Assessing Service Learning: Let the Students Do It

How do you assess whether students’ learning is increased through participation in high impact educational experiences such as Service Learning projects? Throughout the project, periodically ask students to select an expected course outcome that relates to an experience they’ve had with their community partner. Ask students to describe how the experience helped them to meet the outcome.

In addition to assessing whether students’ participation in a Service Learning project increases mastery of important course concepts, it’s also important to assess the effect of service on students’ level of civic engagement. Both can be done through pre- and post-service student surveys, writing assignments, class discussion, online discussion boards, analysis of student journals, etc.

Through the assessment of a Service Learning project in a PSY 120: Psychology of Personal Adjustment course, Amy Kausler, Professor of Psychology, found that the project positively impacted students’ interest in civic engagement and mastery of course expected learning outcomes. For example, a student who volunteered at a local high school gave examples of comments made by high school students and identified them as an indication of either internal or external locus of control. Through reflection, the student recognized that this helped her to master one of the expected learning outcomes for the course: “Examine major transitions in life, including growing through the years…. ” The student also indicated that participation in the Service Learning project increased her desire to help others.

Keeping the assessment of Service Learning simple and having students take the primary role in the assessment makes the incorporation of Service Learning into a course more manageable for the faculty member. If you’re interested in utilizing Service Learning as a teaching strategy, please contact Sandy Frey at szak@jeffco.edu or ext. 348. Ask Sandy about $500 faculty stipends for incorporating Service Learning into a course.
Spotlight on Faculty Assessment Efforts

Professor Sean Birke assesses the extent to which students are mastering expected learning outcomes and makes changes to instruction, when necessary, to increase student learning. For example, Sean determined that students in his Introduction to Chemistry course scored an average of 65% – 70% on a test that measured their mastery of the course outcome expecting them to balance chemical equations. Unsatisfied with this mastery level, Sean reflected on his anecdotal observations and information in articles he had read indicating that 60% of students are concrete learners. He decided to act on this knowledge and add a concrete learning experience to his lecture on balancing chemical equations. Sean had students use different colors of playdough to represent atoms and then create models to match specific formulas. After incorporating this concrete experience into his lectures, students scored an average of 85% - 90% on the test measuring their ability to balance chemical equations. This 31% increase in average test score indicates a substantial increase in student learning. Sean continues to provide students with concrete learning experiences to facilitate their mastery of expected learning outcomes.

Professor Janie L. Blum: In the Business Language Skills and Business Document Applications classes I teach, I can tell if I am accomplishing what I want to accomplish through three methods. Conversation – When a student comes to me to clarify an exercise, to proof a resume, or to discuss a grammar rule, I can almost always clear up the misunderstanding. Through our personal one-on-one conversation, I can elaborate, spend more time, and use personal/relevant examples that the student will understand. I can almost see “the light come on.” Connection – When a student shares a moment of epiphany in which he/she used and transferred skills to another class (or better yet, to a life situation), I know I have been successful in relaying the content of the course. A student noticing poor grammar usage by a TV anchor or successfully writing a business letter to explain why employment benefits should be reinstated are examples of this connection. Confidence – The ultimate “test” is when a student gains confidence to answer questions in class, to critique another student’s paper, or to explain a concept in order to teach a fellow student. All of these are evidence that I have been successful in communicating course content, concepts and comprehension.

Assistant Professor Terry Kite utilizes many of the components of Action Research to increase student learning. As Terry graded the reflection portion of a lesson plan assignment, he wondered why students in his EDU225 Educational Psychology class did not “continually assess the effects of [their] teaching on others” (State of Missouri Teaching Quality Indicator #9). He found that students evaluated the success of the lesson plans they created on how closely they themselves followed the plan when they actually taught, rather than on students’ comments and participation during the lesson. He questioned, “Why aren’t they looking at student success?” Then he asked, “What can I do next semester to get students to look at the effects of their teaching on students?” Terry brainstormed with a colleague and the next semester modified what he did in the classroom. Terry had students periodically reflect on the lesson plans he used to teach them. Students very willingly shared their thoughts on whether the day’s activities helped them to learn and suggested ways the lesson plan could be improved for the next semester. Did having students reflect on his lesson plans result in better reflections in the students’ lesson plan assignments? Terry will find out when he collects and reviews the lesson plans at the end of this semester.

