “I frankly could not make heads nor tails out of this assessment work when it was first presented to me in a faculty seminar several years ago. But with expert advice and mentoring,... the ESL/Bilingual Education faculty has created an assessment system that is transparent to our faculty and students, manageable for our program staff, and, most importantly, meaningful in terms of gathering data that we can effectively use to improve our program of study. We have seen both improvement in student competency and increased engagement of the program faculty toward ensuring that students gain competencies in clear and measurable ways. In this most recent (our second) round of assessment work, an Excel-based tool [was constructed] for analyzing our quantitative data that was remarkably efficient and effective for our staff and faculty to work with. Plus, we were finally able to gather faculty in dialog on assessment, with both aggregated statistics from students’ practicum (work samples) and several sample student work samples on the table. The exchange was electrifying. The program faculty and staff left with renewed energy and enthusiasm for our work in preparing ESL/Bilingual educators. Assessment of student learning for program improvement is really transformational. We went into this process convinced that we were doing good work in preparing ESL/Bilingual educators and after two full rounds of assessment work we are even more committed and enthusiastic about our work as educators—because now we are learning what we do well and how we can learn to do it even better.” http://www.pdx.edu/studentaffairs/assessment-planning-and-practice

Faculty might best think of assessment as a natural extension of their own training and temperament as researchers. Student learning (in anthropology, or electrical engineering, or art history, etc.) becomes an additional, yet complementary, site for academic research, with new opportunities for scholarly writing, conference presentations, or “just” cognition. And arguably, students benefit from this research in even more direct and dramatic ways than they do from our traditional forms of scholarship.

5. Why Must We Do Assessment?

There are, of course, other reasons for doing assessment. Colleges throughout the country are required by regional accrediting bodies to document and assess student learning. Other
governmental agencies charged with funding education see assessment as a way of enabling colleges to demonstrate that learning is taking place in their classes and programs. The state of Missouri has a 20-30 year history of what its CBHE calls “using evidence-based information as a foundation for high-stakes and continuous-improvement decisions to positively impact teaching and learning.” The CBHE has recently renewed its emphasis on an “accountability framework” for the state’s system of higher education. Colleges can also use assessment data for research and planning purposes, including budget allocation decisions. In addition, students (along with parents, employers, etc.) increasingly ask for evidence of what kind of learning a particular course, program, or degree results in to help in their legitimate decision-making processes. It may reassure us to learn that the assessment movement is now 30 years old, that its basic methodologies were developed and refined at some of the nation’s best colleges and universities, that professors—not bureaucrats—led this process, and that assessment is being practiced at colleges and universities all over the world today.

A major recent stimulus to do outcomes assessment at the institutional, program, and course levels comes from UMKC’s accrediting body, the North Central Association’s Higher Learning Commission. HLC asks universities to assess student learning at all levels of the institution, and to use this information to improve teaching and learning. Visiting accreditation teams want to see evidence at UMKC that departments and schools not only have a systematic plan for assessing student learning in their courses, but actually use that plan.

Outcomes assessment, then, serves at least three critical purposes: to provide clear evidence of learning that is already taking place, to improve learning in areas where it is deficient, and to help with planning and resource allocation decisions. In other words, learning outcomes assessment asks of us that we do our best to clarify our teaching goals, determine which goals students are having difficulty achieving, and do all we can within our power to enhance that achievement.

6. Is Assessment Really a Method to Evaluate Individual Instructors?

Those leading the assessment efforts at UMKC have agreed that assessment is not to be used for evaluating individual instructors. We want faculty to want to participate in assessment efforts. Having a system that could be used against faculty defeats its primary purpose. When you develop assessment processes in your department or school, we hope you will encourage individual instructors to use results for reflective self-evaluation. However, barriers should be created to prevent any possible avenue for the evaluation of individual teachers.

7. Does Assessment Threaten Academic Freedom?

If assessment meant standardized instruction, scripted lessons, and mandated common tests, it certainly would, but this is not the case. Assessment actually leads in many cases to less standardization, not more. Any instructor teaching two sections of the same class will probably find, through the use of classroom-based assessment techniques, that each will require substantially different pedagogical approaches. Nothing in the assessment literature suggests that all instructors should teach in similar ways.

