Capstone on Top of Capstone: The Honors Dilemma

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Honors programs that require a capstone for graduation face a dilemma when students are in majors that also require a capstone, senior thesis, or project. The dilemma is whether to require a separate honors capstone or to recognize work done in fulfillment of a student's major. At issue is the concern for requiring more work of certain students because of the expectations of their majors (the capstone-on-top-of-capstone model) or accepting as capstones work that is not particular to honors students. In this paper, we present data from thirteen institutions offering honors programs and discuss the many alternatives adopted by those institutions to handle the capstone on top of capstone dilemma.

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Introduction

Capstone projects are high-impact practices with significant educational benefits because students are required to integrate and apply what they have learned.[1] As a result, capstones are common for many undergraduate majors and even required for some. Capstones take many forms depending on the discipline. In engineering, for example, capstones are typically team-based collaborative design projects. In the teaching and health professions, capstones usually involve a practicum or clinical experience providing a work-based experience.

Many honors programs and colleges also require students to complete a capstone. This creates a dilemma for honors programs to determine what additional requirements if any should be mandated above and beyond what is required for non-honors students. In some cases, honors students do a single, honors capstone not required of non-honors students; in others, students are asked to do an additional project (capstone on top of capstone) or provide an additional reflection on their non-honors project. Alternatively, a non-honors capstone can substitute for the honors capstone. These different approaches, which can exist within a single institution, have advantages and disadvantages for students. Here we provide an overview of honors capstones, how they may differ from non-honors capstones, discuss the dilemma, and identify potential solutions toward resolution.

Overview of Capstones

- Honors Capstones

Capstones are a common requirement in honors curricula and are considered best practices (along with theses) in the guidelines of the National Collegiate Honors Council (NCHC): [2] "Writing the honors thesis is arguably the most rewarding undertaking of a student's undergraduate educational experience, the capstone for honors work as well as undergraduate studies. A thesis or creative project in a discipline introduces students to the world of scholarship and professional activity in a way that no single course, either semester-long or even year-long, can."[3] "The senior research project typically distinguishes honors students from their non-honors counterparts in a significant way. The emphasis on undergraduate research may also distinguish an honors program or college within the university…"[4]

- Degree Program Capstones
      (Engineering, Nursing, etc.)

Many degree programs require capstones as part of the standard curriculum. However, confusion may arise because different terminology is used to define what collectively is known as a capstone. Even in engineering, known for its required capstones, the word "capstone" does not appear in the Accreditation Board for Engineering and Technology (ABET) guidelines. However, ABET does require, "…a culminating major engineering design experience…"[5]

Many other degree programs such as Psychology, Nursing, and Management require capstones but rarely call the requirement a capstone. For example, nursing degree programs are most likely to require a senior year clinical experience or practice as a "capstone."[6]

The Dilemma: Two Capstones

Honors capstones present a dilemma for students in majors that already require a capstone experience and as a result, honors completion rates are often low. "In almost every college or program we have examined, honors administrators believe that too many of their students decide not to do a thesis and even drop out of the honors college or program as a consequence." [7]

Historically, the honors capstone emerged from primarily liberal arts and sciences departments, with honors programs and colleges serving a coordinating role.[8] "Most institutions accepted the model of the department-based honors thesis as their standard practice."[9] As historically underrepresented majors and specialties in honors programs become increasingly prominent participants in institution-wide honors efforts, the purpose and the administration of honors capstones require reassessment. Indeed, this truly campus-wide inclusion of disciplines including engineering, nursing, education, and many others can have the welcome effect of making capstone definitions, programs, and goals more interesting - especially when students often recoil from the senior thesis model, even in liberal arts and sciences disciplines. The independent yet mentored format of capstone experiences, together with the interdisciplinary mindset of many honors programs, serves all disciplines well.

In honors education, a thesis can be a rich and capacious concept that embraces many disciplines and a wide variety of approaches. "A thesis may be a 'traditional' research study, but it also may be a collaborative, creative, pre-professional, interdisciplinary project or a combination of these."[10] There are good opportunities to open up the capstone to students in disciplines where advanced undergraduates are expected to spend their time doing internships or job apprenticeships of various kinds. This is especially true for instances in which an "honors capstone is potentially in conflict with a senior requirement that the student be off-campus gaining professional experience while honors is requiring a sustained individual research project with a faculty mentor."[11]

Herein, we address the dilemma when both an academic major and an honors program both require a capstone experience.

Methods

Thirteen institutions were surveyed regarding capstone requirements and all responded. Those institutions are members of a subgroup of the Association of Public and Land Grant Universities (APLU) Council on Honors Education, that have a working research collaborative. This group is made up of honors colleges and honors programs representing institutional diversity in a number of ways (size, location, demographics of students, honors college/program, etc.), which provided a suitable cross-section of administrative arrangements to capture through the survey and case studies. Fifteen substantive questions were posed that fell into three categories:

- Administrative responsibility of the honors program and overlap with other academic units for capstone management (does a capstone on top of capstone exist?)
- Components of the capstone experiences
- Learning outcomes in relation to the overall honors experience

Additionally, three of the surveyed institutions that provide a representative diverse cross-section of honors program capstone requirements were chosen for further investigation as case studies.

Results

As the authors learned from their survey of thirteen honors programs/colleges, none of the thirteen programs had identical requirements and no one size fits all in terms of solutions to multiple capstone requirements. For those degree programs that require capstones, such as engineering, nursing, etc., the honors requirements had a broad range of solutions. In terms of capstone on top of capstone, some honors programs take degree capstones as the only capstone requirement. However, most honors programs do have additional requirements. Most respondents recognized many different approaches to the capstone project and none of them suggested that the honors capstone should be a separate or additional culminating experience required of the academic major.

