

Designing and Implementing an Integrative, Collaborative, Problem-Solving-Based General Education Capstone

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Liberal education has remained at the forefront of Grand Valley State University's (GVSU) mission since its founding in 1960. GVSU is a public institution and Carnegie classified as Masters Large, comprehensive in nature, with an enrollment of nearly 25,000 students. Over 40 percent of GVSU students are first-generation college students. Our commitment to liberal education is embedded in our values and our mission to "educate students to shape their lives, their professions, and their societies." The institution strives to create lifelong learners that will continually draw on the knowledge and skills of a liberal education.

GVSU is in its second generation of having a required upper-division general education capstone experience. Although integration remains a central focus of both versions of the capstone, the structure of the capstone requirement and how we teach integration has changed over time. This article will discuss the two approaches that GVSU has used to embed a capstone in the general education program. Next it will describe how several faculty members teach the capstone courses. Finally, we'll conclude with some of the lessons we have learned about designing and implementing the integrative capstone courses.

MODEL 1: INTEGRATION AMONG GENERAL EDUCATION CAPSTONE COURSES

Grand Valley State University has had a required single-course capstone for senior-level students in each of the majors since 1987. These capstone courses were designed to provide students with a broad and comprehensive perspective on the fundamental assumptions, issues, and problems of the field.

In 2000, GVSU revised the general education program to include an upper-division component called Themes. It was critical to faculty that we continued to emphasize the centrality of liberal education and one way to do this was to have the general education program not be something students "got out of the way" in the first two years. In essence, we wanted to create a general education capstone.

Faculty from across the university—from engineering to liberal studies, nursing to philosophy, and management to biology—developed twenty-one upper-division Theme courses. Students had to take three courses from three different disciplines from one of the thematically designed cluster of classes.

Integration was the defining goal of Themes. The original intent of these Themes was to have students integrate the knowledge they had learned among the three courses. One of the challenges for faculty was that they never knew if their Theme course was the student's first, second, or third course, so they didn't really know how much material from other Theme courses they could expect students to integrate. We knew anecdotally—from both faculty and students—that students were integrating the material from one Theme course into another, but it was difficult to systematically ensure that all students were developing the depth and breadth of integration skills we wanted for all students in all Themes.

A second challenge was that some of the Theme courses were too popular (over 100 percent full) while others suffered from low enrollment, which forced departments to cancel classes. Both of these situations created problems for students as they sought to complete their degree. As the university continued to grow,

ultimately it became a challenge to provide enough seats in the 181 courses that were distributed across the twenty-one Themes. As concerns mounted, in fall 2011 the Theme course requirement was changed from three to two courses.

MODEL 2: INTEGRATION WITHIN CAPSTONE COURSES

The second generation of general education capstones began in 2006. The general education committee (GEC is the faculty governance committee that administers the general education program) embarked on a strategic planning process. One of the components of the 2006 plan was to begin a course-based assessment of each of the nearly 300 courses in the general education program. While a major undertaking in its own right, the plan also included two other main components: changing the goals and the structure of the general education program.

Changing the Goals of the Program

The first component of the plan was for the GEC to determine if the goals of the program were consistent with best practices. After a host of workshops and campus forums, the committee adopted nearly all of the Association of American College and Universities' LEAP Essential Learning Outcomes as skills goals to be taught in the general education program. Problem solving, collaboration, ethical reasoning, and quantitative literacy joined the existing goals of integrative learning, oral and written communication, information literacy, and critical and creative thinking. In some cases, the Essential Learning Outcomes were adopted as knowledge goals that described the structure of the program (i.e., civic engagement partially describes our new upper-division general education program).

To deal with the problems of integration among courses, the integration goal was changed to focus on having students

integrate all of their knowledge—from the major, other general education courses, cocurricular activities, work, volunteering, and other experiences—within a single course. Faculty also helped students learn to integrate other students' experiences plus the faculty member's disciplinary knowledge into their conversations, projects, and assignments.

The other main component of the strategic plan was to analyze the current structure of our general education program to determine if it was the most efficient and effective way to help students attain proficiency in each of the goals. Although there had been a lot of campus conversation about changing the structure of the upper-division general education capstone requirement, the committee steadfastly pursued the "form follows function" approach; they would focus on the goals before developing the structure to deliver the goals. The committee knew there were a variety of ways to structure the program to achieve whatever the goals are, but they found that the process was anything but linear; the GEC often had to address both the goals and the structure of the program at the same time. For example, even if there was conceptual support to add a goal, faculty wanted to know where in our current or proposed structure the goal would be taught.

