

Research Reports on College Transitions | No. 3

2011 National Survey of Senior Capstone Experiences:

Institutional-Level Data on the Culminating Experience

Ryan D. Padgett and Cindy A. Kilgo



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Introduction

Gardner, Van der Veer, and Associates (1998) assert that the undergraduate experience is composed of two critical transition periods: the first year and the senior year. Whereas there is no shortage of empirical research examining the impact of the first year of college (e.g., Pascarella & Terenzini, 1991, 2005), the senior-year experience has received little attention. The modest empirical evidence on the senior year that does exist primarily focuses on the senior-year transition, specifically the capstone experience (Brownell & Swaner, 2010; Gardner et al., 1998; Henscheid, 2000). As a rationale for examining the senior-year experience, Gardner and Van der Veer (1998) offered five points of interest:

- ◆ Seniors have invested time and effort during their tenure in undergraduate studies and, therefore, serve as a captive audience.
- ◆ Seniors have high expectations for the future as a result of their time and effort.
- ◆ The transition issues faced by senior students varies from that of other student populations.
- ◆ The senior year offers the last chance to instill in undergraduates the competencies institutions desire them to achieve.
- ◆ Seniors will eventually become the institutions' alumni benefactors.

To more readily assist seniors with this final undergraduate transition, Gardner et al. (1998) proposed additional research on institutional-level programming, including linking major curriculum to general education or liberal arts curriculum; leadership development; career development; and preparation for future employment, graduate school, life after college, and alumni status. Using conference program proceedings from four national conferences on the senior-year experience, Cuseo (1998) identified a series of programming themes similar to Gardner et al.'s, including (a) a more comprehensive understanding of general education, (b) connections between general education and academic-major course work, (c) a more comprehensive understanding of major course work, and (d) connections between academic-major course work and career development. In addition, Cuseo (1998) noted the senior year serves as the final opportunity for the institution to provide meaningful support to students, and, therefore, stressed the importance of this type of institutional-level programming during the senior year.

Defining Senior Capstone Experiences

Over the past several decades, senior capstone experiences have been defined in a variety of ways (see Gardner et al., 1998; Levine, 1978). These definitions tend to categorize the senior capstone into two types of experiences: curricular (course-based) and cocurricular (project-based). Within each categorical type, researchers and practitioners have created additional definitions and variations of senior capstones (e.g., undergraduate research, thesis, comprehensive examination, internship,

certification). These additional types have expanded the scope in which senior capstones are delivered. In fact, Brownell and Swaner's (2010) meta-analysis of research on senior capstones illustrated the lack of a universal definition for senior capstone experiences.

The Boyer Commission on Educating Undergraduates in the Research University (1998) released a report urging research universities to consider, in addition to eight other recommendations, providing a culminating experience for undergraduate students. Within this report, the Boyer Commission described the ideal experience as a small group of peers working collaboratively with a faculty mentor, ideally the academic major advisor, to complete a major project. Specifically, the Boyer Commission identified preparation for graduate study or entry into the workforce as the major goal of the culminating senior capstone experience.

Differing slightly from the Boyer Commission, Gardner et al. (1998) defined capstone experiences as "summative curricular approaches such as courses synthesizing all of the content to date within a particular major" (p. 15). However, they asserted this capstone experience may include a major project, research thesis, or internship. Further, Levine (1998) described three types of capstone experiences: (a) course-based senior seminar, (b) comprehensive exams, and (c) senior thesis or major project. He identified course-based senior seminars as discipline-based, interdisciplinary, or theme-based seminars taught by a diverse array of individuals, from faculty to off-campus professionals. While Levine did not delve deeply into comprehensive exams as a senior capstone experience, he posited exams have positive and negative attributes and are the least frequent form of capstone experience compared to the most common type—the senior thesis or major project—as an independent project under the supervision of a faculty mentor.