Some departments may find it useful, upon occasion, to employ common prompts (and possibly
even common finals or common questions embedded in otherwise instructor-specific finals) in order to generate meaningful assessment results. Others may decide not to do that at all.

Assessment does encourage instructors of the same courses or program to collaborate on the generation of common learning outcomes for the course or program—though each instructor may very well have, in addition, unique outcomes of her or his own. Learning outcomes assessment would suggest that no two Psychology 210 classes will be the same, or have identical learning outcomes—but that any student taking Psychology 210, no matter who teaches the course, will leave it being able to do or know some things in common. Since no one seriously argues that students shouldn’t expect to get a common core of knowledge and/or skill in a particular course or program no matter who teaches it, it’s difficult to entertain seriously the argument that this threatens academic freedom.

8. Does Assessment Reduce Learning to That Which Can Be Easily Measured?

No, unless we have a very limited notion of what the word “measure” means. As instructors, we measure complex forms of learning in our classrooms all the time, and there’s no reason why outcomes assessment can’t do that as well. Barbara Walvoord, an outcomes assessment specialist at Notre Dame, has written that assessment “does not limit itself only to learning that can be objectively tested. It need not be a reductive exercise. Rather, a department can state its highest goals, including such goals such as students’ ethical development, understanding of diversity, and the like. Then it can seek the best available indictors about whether those goals are met.” Some learning objectives may not lend themselves as readily to measurement as others, no matter how creatively we try to look for evidence they’ve been met. But nothing in the outcomes assessment literature suggests we should reduce learning only to those forms that can easily detected or counted numerically.

9. Isn’t Assessment Just an Educational Fad?

Some experienced instructors believe that learning outcomes assessment is simply the educational flavor of the month—or year—and can be ignored (or waited out) because it is likely to go the way of so many other pedagogical dodos. However, this does not seem likely to happen. As noted elsewhere in this document, assessment is not a recent methodology, and assessment in general is clearly ascending in importance throughout the country today as an integral measure of institutional effectiveness as defined by every regional accrediting commission. If assessment is a fad, it’s one of the longest-lived fads in American history. At its core, outcomes assessment means looking for evidence about patterns of student learning achievement in an effort both to document and improve that learning. It’s likely that the specific methods we employ to do assessment will evolve in the coming years. However, it seems highly unlikely to expect the need to gather evidence and use it for improvement will vanish.

10. How Can Instructors Be Expected to Find the Time to Do This Work?

The University Assessment Committee understands very well that UMKC professors are busy (and often exhausted) people, not only with teaching and research responsibilities but with extensive amounts of committee work. No one wants to impose the kinds of additional burdens on instructors that might lead to resentment or burnout. We’ve found, however, that meaningful forms of
outcomes assessment can be done with only a modest amount of time committed to the process. We also believe that the time spent doing assessment is so intrinsically valuable that it can be seen as one of the best forms of professional development available to us. In addition, the time spent on this work can often be regained at the “back end,” when we find, as a result of our assessment efforts, that our teaching and curricula grow more efficient. We believe we can help departments and schools develop assessment plans that are not unduly burdensome. Assessment is, to a great extent, simply a more systematic effort to do what responsible instructors are already doing on their own.

VIII. Glossary

**Achievement Target:** This is the overall level for satisfactory or desirable performance on a student learning outcome. It also outlines what percentage of students is expected to achieve this level of performance. Rubrics can help to clarify these items.

**Action Plan:** This is an activity sequence designed to help accomplish intended outcomes/student learning outcomes and/or improvement of academic assessment plan. Action plans might include revising organizational structure, reallocating resources, revising administrative policies/procedures, revising curriculum, individual course revision, sequencing of courses, inclusion and/or modification of educational experiences and strategies (e.g., undergraduate research, internships, practicum, study abroad, service learning).

**Assessment:** Outcomes assessment is any systematic inquiry whose goal is to improve the teaching/learning process. It can be understood more precisely as a four-step process of 1) defining what students should be able to do, think, or know at the end of a unit of instruction (defining, that is, the *student learning outcomes*), 2) Designing the curriculum and students’ learning experiences to address these outcomes, 3) determining whether, and to what extent, students can do, think, or know it, and 4) using this information to make improvements in teaching and learning.