Adjunct Instructor (Retired Professor) Ron Krive: Student outcomes assessment is something of a misnomer. As a learner, I express a change in value or attitude, or demonstrate the acquisition of knowledge or skill consistent with some predefined objective. I learn as an outcome of some educational process in which I have engaged. I measure my learning at intermediate way points. I remedy the process if I determine that I am failing to master those predefined objectives. If I fail, it usually involves an issue of readiness to master the objectives. That is a front side determination, or an in-process determination, not a back side determination if I have any hope of modifying the process and succeeding. On the front side, student outcomes assessment allows for modification of the educational process to improve student learning. I have taught the course that I am currently teaching for more than 40 years. Why the course has changed and why the course is taught differently each year is as complex as the wars, technological advancements, economic, and social changes during my tenure as a college professor, not to forget my experience and professional development. This year is no exception. The average age and circumstance of those predefined objectives. If I fail, it usually involves an issue of readiness to master the objectives. That is a front side determination, or an in-process determination, not a back side determination if I have any hope of modifying the process and succeeding. On the front side, student outcomes assessment allows for modification of the educational process to improve student learning. I have taught the course that I am currently teaching for more than 40 years. Why the course has changed and why the course is taught differently each year is as complex as the wars, technological advancements, economic, and social changes during my tenure as a college professor, not to forget my experience and professional development. This year is no exception. The average age and circumstance of the students suggest frequent questioning, practice problems, demonstration and setting aside more than the usual amount of time allocated to out-of-class tutoring. That much student outcomes assessment was accomplished while I watched my class assemble in the hall the first day of class. Student outcomes assessment modifies how I teach. It is an ongoing process. It facilitates adaptive teaching. It facilitates mastery learning.
Adjunct Instructor Shawn Lavigne assesses student mastery of expected learning outcomes through a variety of means including listening to students’ answers to in-class discussion questions. One of the learning outcomes for BIO 102: Concepts in Biology is “Explain and identify processes and components of the major systems in the human body.” After students listened to a lecture on the circulatory system, Shawn asked students to describe the cycle of blood flow through the heart. From their answers he determined that students had not mastered the learning outcome. They could identify parts of the heart, but could not identify the process of blood flow. Shawn found a YouTube video that animated the cycle of blood flow and showed it to the class. In addition to having students watch the video segment he created a diagram of blood flow by making a series of freeze frames of the video to review with students at the end of every lecture. When he asked students three weeks later to identify the cycle of blood flow through the heart, students were able to do so. Shawn now includes diagrams and videos in his lectures for the other major systems of the body as well.

Instructor Natalie (Coleman) Palmer is conducting Action Research in an effort to increase student learning. Natalie began with the question, “Is the in-class learning activity requiring students to read and respond to peer-reviewed articles in the Nursing 2010 journal a good use of class time?” In previous semesters, students read peer-reviewed journal articles about course concepts and completed corresponding post-tests outside of class, but Natalie found that this increased the potential for academic dishonesty. From her point of view, the students’ in-class responses to the article post-tests give her a direct measure of each student’s level of knowledge about key course concepts. Most students answer 100% of the questions correctly, indicating that course expected learning outcomes are being met. Natalie is also gathering data to determine whether students see the in-class activity as having value. She is currently analyzing students’ written comments and will consider those findings along with her direct measure to make a decision about continuing the in-class journal activity in future semesters. She also plans to share her findings with colleagues.

Instructor Bryan Peters continually looks for ways to improve his teaching and students’ learning. He uses Diigo, a bookmarking platform on the web, to connect with colleagues and consider new teaching strategies that might increase student learning. This practice of consulting colleagues, more typically done by reading peer reviewed journal articles, is one of the components of Action Research. Bryan also identifies teaching/learning problems of interest, another component of Action Research. As Bryan listened to student complaints about his requirement that they annotate the readings, he found himself reconsidering his long-standing practice of requiring students to annotate the assigned readings and submit in writing three questions about the readings at the beginning of each class. In his eyes, the requirement was valuable because skimming the questions submitted allowed him to assess the extent to which students prepared for class. The students’ questions also were a great way to start class discussion. However, always willing to make changes to his instruction, he reluctantly agreed to do away with the requirement. As the semester progressed, the blank stares on students’ faces told him they weren’t reading prior to coming to class. Bryan is currently deliberating about how he will change the course for next semester, and he is currently considering requiring students to post comments about the readings to online discussion boards.