The project as a central feature of a senior capstone experience emerged when the Association of American Colleges and Universities (AAC&U) defined capstone experience as a major project—department-based or interdisciplinary. These experiences included "a research paper, a performance, a portfolio of 'best work,' or an exhibit of artwork" (Kuh, 2008, p. 11) that can be within an academic department or general education. Rowles, Koch, Hundley, and Hamilton (2004) described both course-based and project-based capstone experiences when they outlined three specific types of senior capstones implemented at Indiana University-Purdue University Indianapolis (IUPUI): "mountaintops" (i.e., multidisciplinary), "magnets" (i.e., discipline-based), and "mandates" (i.e., linked to certification or external licensure) (p. 13). While mountaintops and magnets were primarily discipline-based or interdisciplinary courses, IUPUI encouraged the integration of project-based components (e.g., internships, service-learning, portfolios) within the formal course-based capstone. This model supports Levine's (1998) definition of capstone experiences as a more project-based initiative.

Research and Literature Review on Senior Capstone Experiences

Although senior capstone experiences are identified as a *high-impact practice* by AAC&U (Brownell & Swaner, 2010; Kuh, 2008), a surprising dearth of research exists regarding these experiences at the student, institutional, and programmatic levels. In particular, Brownell and Swaner's (2010) meta-analysis on the impact of senior capstone experiences on student learning outcomes uncovered little empirical evidence validating the often perceived positive benefits associated with participation. The researchers found limited general effects of participation in a capstone course or project on applying and integrating knowledge, no empirical evidence on the impact capstones have on underserved student populations, and limited and isolated empirical evidence linked to student learning and developmental outcomes. Nonetheless, two notable exceptions were found, both from data obtained from the National Survey of Student Engagement (NSSE). Measuring the relationship between senior culminating experiences and clusters of effective educational practices, Kuh (2008)

identified significant positive relationships between participation in the culminating experience and students' self-reported level of academic challenge, active and collaborative learning, student-faculty interaction, and supportive campus environment. Data from the NSSE administered in 2009, which included additional survey items on senior culminating experiences, provided additional evidence of the benefits of student participation in senior capstone courses. Students reported the senior culminating experience contributed to their growth in critical and analytical thinking skills, ability to make ethical decisions, understanding of global problems, and acquisition of important work-related skills (NSSE, 2009).

1999 National Survey of Senior Seminars and Capstone Courses

Gardner et al.'s (1998) publication served as a catalyst for the 1999 National Survey of Senior Seminars and Capstone Courses, the first national survey to examine these curricular experiences administered by the National Resource Center for The First-Year Experience and Students in Transition. The 1999 Survey provided data regarding senior seminars and capstone courses at varying institutional types, sizes, and selectivity.

A total of 1,028 surveys were completed from 707 institutions of higher education (Henscheid, 2000). Of the total survey respondents, Henscheid (2000) reported on 864 various senior seminars or capstone courses. In addition, she noted a higher percentage of private institutions reported having a senior seminar or capstone course (58.2%) compared to public institutions (41.7%). Furthermore, Henscheid found institutions with enrollment levels between 1,001 and 5,000 were more likely to have senior seminars or capstone courses (44.7%) than those with enrollments of 1,000 or less (20.3%), between 5,001 and 10,000 (12.9%), and more than 10,000 (21.8%).

Respondents were asked to identify the type of course that best describes the senior seminar or capstone course on their campuses (Table 1). Not surprisingly, the course type identified aligned with the respondents' primary goal for the seminar or course. Respondents who selected a discipline or department-based course also reported the most important goal of the capstone was "fostering integration and synthesis within the academic major" (Henscheid, 2000, p. 54), while respondents who reported an interdisciplinary course identified the primary capstone goal as "promoting the coherence and relevance of general education" (Henscheid, 2000, p. 95). Within senior seminars or capstone courses, oral presentations (75.1%) and major projects (71.9%) were selected as the most common instructional components. Oral presentations and major projects were also selected most frequently when responses were broken down by type of course.