**Authentic Assessment:** Assessments that involve engaging tasks built around important questions in a particular field of study. The tasks typically require students to produce a significant product or performance. Authentic assessments are usually accompanied by explicitly defined standards.

**Benchmark:** Similar to an achievement target, this is a point in time (e.g., the sophomore year) or a performance standard (e.g., 80% of the students in a particular group will score at a particular level) which measures student progress.

**Direct/Indirect Assessment:** *Direct assessment* requires students to display their knowledge and skills in response to the measurement instrument itself, as in tests or exams, essays, portfolios, presentations, etc. *Indirect assessment* usually asks students to reflect on their learning rather than demonstrate it (as in interviews, surveys, focus groups, etc.). Indirect assessment may also ask employers or other interested parties to evaluate student learning as...
they have had occasion to observe it. Both forms of assessment are valuable, particularly when used in tandem.

**Embedded Assessment:** Using existing coursework (e.g., common questions asked of all students on a final exam in every section of a course) as a means of assessing student learning in aggregate. Collecting assessment information from within the classroom provides an opportunity to use already in-place assignments and coursework for assessment purposes. This involves taking a second look at materials generated in the classroom.

**Findings:** These are the assessment results used for comparison of actual versus expected achievement level. It is important to include specific numbers/percentages when possible that are connected to the learning outcomes and achievement targets.

**Formative/Summative Assessment:** Formative assessment is any evaluation taking place during the course of instruction; summative assessment is an evaluation that takes place at the end of a unit of instruction. Formative assessment enables assessors to modify instructional practices in time to improve learning for the particular students being assessed. Summative assessment results inform changes in pedagogy or curriculum for future students. Both forms of assessment can be useful.

**Goal:** This is a broad statement about desired ends for the students. The goals should be linked to the academic degree program mission and reflect long range outcomes.

**Learning Outcome:** What students can be expected to do, think, or know as a result of a particular course of study. Outcomes are performance oriented, focusing less on what instructors will cover in a course or what their instructional goals are (these are often designated as “objectives”) than on what students can produce, perform, or achieve as a marker of success in the course or program. Learning outcomes should be SMART: Specific, Measurable, Attainable, Relevant/Results Oriented, and Time bound.

**Mission Statement:** The mission statement outlines the highest aims, intentions, and activities of the entity. For degree programs, the mission statement should connect to the departmental, college/school, and university mission statements.

**Measurement:** This is the method to gauge achievement of expected results. Examples include using a rubric for essays, quizzes, tests, journals, group projects, class discussion, portfolios, etc.

**Portfolio:** Any purposeful collection of work done by a particular student. Students themselves are usually encouraged to gather the materials for their portfolios themselves, often using a selection process specifying various criteria. Portfolios are then usually evaluated against a rubric. Aggregating the data as one evaluates a number of portfolios in a single class or program (or even across an entire institution) leads to potentially rich outcomes assessment data. Increasingly, portfolios are being digitalized in what are called electronic portfolios or e-portfolios. Besides their value for assessment purposes, portfolios potentially enable students to demonstrate their achievement to prospective employers, graduate schools, etc.
Qualitative/Quantitative Assessment: Quantitative assessment results can be expressed in numerical terms; qualitative assessments are usually expressed in narrative form. In many cases, qualitative assessment can be converted to quantitative through the use of rubrics. Both forms of assessment can be valuable.

Reliability: The measure of consistency for an assessment instrument. The instrument should yield similar results over time with similar populations in similar circumstances. (Contrast with validity.)

Rubric (Analytic vs. Holistic): A rating scale with explicit criteria, used to evaluate any performance, including essays, speeches, presentations, etc. Essays may group various performance criteria under each numerical category (a holistic rubric), or break out each criterion separately and allow for different ratings for each distinct criterion (an analytic rubric). Holistic rubrics are useful for grading purposes, but analytic rubrics are more effective for doing outcomes assessment, since they capture very specific performance characteristics.