Instructor Greg Simos: In my few years of teaching I have found out that not all assessments work the way they’re supposed to. In my second year of teaching, I started using a pretest before each unit was started. This pretest was very similar to the final test or project of the unit. After the unit was complete, I would compare the two results to see the difference. If the results were better, then I deemed the unit and the assessment a success. After using this method, I saw a significant decline in grades of C or below. This method also allows me to gauge the predetermined learning levels of my students.

Basic Steps of Action Research

1. Start by identifying a teaching/learning problem of interest to you
2. Review the literature and/or talk with colleagues to see how the problem has been addressed by others
3. Modify what you do
4. Measure student outcomes to see if your changes have impacted student learning
5. Share your findings with colleagues
Measuring Technical Skill Attainment

Jefferson College receives almost one million dollars in federal support for Career and Technical Education, both for postsecondary programs and for the Area Technical School. These funds are part of the Carl Perkins Act. Recently, one of the more challenging areas of the Perkins program has been the implementation of technical skill attainment. Perkins IV requires institutions to administer a Technical Skill Assessment (TSA) to measure the percentage of Career and Technical Education (CTE) program completers who pass an exam aligned with industry-recognized standards.

Previously, the Perkins Act did not specify how skill attainment was to be measured by each institution, and typically grade point average or locally developed assessments were used. Now each technical skill assessment will measure performance objectives and competencies required by an occupation, as specified by experts within that particular industry. The exams will test the knowledge, skills, and abilities an individual needs to succeed in the workplace. The TSAs will convey proof of skill mastery to potential employers and also improve the transition of students from secondary to postsecondary programs.

Throughout the state, career and technical education postsecondary completers and secondary program completers at Area Technical Schools will be tested. For postsecondary, this includes students who have earned degrees, one or two year program certificates, or industry recognized credentials. Students will be tested at the end of the completed program. In some cases the exam will be administered in a course. For others, the exam will be administered in the Testing Center. In most cases, the technical skill assessment will be given prior to the student exiting from Jefferson College. Passing scores will be determined by an industry cut score, national average, or state determined cut score. The technical skill assessment results will provide data for program improvement and illustrate the competence of Jefferson College graduates to employers. By 2011, Jefferson College will administer a technical skill assessment to 100% of students completing a career and technical education program.

Technical skill assessments must be national, third-party, and industry recognized. The Department of Education determines if an assessment is allowable for a program. Assessments approved for both postsecondary and secondary are listed on the Missouri Department of Education’s website (http://www.dese.mo.gov). The assessment tools developed by national organizations such as SkillsUSA, Brainbench, and NOCTI meet the criteria established by Perkins IV. Some Jefferson College Career and Technical Education instructors have already selected a technical skill assessment for their program. Jefferson College’s Business Management program completers will take the Business Concepts exam by Brainbench, Automotive Technology program completers will take the Melior exam, Childcare and Early Childhood Education program completers will take the American Association of Family and Consumer Sciences (AAFCS) exam, and Culinary Arts program completers will take the Culinary Arts test by Skills USA. Furthermore, the Nursing, Fire Science, Emergency Medical Technology, Law Enforcement Academy, and Veterinary Technology state board tests will serve as appropriate technical skill assessments.

Both at the state and national level, this revised Perkins indicator continues to generate interest as educators struggle to find appropriate assessments in all program areas that are meaningful, affordable, and that accurately measure the attainment of technical skills.
Ongoing Assessment of Multi-Section Courses

Multi-section assessments have been starting to pop up around Jefferson College. But maybe you are unsure how to develop a multi-section project in your discipline. Let’s take a closer look at the General Biology and College Algebra projects we reported on in the February 2009 issue of the Assessment Update.