Changing the Structure of the Program

The structural revision of the general education program focused on the capstone-like Themes program. While the committee was deliberating on how to design the program, the institution had changed the requirement from three to two courses. This set the stage for the revision: the GEC considered a one- or two-course capstone experience. The committee rejected the idea of a one-course capstone requirement because they thought one exposure to the integration goal was not enough. They also debated on what to call the new program, ultimately deciding on Issues.

The overarching language that defined the Issues requirement is that Issues courses are designed to have students develop an understanding of how academic study connects to issues in the world. Preparing for responsible citizenship requires that students become conscious of both complementary and competing viewpoints and recognize that any issue or problem can be viewed from multiple perspectives.

We developed six Issues categories: globalization, health, human rights, identity, information-innovation-technology, and sustainability. These categories aim to include all disciplines and engage our students to think deeply and with the necessary skills to find solutions to problems at every level—local, national, and global. Students can also study abroad to fulfill the capstone requirement.

Like Themes, all Issues courses have few or no prerequisites, which helped ensure that the course would be open to all or virtually all students. To ensure that students have the academic expertise to address the problems they were going to explore in class, all courses have a junior standing prerequisite. As had been the case with Themes, the GEC maintained the requirement that students must take two Issues courses from two different disciplines.

To alleviate some of the bottle necks caused by the Theme program, the new program allowed students to mix and match the two courses between two Issues categories. In summary, the focus of the upper division changed from a thematically based to an issue-based organizing structure. Integration changed from being something that happened among courses to within a course and it expressly acknowledged that integration was about more than just a student's academic expertise.

All Issues course had to teach students the skills of integration, problem solving, and



collaboration. After months of deliberation, the GEC released the definition of the goals as well as the rubrics that more fully describe the goals (we used modified versions of AACU's VALUE rubrics). The final definitions were as follows:

- integration is the process of synthesizing and applying existing knowledge, past experiences, and other perspectives to new, complex situations
- collaboration is the process of working together and sharing the workload equitably to progress toward shared objectives.
- problem solving is the process of designing and evaluating strategies to answer open-ended questions or achieve desired goals

The new goals and new structure of the general education program were approved in winter of 2012 and began in the fall of 2013.

FACULTY EXPERIENCES

In the next section we will describe several faculty members' experiences in teaching the first round of Issues courses (specific course titles appear after faculty members' names). They are Wendy Burns-Ardolino, LGBTQ Identities (liberal studies course); Maria Cimitile, Sex Matters: Feminist Philosophy in the Contemporary World (philosophy course); Dan Giedeman, Comparative Economic Systems (economics course); Shaily Menon, Environmental Ethics (biology course); Deana Weibel, Comparative World Religions (anthropology course).

Collaboration is actively taught in each course through modeling, instruction, and in-class assignments. Giedeman explains how to collaborate through online spaces including chat, e-mail, and discussion boards to engage in deliberation and synthesis. Burns-Ardolino provides students with a collaboration worksheet that each team must complete,

with goals including shared team goals for the project, methods for team communication, skills and talents of team members, and projected duties and responsibilities for team members.

In all five courses, students spend at least 20 percent of their time in class working in teams, and the professors frequently check in to troubleshoot problems, refocus teams, and to monitor progress on team projects. The final project comprises 20 percent of the grade in the anthropology and economics courses, 25 percent for the biology course, 30 percent for the philosophy class, and 40 percent in the liberal studies class. Four courses require individual self-assessment at the conclusion of the team project.

Teams are formed in a variety of ways in each of the courses. Weibel creates groups by dispersing anthropology majors and minors among groups. She makes sure each four- to six-person team has an art, computer science, film, or video production major to assist with multimedia presentations. Cimitile makes sure that philosophy and women and gender studies majors are distributed across teams. Giedeman follows a similar plan in terms of team selection of eight groups of five. In contrast, Burns-Ardolino and Menon's teams are self-selecting based on student-generated problem statements (team sizes are variable).

Strategies for framing the problem(s) to be addressed by teams varied across all five courses. In the economics course, Giedeman provides a variety of complex questions for teams to address, although he also offers student teams the option to develop their own questions. Sample questions include

- Should the government do anything to try to reverse the increase in economic inequality in the United States which has been occurring over the past several decades? And, if so, how should it do? If not, why not?

- Should developed nations practice debt forgiveness with underdeveloped nations? If not, why not? If so, under what conditions?
- Pick a country of your choosing which ranks in the bottom 10 percent of the world in terms of per-capita income. Suppose the government of that country hired you as a consultant to provide advice on what the country should do to foster economic growth. What would you recommend?

In the anthropology class, Weibel has student teams randomly draw a relatively obscure religion from a grab bag, and the teams address historical, political, and social problems encountered by religions. She guides students through a series of questions that apply to each religion focusing on issues such as rites of passage, equalities and inequalities, and gender roles in religion.