Standardized Test: Any test given and scored in a uniform manner. Questions on standardized tests are selected after trials for appropriateness and difficulty. Guidelines provided with such tests attempt to eliminate extraneous interference that might influence test results.

Validity: The extent to which the assessment measures the desired performance and appropriate inferences can be drawn from the results. A valid assessment accurately measures the learning it claims to measure.

(Some definitions adapted from the Washington Commission on Student Learning, 2000 or from the James Madison University assessment website)
IX. Appendices

A. University Assessment Committee Members

As outlined in the University Assessment Plan, the Committee is charged with encouraging, supporting and guiding the growth of effective student learning outcomes assessment practices at UMKC. The Committee will also be responsible for guiding the development and integration of student learning outcomes assessment into a university-wide assessment and evaluation system that is effectively linked with planning and budgeting processes. The Committee will review program level assessment plans for all academic programs and provide recommendations for plan improvements to department chairs, program directors, and departmental assessment coordinators. The Committee will also assist in developing, monitoring, and revising the university plan for assessing the General Education learning outcomes. The Committee consists of the following representatives:

<table>
<thead>
<tr>
<th>Member</th>
<th>Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berkel, LaVerne A.</td>
<td>School of Education</td>
</tr>
<tr>
<td>Bethman, Brenda</td>
<td>Ex-Officio/Student Affairs</td>
</tr>
<tr>
<td>Breytspraak, Linda M.</td>
<td>Arts &amp; Sciences-Social Sciences</td>
</tr>
<tr>
<td>Bunce, Larry W.</td>
<td>Ex-Officio/Institutional Research</td>
</tr>
<tr>
<td>Cornell, David W.</td>
<td>Bloch</td>
</tr>
<tr>
<td>Garavalia, Linda</td>
<td>Pharmacy</td>
</tr>
<tr>
<td>Glesner-Fines, Barbara</td>
<td>Law</td>
</tr>
<tr>
<td>Kelly, Colleen L.</td>
<td>Graduate Studies</td>
</tr>
<tr>
<td>Krantz, Steven</td>
<td>Nursing</td>
</tr>
<tr>
<td>Leibse, Fred M.</td>
<td>Arts &amp; Sciences-Natural Sciences</td>
</tr>
<tr>
<td>Lindsay, Nathan K.</td>
<td>Assistant Vice Provost for Assessment</td>
</tr>
<tr>
<td>Mitchell, Ken</td>
<td>Computing &amp; Engineering</td>
</tr>
<tr>
<td>Mullaly-Quijas, Margaret P.</td>
<td>Libraries</td>
</tr>
<tr>
<td>Phlegley, Jennifer</td>
<td>Arts &amp; Sciences-Humanities</td>
</tr>
<tr>
<td>Plamann, Lynda S.</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>Timmons, Tim</td>
<td>Conservatory</td>
</tr>
<tr>
<td>Toy, Serkan</td>
<td>Medicine</td>
</tr>
<tr>
<td>Van Ness, Christopher</td>
<td>Dentistry</td>
</tr>
<tr>
<td>Ward-Smith, Peggy</td>
<td>Ex-Officio/FaCET</td>
</tr>
</tbody>
</table>
B. AAHE Nine Principles of Good Practice for Assessing Student Learning

1. The assessment of student learning begins with educational values.
   Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only what we choose to assess but also how we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.

2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
   Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore firmer bases for improving our students' educational experience.

3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
   Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations—those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.

4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.
   Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experience along the way—about the curricula, teaching, and kind of student effort that lead to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.

5. Assessment works best when it is ongoing not episodic.
   Assessment is a process whose power is cumulative. Though isolated, "one-shot" assessment can be better than none, improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students, or of cohorts of students; it may mean collecting the same examples of
student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. Assessment fosters wider improvement when representatives from across the educational community are involved.
Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment's questions can't be fully addressed without participation by student-affairs educators, librarians, administrators, and students. Assessment may also involve individuals from beyond the campus (alumni/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement.

7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.
Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.

8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.
Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision making, and avidly sought.