Patty McDaniel and Dora Mitchell worked together to develop the General Biology assessment. They decided to create a pre-test/post-test. Dora had created a set of questions a few years earlier based on what she thought a student coming out of Gen Bio should know. Dora shared these questions with Patty and together they created a 12 question Scantron test. Dora, Patty, and Marialana Speidel then administered the test in the first couple of class periods, before the first lecture. The post test was given in the last 2 weeks of class for a bonus incentive. The post-test would allow a student to add up to 6 points to his or her last test. The sections were combined into one big set of data. The raw data was turned over to Skyler Ross, who put the data into an Excel worksheet, so that Dora and Patty would be able to better compare the pre-test/post-test data.

While Dora and Patty have not had a chance to review the data and develop many conclusions yet, they have made a couple of observations. Patty noticed that her 8am section’s pre-test had lower scores than her 10am section. They also noted that the post-test scores were higher than the pre-test scores. Across the board, the pre-test resulted in an average score of 6.12 out of 12, and the post-test resulted in 9.06 out of 12. Patty considers this to be like increasing student knowledge from F level (50%) to a C level (75%). They plan to go back and look at the data to figure out which concepts the students seem to understand from the beginning, which concepts students seem to learn over the course of the semester, and which concepts students are still having difficulties with at the end of the semester.

Connie Kuchar and Samantha Fay met to develop the College Algebra assessment. They decided to create 5 questions to include on the final exam. Connie and Sam looked at the Expected Learning Outcomes and State Exit Competencies for the course and picked 5 overall outcomes to address. They then wrote questions for each outcome. The Mathematics department was brought into the process to give comments and suggestions. Three forms were created for each question. Instructors were then asked to include these 5 questions on their finals. The instructors are permitted to use the results on the common portion however they deem appropriate in the student’s final grade.

A very specific rubric was developed to grade each question. The instructor photocopied the students’ work and answers for the questions before being graded and turned in the pages anonymously. The department plans to get together in March to grade the common portion according to the rubric and analyze the data.

These two projects are great starts to the assessment process, but they are not complete. The last stage is to look at all the data, see what information it provides, and make decisions on the content of the course. Are the students learning the material? Are there concepts that the students are having difficulties with? Can the instructor change something so students understand these concepts better? Are the course materials effective for the course? Is everything going just fine as is? Whatever the conclusions are, they will be data driven!

These are two great examples of multi-section assessments, but they are in no way the only way to do an assessment. Other approaches to multi-section assessment include, but are not limited to, common projects or portfolios, common rubrics for an instructor’s existing assignment, complete common finals, or an analysis of Blackboard data. Watch for more opportunities to learn about other multi-section assessment projects that are developing around campus. Get ideas of the kind of assessment you can develop for your course. Join the growing trend of multi-section assessments!

Rubric for Exponential Problem

<table>
<thead>
<tr>
<th>Points</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>No attempt at the problem</td>
</tr>
<tr>
<td>1</td>
<td>An attempt without correct direction</td>
</tr>
<tr>
<td>2</td>
<td>A correct strategy without isolating the exponential first</td>
</tr>
<tr>
<td>3</td>
<td>Isolates the exponential, then uses an incorrect strategy</td>
</tr>
<tr>
<td>4</td>
<td>Minor algebraic mistake</td>
</tr>
<tr>
<td>5</td>
<td>Problem completely correct</td>
</tr>
</tbody>
</table>

Multi-Section Assessment Forum. On April 15th, Faculty Work Day, talk to members of the faculty that are in various stages of developing multi-section assessment for their courses. Learn what they have done and possibilities for your course.
From the Office of Research and Planning and the CTL

Transfer Performance of Jefferson College Students at the University of Missouri-St. Louis

Are you curious about the transfer performance of your students at a 4-year university? Is this information valuable to you in your course assessment efforts or in your institutional effectiveness reviews?