In the liberal studies class, each student constructs a social problem statement and pitches it to the class. Students vote on which problem statements to address during the semester and form into self-selecting teams. Problems included

- How to address substance abuse issues in lesbian, gay, bisexual, transgender, queer (LGBTQ) populations?
- How to address the need for sex education programs including prevention and treatment of sexually transmitted diseases to LGBTQ youth in schools?
- How to address the issues of inclusion and equity for LGBTQ people in the Boy Scouts of America?

In the biology class, students were asked on the first day to identify any community organizations with which they had worked. Students worked with the community partner to identify a problem for which the five- to six-person student teams—acting as an environmental consulting firm—would provide a solution. Projects have included:

- an interpretive guide/video for nature trails at Blandford Nature Center;

- an awareness campaign for reusable bottles versus bottled water for elementary students at West Michigan Academy of Environmental Sciences; and
- the Rush Creek Watershed restoration and mapping project.

In the philosophy course, students were asked to persuade the GVSU community why and how sex matters, (a nod to the title of the course, which purposefully invokes the double-meaning of the phrase), applying philosophical theories to societal problems, such as violence toward women, inequalities in the law, or norming of subjectivity. Students were given latitude on which philosophers and problems to choose, as well as determining how to make their work interesting and persuasive. The students were required to determine roles and responsibilities for each member to ensure accountability and progress within the collaborative work.

Integration occurs on several different levels in all five courses. Many of the faculty thought their particular class was integrative by design in terms of the topic it focused on. Professors discussed how different disciplines approach these complex problems. Professors teach integration through modeling, practice, and assignments.

From the outset of the course, professors explain that the skills goals are tightly linked with the course content. In this way, students know from the start that they will be asked to integrate course content and research from different fields focused on their selected issue to engage in collaborative problem solving. This approach seems unilateral and suggests that although there are multiple ways of presenting problems, teaching integration, and collaborating, stating the goals clearly to students at the start of the course makes a difference in how students engage in the enterprise of capstone learning.

LESSONS LEARNED

There were a host of lessons we learned in designing and implementing a capstone requirement in the general education program. Support from the administration in funding faculty to develop the new Issues courses over the summer was instrumental in getting courses developed quickly. Even with faculty development, some courses needed additional help to get faculty to more clearly articulate how they were going to incorporate the new goals into their courses. Eventually, we put model courses online which helped subsequent faculty when it came time for them to propose a course. Faculty governance was very helpful in expediting the curricular review of the new courses.

There was also a very deliberate effort as we developed out the Issues courses to have faculty articulate how they would teach students the goals of integration, problem solving, and collaboration. It wasn't sufficient to just provide students the opportunity to work in groups and hope they integrated diverse perspectives. To help them think about how to teach these goals, we provided packets of teaching materials to all Issues faculty. Although we were committed to providing faculty with sample assignments, teaching strategies, and other resources, the material didn't get to all faculty for each of the goals early enough because of the sheer volume of material we developed. Anecdotal evidence indicated that for some faculty the material was very helpful, while others were overwhelmed with the amount of material we provided. We are planning on a wine and cheese event for late fall semester for faculty to share with each other and with faculty teaching next semester the resources they thought were most effective as well as lessons they learned about teaching the new Issues courses.

The transition from the old Theme course to the new Issues requirement was

designed to provide maximum flexibility for the students (the registrar's office was key). The downside of the transition plan was that it was very difficult for departments to know how many sections of the old Theme or new Issues courses they needed. It is a student-driven model in that courses are competing with each other for students; if enrollment isn't high enough the class will be cancelled. This was particularly problematic for some faculty who had grown accustomed to a certain enrollment. As we seek to balance the overall number of seats we are offering, we need to continue to move seats from Theme courses to Issues courses.

Faculty members have to make the decision about group composition and size as well as whether they are defining the problem or students are. There are tradeoffs associated with each of the choices. Faculty will continue to learn how to teach the skills goals. Some faculty found the new focus on teaching skills goals unappealing, so much so that they have resisted converting their Theme course to an Issues course.

CONCLUSION

We firmly believe our new two-course—Issues and Themes—capstone requirement in the general education program will ensure that students have the knowledge, skills, and abilities to be successful when they leave GVSU. Putting explicit structures into assignments gives students the necessary parameters to learn how to work collaboratively while integrating knowledge. Without these structures, the courses would not achieve the goals of the general education program. Our challenge is to make certain that faculty are equipped with the know-how they need to structure assignments so that integration and collaboration do occur. Providing a learning environment for students to actively reflect on these skills is what will make the program a success. ■

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