Henscheid (2000) noted in the 1999 survey analysis that enrollment size of senior seminars and capstone courses varied among the responding institutions, with 33.2% reporting a range of 20-29

Table 1
Type of Senior Seminar or Capstone Course (N = 864)

Course type	Frequency	Percent
Career planning course	26	3.0
Discipline or department-based course	607	70.3
Interdisciplinary capstone course	141	16.3
Transition course	50	5.8
Other	40	4.6

Note. Adapted from *Professing the Disciplines: An Analysis of Senior Seminars and Capstone Courses*, by J. M. Henscheid, 2000, Table 21. Copyright 2000 by the University of South Carolina.

students per sections; 27.4%, 10-19 students; 20.5%, 0-9 students; 11.6%, 30-39 students; and 7.3% other ranges. Nearly all of the 1999 respondents (95.4%) reporting offering the senior seminar or capstone course for credit, with more than half of these courses (57.7%) carrying three semester credit hours. In addition, 81.9% reported the length of the seminar or capstone course as one semester (Henscheid). Faculty had the instructional responsibility for the majority of senior seminars and capstone courses, with 43.4% of these instructors teaching as part of a team (Henscheid). Finally, Henscheid found more than three fourths (79.6%) of all respondents evaluated their senior seminar or capstone course, yet less than half (46.2%) linked these courses to comprehensive assessment efforts.¹

2011 National Survey of Senior Capstone Experiences

Over the past decade, only a handful of studies, including the 1999 National Survey, empirically examined capstone experiences (Brownell & Swaner, 2010). The sample from the 2011 survey administration, while not nationally representative (appendix A), does provide the most updated and comprehensive analysis of the various senior capstone experiences offered during the spring 2011 semester and academic year. Content for the 2011 National Survey of Capstone Experiences is provided in appendix B, and general categories of survey items include

- ◆ senior capstone experience type,
- ◆ structural characteristics and administration,
- ◆ instruction and pedagogy, and
- ◆ assessment and evaluation of outcomes.

Guided by the typology of the existing literature, the 2011 National Survey focused on both course- and project-based experiences to examine the current types of capstones being offered. For the 2011 National Survey, senior-status students were defined by credit hours, and senior capstone experiences were categorized into three types: (a) discipline-based capstone course (i.e., enrolling seniors from within the same discipline or major), (b) interdisciplinary capstone course (i.e., enrolling seniors from more than one discipline or major), and (c) project-based capstone experience (i.e., not dependent on a course-based component, often requiring a major task or endeavor as an end product).

Survey Sample

The 2011 administration of the National Survey of Senior Capstone Experiences yielded a sample size of 276 institutions.² Of these colleges and universities, 268 (97.1%) reported offering one or more senior capstone experience at any department or division level. When the data are disaggregated by institutional control, 95.2% of public institutions and 98.2% of private institutions offered one or more senior capstone experience on their campus. Table 2 outlines the percentage of institutions with senior capstone experiences on the 2011 National Survey.

¹ For a comprehensive review of the 1999 National Survey, please see J. M. Henscheid, 2000, *Professing the Disciplines: An Analysis of Senior Seminars and Capstone Courses*.

² From this point forward, institutions refer to those colleges and universities responding to the survey ($n = 276$). Furthermore, since data were collected at the institutional level, institutions and respondents are synonymous. This typology is different from the 1999 survey where “courses” were the unit of analysis. See appendix A for greater detail.

Table 2
Institutions With Senior Capstone Experiences (N = 268)

Characteristics	Percent
<i>Institutional affiliation</i>	
Private	98.2
Public	95.2
<i>Senior class size</i>	
500 or less	97.5
501-1,000	98.2
1,001-3,000	92.2
3,001+	100

Figure 1 illustrates the breakdown of reported percentage of seniors enrolled or participating in a senior capstone experience. Within the aggregate data, more than one third (35.4%) of respondents reported 100% of seniors enrolled in a senior capstone experience. This percentage increases for private institutions (44.2%) and institutions with senior enrollments less than 500 (45.1%) and between 501 and 1,000 (40.4%).