Five of the institutions responded that capstones fell into the areas of research and creative projects. Four responses specifically endorsed the entire list of examples that were listed in the question (e.g. research papers, interdisciplinary projects, service learning projects, culminating experiences, reflections, etc.).

Two responses focused on deferral to the goals set by academic departments in which the projects are completed and four responses made spontaneous mention of the special nature of engineering design projects, which count in these programs for honors capstone credit.

A number of the survey questions attempted to capture the role of the honors programs/colleges in defining and administering the capstone. It is clear from the responses that typically honors programs and colleges collaborate and negotiate with other academic units.

A sampling of the questions and associated responses follows. These results point to the reality that honors programs often play the role of capstone coordinator, which inherently encompasses a variety of approaches and learning outcomes in addition to recognizing the shared governance with other stakeholders in academic institutions.

Key Findings:

1. Is your honors college/program responsible for defining the capstone experience?
   Yes - 6; No - 2; It's complicated - 5
   Upon further investigation, the two "no" responses appear to fit just as well into the "it's complicated" category, which tended to mean that the honors program acted in collaboration with individual departments and colleges.
2. Is your honors college/program responsible for administering capstones?
   Yes - 2; No - 1; Yes, but in conjunction with other units - 10
3. What kinds of projects count as capstones at your institution?
   Research/Creative – 5; Engineering design projects – 4; Departmental Variety - 4
4. Does the honors program capstone require students to have faculty mentors?
   Yes – 11, yes except service projects - 1; no response – 1
5. Is a capstone presentation required?
   Yes – 8; No – 2; academic dept. decision - 2; No response – 1
6. Team Capstones permitted?
   Teams permitted – 5; Independent – 4; It depends – 3; No response - 1
   "It Depends" means the determination is contingent on the type of capstone/discipline/department. For example, engineering and nursing were typically team-oriented. Others indicated that students must get permission or that individual contributions must be clear.

Cases

The variations of capstones described herein reflect the initial origins of honors experiences within individual departments or colleges and campus-wide efforts to unify them. This is illustrated by three examples of honors capstone dilemmas and how each is being resolved.

At the University of Illinois Chicago (UIC) Honors College, the capstone requirement for all students takes account of the fact that a senior project is required in certain majors, and that it may in some programs be done as part of a collaboration: the Senior Design Project in Engineering, for example, or a portion of a lab's work in one of the health-science colleges. The UIC Honors College accepts projects completed in fulfillment of major requirements; thus, there is no need for an Honors College capstone in addition to a senior thesis or project for one's major, though they may need to submit additional materials to meet Honors College expectations. As part of the capstone requirement, each student must present their work publicly and be open to questions about it. This ensures that each student is responsible for their share of the work in a joint project, in keeping with the stipulation, as stated in the Honors College "Capstone Student Handbook," that being part of a team project does not reduce the amount of work an Honors College student must exert to successfully complete an independent Capstone Project.

Northern Illinois University's University Honors Program (NIU UHP) initially founded its capstone requirements around the traditional idea of a liberal arts and sciences senior thesis. Recently, however, the scope and practice of capstones have vastly expanded to include disciplines that do not have the same sort of understanding as the liberal arts and sciences regarding the culmination of undergraduate education. The NIU UHP collaborated with nursing and engineering to find ways for these notoriously rigid academic programs that prioritize experiential learning to prepare their graduates to be career-ready to be part of the NIU UHP. With respect to capstones, two separate situations were encountered. The College of Engineering already had senior design projects; it was determined that these could serve as capstones, and faculty advisors would set even higher expectations for those students who were completing these as part of their honors requirements. The nursing issue was quite different because it had no required capstone, senior thesis, or project. Working to provide

pathways for nursing students to take advantage of the UHP resulted in adopting a nursing capstone process, with dedicated faculty advisors mentoring students throughout. In this second case, the presence of the honors program on campus worked to spread honors education principles regarding the importance of independent exploration and synthesizing one's educational experiences to an academic area that had not previously promoted these educational goals.

At the University of Toledo Jesup Scott Honors College, there is a central honors curriculum integrated with honors experiences in the students' majors. To graduate with honors, students must complete an honors thesis/capstone/creative achievement managed at the department or college level and coordinated with the honors college. An honors capstone dilemma existed in the College of Engineering because it requires all students to complete a team-based senior design project. To resolve the dilemma of what makes an honors project different than a non-honors project, all students must now complete a reflection when they submit their capstone into the online system. The reflection questions are based on the learning outcomes of the honors thesis/capstone/creative achievement and their answers provide valuable data to understand its impact on the development of students in all majors.

Recommendations

Honors capstone dilemmas exist because of divergent expectations of students for capstone projects and qualifying honors experiences in different academic majors. Campus-wide honors colleges and programs requiring a culminating honors experience can navigate these dilemmas with a flexible approach that respects differences while supporting the goal of challenging all honors students with experiential opportunities to integrate and apply what they have learned without adding burdensome requirements on top of major requirements

Conclusion

Despite the historical beginnings of the honors capstone in the realm of liberal arts and sciences, the participating institutions in this survey have largely incorporated an expanding scope of capstone concepts to accommodate preprofessional as well as other majors. Most respondents recognized many different approaches to the capstone project and none of them suggested that the honors capstone should be a separate or additional culminating experience for those with a major already requiring a

capstone. Honors programs and degree programs have identified ways to resolve the capstone on top of capstone dilemma, although not yet uniformly, with a recognition that all parties must work together to create solutions for students.

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