

# Assessing General Education Capstone Courses: An In-Depth Look at a Nationally Recognized Capstone Assessment Model

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Portland State University (PSU) has been recognized by the Corporation for National Service, the Pew Charitable Trust, the Atlantic Foundation, the Kellogg Foundation, and *U.S. News and World Report* for implementing an exemplary capstone program. The purpose of this article is to share PSU's model of capstone courses, describe the goals of this program, and provide detailed information on how PSU assesses the senior capstone courses and how the data are used to improve the quality of future courses.

The Portland State capstone was developed in 1994 as a result of an entire redesign of the general education program. In the early 1990s, the administration at PSU asked a working group of faculty to examine the university's general education curriculum from a scholarly perspective. The working group was charged with exploring current learning theory, student affairs literature, and best practices in teaching and learning, and it examined national trends, data, and scholarship on teaching and learning as it sought to revise PSU's general education model. As a result of that research, the faculty senate at PSU approved the adoption of a four-year general education program called University Studies. The new program was based on a constructivist philosophy of education, an approach that encourages high student-to-student interaction, low faculty-to-student ratios to promote increased faculty and student interaction, active learning pedagogies, inquiry-based coursework, and learning with relevance (real-world learning).

Service learning was promoted throughout the curriculum and mandated in a required senior-level capstone because, as pedagogy, it showed promise of addressing the four goals of the University Studies program: communication, critical thinking, ethical/social responsibility, and appreciation of the diversity of the human experience. To improve students' communication skills, courses address oral communication, visual communication, quantitative literacy, and current communication technologies. Courses tackle the critical thinking goal by requiring students to evaluate differing theories and numerical information and to analyze personal and societal assumptions. Ethical/social responsibility is framed in terms of understanding the impact of life choices on self, society, and environment, as well as exploring the ethical dimensions within these arenas. Finally, the diversity goal aims to enhance students' awareness and appreciation of diversity at the local, regional, national, and global levels. One of the foundational beliefs of University Studies is that education should be relevant to students. Capstone courses require students to apply





their learning in these four general education goal areas while addressing real issues in the greater community.

All 3,000 senior-level PSU students are required to take one of the 230 capstone courses offered annually. In the capstone course, students address the four University

quantitative course evaluation that measures how well their course addressed the University Studies goals, the congruence between community service and course content, and the quality of the instruction. Finally, a qualitative section of the end-of-term evaluation asks students to state their

## In the capstone course, students address the four University Studies goals while connecting their academic course content to a real issue in the community through the completion of a comprehensive, group-based final project.

Studies goals while connecting their academic course content to a real issue in the community through the completion of a comprehensive, group-based final project. Among the most popular capstones are Grantwriting, Immigrant and Refugee Resettlement, Small Business Consulting, Engineering Design, and Public Relations.

### Using Multiple Approaches to Assess Capstones

The capstone program uses three formal assessment strategies to provide feedback on the quality of capstone courses. First, mid-term qualitative assessments are completed each term in 20 percent of capstones to gather formative data for capstone faculty and the capstone office. Second, students complete an end-of-term

most important learning and their ideas for improving the course.

**Mid-quarter feedback.** Each year at mid-quarter, Portland State conducts qualitative feedback sessions in all capstone courses. In each of these assessments, a trained facilitator (who is also a capstone instructor) observes the flow of teaching in a course for about fifteen minutes. Then the faculty member leaves the class and the facilitator seeks anonymous student feedback. The students are organized into small groups, and each group provides a written response to the assessment questions. The facilitator instructs the students to report only those comments upon which there is group consensus, which not only provides for anonymity in small capstone courses, but also provides faculty with

feedback affecting most or all the class.

The questions that students respond to are (1) What about this course is helping you to learn the course material and engage in your community work? (2) What could be changed to improve the course? (3) What specific suggestions do you have to bring about those changes?

After the assessment session, the facilitator summarizes the students' feedback and contacts the faculty member. The faculty member and the facilitator have a follow-up conversation to review the data, clarify any feedback statements that are unclear, get ideas for concrete changes the faculty member may choose to make to the course, and consider how the assessment results will be discussed with the students. The transcribed assessment data is also shared with the capstone program director and the faculty development coordinator to determine any themes that are relevant across the capstones in order to facilitate programmatic improvement.

### Analysis of mid-quarter feedback.

In order to use this data for programmatic improvement, an analysis of the data is conducted to see what themes are present across capstone courses. Three readers analyze these data using Creswell's qualitative approach to data analysis (1994). This process requires the researchers to read through all of the session transcriptions carefully to get a sense of the whole and to note initial ideas about the data. The researchers then review the data one course at a time and answer the question, "What is the underlying meaning of this transcription?"



Next, the researchers make a list of the core underlying topics and cluster similar ones into topical themes (identifying, coding, and categorizing the primary patterns in the data). The researchers then test these themes by looking at the data to see if it could be organized according to these themes (a process of content analysis in which topics are defined and labeled). After organizing the data, the researchers categorize the data and look for relationships between the themes in

order to make final decisions about the themes and their coding.

Each reader conducts an individual thematic analysis according to the same set of data analysis instructions. The researchers compare and contrast their thematic findings and confirm the results. An example of results of their collaborative conclusions follows (see table 1).