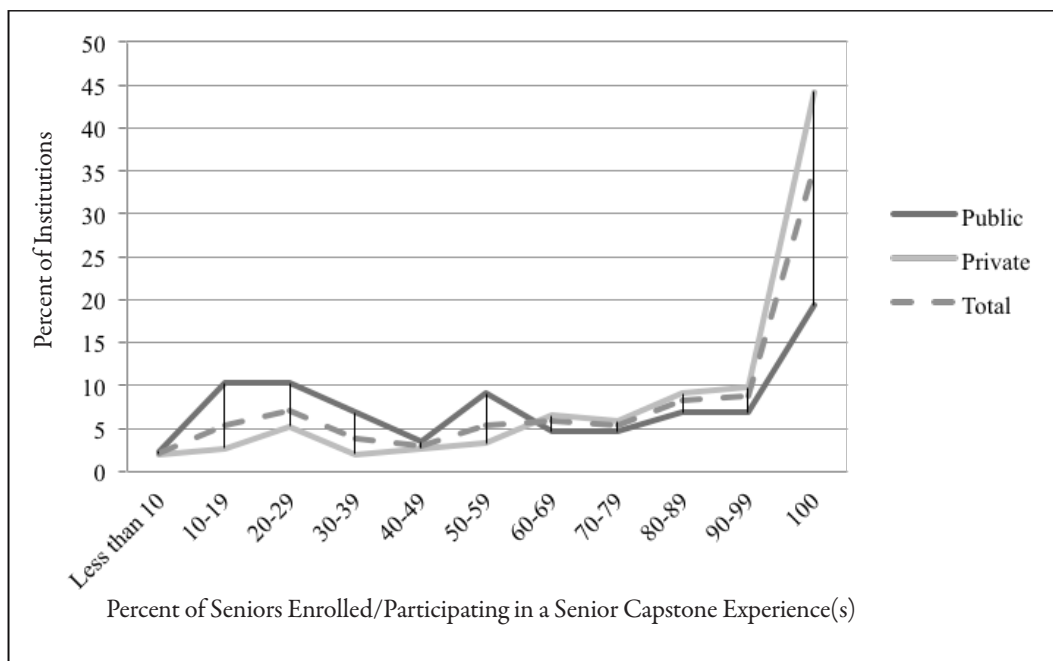


Figure 1. Breakdown of seniors enrolled or participating in a senior capstone experience(s).

Conclusion

This research report is intended to provide researchers and practitioners with data that are accessible and informative. The report is organized into two primary sections: (a) findings and (b) implications for practice and future research. Responses to each survey item are presented within the aggregate. Where patterns emerged, the data were disaggregated and presented across institutional control, senior class enrollment size, and capstone types. It is the authors' hope that the data, findings, and implications generate conversation across campuses. However, there are limitations to the generalizability of the data given the low response rate and small cell sizes for many survey items. Nevertheless, this evidence from a national sample—particularly in an area of study that is under-researched and assessed—can provide higher education professionals with a clearer portrait of senior capstone experiences. This information can guide key decisions for practitioners as they continue to develop or refine their institution's senior capstone experience.

Findings From the 2011 National Survey of Senior Capstone Experiences

This section documents the types of senior capstone experiences currently offered, while examining the structural characteristics and administration, instruction composition and pedagogical techniques, and assessment endeavors. These findings will provide an updated snapshot of the senior capstone experience and highlight distinctive features and practices across various institutional controls and capstone types. Furthermore, a number of unique objectives, topics, good practices, and components were identified as distinguishable characteristics that support students' culminating experiences.

Types of Senior Capstone Experiences Offered

Nearly 12 years after the 1999 administration of the first National Survey of Senior Seminars and Capstone Courses, the 2011 Survey findings show discipline-based courses continued to be the dominant senior capstone experience (i.e., 84.7% in 2011 compared to 70.3% in 1999). This finding and upward trend (i.e., a 14.4% increase since the 1999 survey) suggests the capstone experience is increasingly situated within the disciplines and serves as a culminating experience for the students' area of study.