9. Through assessment, educators meet responsibilities to students and to the public.
There is a compelling public stake in education. As educators, we have a responsibility to the publics that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation—to ourselves, our students, and society—is is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.
C. Bloom's Taxonomy

Beginning in 1948, a group of educators undertook the task of classifying education goals and objectives. The intent was to develop a classification system for three domains: the cognitive, the affective, and the psychomotor. Work on the cognitive domain was completed in 1956 and is commonly referred to as Bloom's Taxonomy of the Cognitive Domain (Bloom et al., 1956). Others have developed taxonomies for the affective and psychomotor domains.

The major idea of the taxonomy is that what educators want students to know can be arranged in a hierarchy from less to more complex. The taxonomy is presented below with sample verbs and a sample behavior statement for each level.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>DEFINITION</th>
<th>SAMPLE VERBS</th>
<th>SAMPLE BEHAVIORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE</td>
<td>Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.</td>
<td>Write, List, Label, Name, State, Define</td>
<td>The student will define the 6 levels of Bloom’s taxonomy of the cognitive domain.</td>
</tr>
<tr>
<td>COMPREHENSION</td>
<td>Student translates, comprehends, or interprets information based on prior learning.</td>
<td>Explain, Summarize, Paraphrase, Describe, Illustrate</td>
<td>The student will explain the purpose of Bloom’s taxonomy of the cognitive domain.</td>
</tr>
<tr>
<td>APPLICATION</td>
<td>Student selects, translates, and uses data and principles to complete a problem or task with minimum of direction.</td>
<td>Use, Compute, Solve, Demonstrate, Apply, Construct</td>
<td>The student will write an instructional objective for each level of Bloom’s taxonomy.</td>
</tr>
<tr>
<td>ANALYSIS</td>
<td>Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question.</td>
<td>Analyze, Categorize, Compare, Contrast, Separate</td>
<td>The student will compare and contrast the cognitive and affective domains.</td>
</tr>
<tr>
<td>SYNTHESIS</td>
<td>Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.</td>
<td>Create, Design, Hypothesize, Invent, Develop</td>
<td>The student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.</td>
</tr>
<tr>
<td>EVALUATION</td>
<td>Student appraises, assesses, or critiques</td>
<td>Judge, Recommend</td>
<td>The student will judge the effectiveness of</td>
</tr>
</tbody>
</table>
In general, research over the last 40 years has confirmed the taxonomy as a hierarchy with the exception of the last two levels. It is uncertain at this time whether synthesis and evaluation should be reversed, or whether synthesis and evaluation are at the same level of difficulty but use different cognitive processes.

(adapted from Valdasta State University)

**D. A Sample Course-Program Assessment Matrix**

This is the simplest matrix that allows a department to gather information about assessment being conducted in its courses and to map that information against its broader, degree-level goals. Each instructor in the department fills out the first matrix for the courses she or he teaches, then the department aggregates the data. This allows the department to see where it has disparate goals within the same course, and whether all of its outcomes are being assessed somewhere in the curriculum. An example matrix is shown below:

<table>
<thead>
<tr>
<th>Dept. Outcomes</th>
<th>Course #1</th>
<th>Course #2</th>
<th>Course #3</th>
<th>Course #4</th>
<th>Course #5</th>
<th>Course #6</th>
<th>Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Outcome #1</td>
<td>K</td>
<td>K</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Learning Outcome #2</td>
<td></td>
<td>K</td>
<td>A</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Outcome #3</td>
<td></td>
<td></td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Learning Outcome #4</td>
<td></td>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Learning Outcome #5</td>
<td></td>
<td>K</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>S</td>
</tr>
</tbody>
</table>

K= Knowledge/Comprehension;  A= Application / Analysis;  S= Synthesis /Evaluation

(adapted from Susan Hatfield’s Presentation on “Coaching Assessment: Student Learning Outcomes”)

**E. Further Reading**


F. Assessment Websites

General

The University of South Florida’s website containing department-level examples of student learning outcomes and assessment methods: http://www.ie.usf.edu/OA/

North Carolina State University’s comprehensive website, with many links to other assessment resources: http://www2.acs.ncsu.edu/UPA/assmt/resource.htm