An exciting partnership has been created between the University of Missouri-St. Louis, Jefferson College, and other post-secondary institutions. Approximately three quarters of the students at the University of Missouri-St. Louis are transfer students, and this university is the primary transfer institution for our liberal arts students. For the last five years, Larry Westermeyer, Director of Institutional Research at the University of Missouri – St. Louis, has been providing extensive information about the academic performance of Jefferson College students with comparisons to other cohorts of students at UMSL.

The Cohorts of Students are designated as:

• Selected Institution: only Jefferson College transfer students
• Selected Institution + Other: recent Jefferson College students with other college credits
• Native: students who enrolled at UMSL as freshmen
• Other 2-Year: transfers from other 2-year institutions
• 4-Year: recent transfers from other 4-year institutions
• Other: most recent experience was military, CLEP, or unknown

For each fall and winter semester, summary data in tables and charts are provided on student characteristics, degree recipients, and term and cumulative GPA. In addition, grade comparisons are provided for the campus and each of the colleges at UMSL: Arts & Sciences, Business Administration, Education, Engineering, Fine Arts & Communication, and Nursing. Performance in the Junior English Composition is also provided.

Although student performance varies slightly from semester to semester, generally speaking the performance of Jefferson College students compares quite favorably to the other cohorts of students. So what is it that students gain from the Jefferson College experience that helps them to succeed at UMSL? What knowledge and skills do students in my courses gain that helps them to succeed at their transfer school? If you're interested in answering this question or some other question about your teaching and student learning, consider conducting a simple Action Research project. (Reporting on Action Research is one of the options for faculty to meet the requirement of annual assessment documentation.) For more information, please contact Sandy Frey in the Center for Teaching and Learning (ext. 348 or szak@jeffco.edu). If we know what it is we're doing that increases student learning, we can build on it and share it with other faculty.

All of the UMSL data files are available through the Office of Research and Planning, and annual summary reports compiled by the Jefferson College Office of Research and Planning are available on the STARS College Reports tab. Contact Joe Lange in the office of research and planning (ext. 109, jlane@jeffco.edu) if you have questions regarding the interpretation of the data.
Central Office Services: More Than Mail and Copies…

Central Office Services supports the mission of the College by performing duties related to receiving and distributing mail; providing copy services for faculty and staff; and ordering office supplies. The department completed an institutional effectiveness review in April 2009 consisting of examining existing procedures and methods, identifying areas for improvement, reviewing staff qualifications, surveying faculty and staff regarding satisfaction levels, conducting a SWOT analysis, and developing goals and action plans.

The satisfaction survey, completed by 72 faculty and staff, indicated a high level of satisfaction with customer service (100% rated satisfactory to very good), departmental cleanliness and organization (98.6% rated satisfactory to very good), staff (100% rated satisfactory to very good), and production timeliness (100% rated satisfactory to very good).

In conducting their SWOT analysis, the department determined that an online print request would expedite the duplication process for faculty staff. It was also noted that extensive cost-saving could be achieved campus wide if more mailings were sent bulk. These two changes were implemented immediately. Other long term issues identified that will require additional attention in the future include insufficient staffing with ever-increasing needs for print, mail, and supply services; and space limitations.

The review concluded with the following action plans:
• Continuously improve and monitor relationships with faculty and staff
• Identify additional technology and equipment to improve efficiency
• Add an additional full-time staff person
• Maintain satisfaction ratings at or above current levels
A couple of years ago, after a significant number of students in Film Appreciation failed to do well on the first exam, I decided to create and distribute a practice test to be completed before the actual exam. With the practice exercise, students could answer sample questions that covered discussion material, handouts and textbook information. Unbeknownst to them the practice test contained several actual questions that they would later see verbatim on the test. A few days before the exam, we would take some class time to go over the exercise together.

Because this exercise appeared to help improve initial test scores (assuring me that more students had a better comprehension of course material), I continued to share a practice test before the first exam.

Curiously, the winds have now changed. Over the past two semesters, even though students have had in hand ahead of time several questions that appeared on the first exam, many have performed poorly on the test. Specifically this spring, 15 out of 31 students earned a D or F on exam one.

I don’t mind re-thinking this whole issue, but I don’t see how things will change if the students don’t read the text book, attend class and study the materials. I’m reminded of an old adage about leading horses to water . .

– Trish Loomis