Although discipline-based capstone courses were the dominant culminating experience, Figure 2 illustrates the diversity of senior capstone experiences offered across institutions. A senior thesis or undergraduate research paper was a common culminating experience for nearly two thirds of the institutions (64.6%). More than half of the respondents reportedly offered an exhibition of performing, musical, or visual arts as a culminating experience (58.2%), followed by an internship (46.6%), interdisciplinary course (33.2%), a comprehensive examination (20.1%), and other (7.1%).

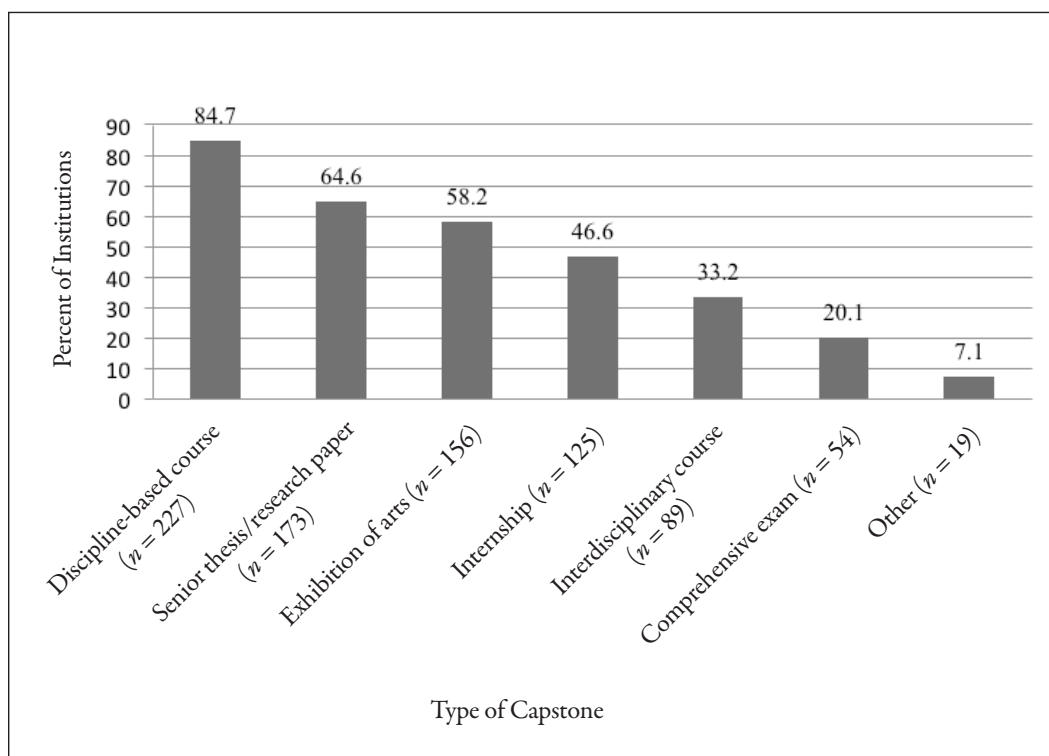


Figure 2. Percentage of discrete capstone types across institutions. Respondents were able to identify all senior capstone experiences on campus.

Primary Senior Capstone Experience

It is important to distinguish between the types of capstones offered and the primary capstone experience. Types of capstones offered refers to respondents' selection of senior capstone experience(s) that best describe the course or project existing on campus, marking all that apply (many institutions offered multiple types of capstones). To identify the primary senior capstone experience, respondents were asked to select the senior capstone experience with the highest total senior enrollment (i.e., offered to the greatest percentage of seniors on campus). Respondents were then asked to complete the remainder of the survey based on their primary capstone experience.

When institutions were asked to identify only their primary capstone experience, the percentage of discipline-based courses (84.7%) decreased 25.1 percentage points to 59.6%. Even with this decrease, discipline-based courses continued to be offered with more than four times greater frequency than the next highest primary experience (i.e., interdisciplinary course and senior thesis or undergraduate research each at 12.9%). Table 3 illustrates the breakdown of respondents' identification of primary capstone experience.