Angelo and Cross’s Teaching Goals Inventory at http://fm.iowa.uiowa.edu/fmi/xsl/tgi/data_entry.xsl?-db=tgi_data-&-lay=Layout01-&-view

California State University’s learning outcomes assessment website: http://calstate.edu/AcadAff/SLOA/

Boise State University’s website contains links to program assessment plans organized by college: http://academics.boisestate.edu/undergraduate/foundations-program-2/university-learning-outcomes/

Oklahoma State University offers assessment method examples and assessment plan tips and checklist: http://www.okstate.edu/assess/assessment_plans/assessment_plans.htm

Portland State University’s general overview of the assessment process: http://www.pdx.edu/studentaffairs/assessment-planning-and-practice

The University of Wisconsin’s website has excellent advice about using the various types of direct and indirect assessment: http://www.provost.wisc.edu/assessment/manual/manual2.html#a2

Writing Student Learning Outcomes

The Teachopolis website contains useful program tools for building SLOs: http://www.teachopolis.org/myTA/index.html
The University of Virginia’s website, focusing on writing program-level outcomes:
http://www.web.virginia.edu/iaas/assess/resources/learningoutcomes.shtm

How to write SLOs, from Kansas State University: http://www.k-state.edu/assessment/slo/instructions.htm

Kingston University’s comprehensive “how to” guide for SLOs:

Using Embedded Assessment Techniques

“Synopsis of the Use of Course-Embedded Assessment in a Medium Sized Public University’s General Education Program” by Helen Gerretson:
http://www4.nau.edu/assessment/main/research/webtools.htm

Skidmore College’s overview of embedded assessment:

Course-embedded assessment techniques from the University of Wisconsin assessment website: http://www.provost.wisc.edu/assessment/manual/manual2.html#a2

Writing and Using Rubrics

Good sample rubrics at the University of Wisconsin—Stout website:
http://www.uwstout.edu/soe/profdev/rubrics.cfm

“Recommendations for Developing Classroom Performance Assessments and Scoring Rubrics” from Barbara M. Moskal of the Colorado School of Mines:
http://pareonline.net/getvn.asp?v=8&n=14

An annotated list of rubric resources, including sites with rubric generators:

A comprehensive rubric site from San Diego State University:
http://webquest.sdsu.edu/rubrics/weblessons.htm

Portland State University’s rubric bank: http://www.pdx.edu/cae/rubricbank
Potfolios/E-Portfolios

Dr. Helen Barrett’s site linking to many other portfolio resources: http://electronicportfolios.org/portfolios/bookmarks.html

The North Carolina State University assessment resources website, cited above in General resources, lists more than 10 sites that describe university-level portfolio projects, including that at Truman State: http://assessment.truman.edu/components/portfolio/

Every student in the state of Minnesota is encouraged to develop an e-portfolio, described at http://www.efoliominnesota.com/

The University of Denver’s “portfolio community” allows browsing of e-portfolio examples to registered guests: https://portfolio.du.edu/pc/index

Classroom Assessment Techniques (CATs)

Southern Illinois University-Edwardsville’s page devoted to CATs: http://www.siue.edu/~csantan/CAT.html

A general description of CAT theory and practice, taken from Angelo and Cross, from the University of Hawaii: http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/assess-1.htm

Hawaii describes 50 specific CATs on a separate website: http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/assess-2.htm

Another very good overview of CAT methodology, with examples, from Vanderbilt University: http://www.vanderbilt.edu/cft/resources/teaching_resources/assessment/cats.htm

Student Surveys

Web-based survey instruments from the University of Northern Arizona: http://www4.nau.edu/assessment/main/research/webtools.htm

A step by step guide from Cornell University for decision making when surveying students: http://dpb.cornell.edu/IP_E_How_To_Survey.htm

Focus Groups

How to organize and conduct a focus group for outcomes assessment purposes from the University of Texas-Austin’s assessment website:

An excellent overview of focus-group methodology from the National Park Service: http://www.nps.gov/phso/rtcatoollbox/gatinfo_focus.htm

“Focus Groups as an Approach to Outcomes Assessment” by David W. Sink of the University of Arkansas-Little Rock: http://arp.sagepub.com/cgi/content/abstract/21/3/197