***Analysis of qualitative comments from end-of-term course evaluations.***

The end-of-term course evaluation asks

students to answer two questions: (1) What stands out as your most important learning in this capstone? (2) What would you change about this course? The capstone course evaluation typically yields over 1,500 student comments, which are transcribed and given back to the faculty for the purpose of course improvement. The data are also shared with the capstone program director and a faculty development coordinator so that 1:1 faculty support is given to any faculty member with a

**Table 1. Themes emerging from mid-quarter feedback**

What is helping you learn?		What changes would you suggest to improve the capstone process?	
<b>Effective instructors</b>	<ul style="list-style-type: none"> <li>• Approachable/responsive</li> <li>• Enthusiastic</li> <li>• Engaging</li> <li>• Knowledgeable</li> <li>• Experienced—great resource</li> <li>• Strong facilitators</li> </ul>	<b>Clearer structure in the capstone</b>	<ul style="list-style-type: none"> <li>• Better organized (logistics at community partner site)</li> <li>• More examples of capstone final product</li> <li>• Clearer grading criteria</li> </ul>
<b>Engaging class discussions</b>	<ul style="list-style-type: none"> <li>• Created safe learning community</li> <li>• Happen frequently/ongoing</li> <li>• Interesting</li> <li>• Connect reading and service</li> <li>• Questions got answered</li> <li>• Well facilitated</li> <li>• Enhanced by small class sizes</li> <li>• Web ct reported as effective tool</li> </ul>	<b>More training on specific duties at community partner site</b>	<ul style="list-style-type: none"> <li>• Tutoring</li> <li>• Working with population</li> <li>• More orientation</li> </ul>
<b>Informative readings</b>	<ul style="list-style-type: none"> <li>• Helpful</li> <li>• Thought provoking</li> <li>• Informed students work</li> <li>• Linked and enhanced learning from the community and the lectures</li> </ul>	<b>Suggestions regarding course structure</b>	<ul style="list-style-type: none"> <li>• Pacing of project so that students can work towards the final project earlier in the term</li> <li>• More time in groups</li> <li>• More time to complete the project</li> </ul>
<b>Depth of connection with community</b>	<ul style="list-style-type: none"> <li>• Meaningful volunteering</li> <li>• Connection with population was a powerful tool for learning</li> <li>• Tours in the community enhanced learning</li> <li>• Community added depth to course content</li> <li>• Connection with the community made powerful and emotional impression on students</li> </ul>	<b>Logistical challenges</b>	<ul style="list-style-type: none"> <li>• Transportation issues</li> <li>• Sites closer to PSU</li> </ul>



In addition to its annual meeting, AAC&U offers a series of working conferences and institutes each year. Additional information about the upcoming meetings listed below is available online at [www.aacu.org/meetings](http://www.aacu.org/meetings).

### Summer Institutes

**June 20–24, 2007**

#### **The Greater Expectations Institute**

Burlington, Vermont

#### **Network for Academic Renewal Meetings**

**October 18–20, 2007**

**Civic Learning at the Intersections: U.S. Diversity, Global Education, and Democracy's Unfinished Work**  
Denver, Colorado

**November 1–3, 2007**

**Shared Responsibility for Essential Learning Outcomes: New Partnerships Across Departments, Academic Affairs, and Student Affairs**  
Savannah, Georgia

### AAC&U Annual Meeting

**January 23–26, 2008**

**Intentional Learning, Unscripted Challenges: Knowledge and Imagination for an Interdependent World**  
Washington, DC

struggling capstone course. In addition to this individual analysis, a random sample of 250 student responses to each of the questions are selected for analysis. These comments are analyzed by two independent readers who consider the data separately, create themes suggested by the data, and categorize the comments by the identified themes.

#### **Improving the Quality of the Program through Faculty Development**

Course evaluation data is broadly shared with capstone faculty through the capstone e-mail listserv, through meetings with capstone faculty, and at capstone faculty retreats. Program assessment documents the common strengths and challenges in capstone courses and encourages dialogue and the exchange of ideas among faculty. The data demonstrate the importance of working with newer faculty on developing, organizing, and integrating the community partnership experience and course structure. Creating a clear and well-organized course is a common challenge throughout the university, of course, but for capstone faculty this needs to be addressed within the context of community service learning, since the nature of the community partnership necessarily influences the structure and organization of the course. Faculty development efforts target both instructors with extensive teaching experience but less experience structuring community collaborations and those with extensive community knowledge but less experience in designing a course.

By using multiple strategies—the continuous generation of course assessment data through mid-term qualitative assessments and end-of-term course evaluations, the reporting out of this data in an ongoing basis in a variety of faculty development settings, and the developing and sharing of best practices in both group and one-on-one settings—the program intentionally and systematically addresses the concerns expressed by students and furthers the quality of teaching and learning in capstones.

#### **Future Directions**

The capstone program's current assessment plan includes assessment of capstone students' work samples. A faculty group hopes to study the final products created in the capstone courses and is undertaking a separate project to assess the students' written reflections. Our project to assess student written reflection shows early signs of being fruitful. An initial qualitative study has allowed us to deepen our understanding of how our students are enhancing their communication skills, critical thinking ability, sense of social responsibility, and appreciation of diversity. ■

#### **Reference**

Creswell, J. W. 1994. *Research design: Qualitative and quantitative approaches*. Thousand Oaks: Sage Publications.

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