Table 3
Capstone Experience With the Highest Total Senior Enrollment at Each Responding Institution (n = 255)

Primary senior capstone experience	Percent
Discipline-based capstone course	59.6
Interdisciplinary capstone course	12.9
Senior thesis or undergraduate research paper	12.9
Other	7.1
Internship	3.9
Comprehensive exam	2.4
Exhibition of performing, musical, or visual arts	1.2

Disaggregating these data across institutional control revealed which capstone experiences were more likely to be offered at public and private institutions (Table 4). Public institutions were more likely to use a discipline-based course as their primary capstone experience (70.3%) compared to private institutions (53.4%), and to a lesser extent, internships (4.4% compared to 3.7%). Conversely, private institutions were more likely to use a senior thesis or undergraduate research paper as their primary experience (16.8%) compared to their public institution peers (5.5%). Private institutions were also more likely to identify interdisciplinary courses (14.3% vs. 11.0%), comprehensive exams (3.1% vs. 1.1%), other (7.5% vs. 6.6%), and exhibition in the arts (1.2% vs. 1.1%) as their primary capstone experience. (For a more detailed discussion of survey findings related to project-based senior capstone experiences, please see “Project-Based Senior Capstone Experiences” on pp. 10-11.) Disaggregating the data across senior enrollment size revealed two findings of note. First, as senior enrollment size increased, identification of discipline-based courses as a primary experience increased (54.9% to 69.1%). Second, while senior thesis or undergraduate research paper decreased (19.2% to 7.1%) as enrollment increased. The remaining capstone experience had very little variation as senior class enrollment size increased.

Table 4
Capstone Experience With the Highest Total Senior Enrollment by Institutional Control

Control	Public %	Private %	Difference %
<i>Percentages larger for public</i>			
Discipline-based capstone course	70.3	53.4	16.9
Internship	4.4	3.7	0.7
<i>Percentages larger for private</i>			
Senior thesis or undergraduate research paper	5.5	16.8	-11.3
Interdisciplinary capstone course	11.0	14.3	-3.3
Comprehensive exam	1.1	3.1	-2.0
Other	6.6	7.5	-0.9
Exhibition of performing, musical, or visual arts	1.1	1.2	-0.1

Project-Based Senior Capstone Experiences

More than a quarter of the respondents (27.5%) to the 2011 National Survey of Senior Capstone Experiences reported offering a project-based senior capstone experience to their students, defined as a comprehensive exam; exhibition of performing, musical, or visual arts; internship; senior thesis or undergraduate research paper; or other option.

Table A.1 displays the percentage of project-based capstone experiences at four-year institutions. Within this category, senior thesis or undergraduate research paper (12.9%) was selected as the project-based capstone experience with highest total enrollment of seniors followed by other (7.1%); internships (3.9%); comprehensive exam (2.4%); and exhibition of performing, musical, or visual arts (1.2%). Respondents who selected other as their primary experience were asked to specify the characteristics of that experience. Of the nine respondents who described other capstone experiences, two themes emerged: (a) a hybrid-like capstone experience and (b) student teaching. The term *hybrid* has been defined as a course or experience that intentionally blends or captures characteristics of various courses or components into one (see Padgett & Keup, 2011 for the use of hybrid course with first-year seminars). An example of a hybrid-like course from the 2011 National Survey is a discipline-based course in engineering focusing primarily on a senior design project required for graduation. This course is discipline-specific but also concentrates on the incorporation and fulfillment of a senior project. This is somewhat similar to the second theme, student teaching that emerged from the other category. Though the specification of student teaching was nondescriptive, this capstone experience suggests the majority of students are required to serve in an undergraduate teaching or peer-leader role at the institution. Related more specifically to the discipline of education, student teaching could also refer to the required onsite instruction educators must complete before receiving their teaching certificates. Nonetheless, the identification of student teaching as a capstone experience highlights the various curriculum requirements taking place within higher education.

Table A.1
Percentage of Primary and Discrete Project-Based Experiences

Project-based capstone experience	Primary experience %	Discrete experience %
Senior thesis or undergraduate research paper	12.9	64.6
Other	7.1	7.1
Internships	3.9	46.6
Comprehensive exam	2.4	20.1
Exhibition of performing, musical, or visual arts	1.2	58.2

If respondents selected a senior capstone project as their primary capstone experience, they were asked if the project had a course component (i.e., a requirement for seniors to attend an instructor-led class as part of the project). Slightly less than two thirds (62.7%) reported their project-based experience had an instructor-led class component. When these data are aggregated with the respondents who selected a discipline-based or interdisciplinary course as their primary capstone experience, 89.0% of all capstone experiences are course-based. This suggests course-based, instructor-led capstones continue to be the dominant form of culminating experience within higher education. Moreover, it is worth noting that approximately half (55.3%) of all project-based experiences were linked to one or more courses. This finding may contribute to the percentage of instructor-led components.

Further, the number of respondents who reported offering a senior thesis or undergraduate research paper as their primary capstone experience is identical to those who offered an interdisciplinary capstone course (12.9%, respectively). A simple cross-tabulation between senior thesis or undergraduate research paper and the survey item identifying course component revealed only 54.5% of respondents who offered a thesis or research as a primary experience had a required course-component ($n = 18$). Within the aggregate analyses, this explains only 7.1% of senior capstone experiences and did not provide enough cases to reliably compare discipline-based and interdisciplinary courses in this report.

Overall, data from the project-based experiences suggest the senior capstone is still deeply rooted within the faculty-led curriculum. Anecdotal evidence had suggested institutions were moving toward innovative out-of-class capstone projects. Yet, data from both the 1999 and 2011 National Surveys indicate the primary senior capstone within higher education is likely to be course-based.

Disciplines Within Capstone Experience

Respondents who selected the discipline-based and interdisciplinary capstone course as their primary senior capstone experience were subsequently asked to identify the discipline(s) comprising the course. The specified disciplines in order of frequency were business (32.7%), applied science (19.1%), social sciences (16.3%), other (11.6%), humanities (10.2%), and natural sciences (8.2%). When asked to identify the disciplines comprising the interdisciplinary course, respondents' selections were more varied. Within the aggregate, more than half of the interdisciplinary courses incorporated humanities (51.5%), followed by business and social sciences (39.4%, each), applied science and natural sciences (30.3%, each), *other* (27.3%), and performing arts (21.2%).

Structural Characteristics and Administration

How a capstone course is structured and administered defines how an institution views the purpose of the course within the curriculum. These characteristics not only paint a broad picture of the structure of the capstone but also reveal new evidence for practitioners as they continue to incorporate innovative components and practices within the experience.

Objectives, Topics, and Practices

The 2011 National Survey asked respondents to report the three most important capstone or course objectives³ established within the culminating experience. Theoretically, objectives reflect the strategic mission of the initiative. In other words, what types of skills do institutions expect their students to gain after participating in the capstone experience?

Examining the data in the aggregate revealed five dominant objectives: increased or improved (a) critical thinking, analytical, and/or problem-solving skills (49.6%); (b) ability to conduct scholarly research (27.6%); (c) career preparation (25.0%); (d) professional development (23.5%); and (e) proficiency in written communication (22.8%). When the data are disaggregated by institutional type, the difference in the selection of capstone objectives becomes clearer (Table 5). Though increased critical thinking, analytical skills, and/or problem-solving skills was still the dominant objective for both public and private institutions (55.1% vs. 47.6%, respectively), public institutions were nearly twice as likely to identify professional development as an objective (33.7% vs. 17.5%, respectively). Conversely, private institutions were more likely to identify the ability to conduct scholarly research (32.5% vs. 19.4%, respectively) and proficiency in oral communication (18.1% vs. 10.2%, respectively) as objectives compared to public institutions. The differences between public and privates across the remaining course objectives were less pronounced.

Disaggregating the most important objectives by capstone type revealed overlap across experience types (Table 6). Across the three most commonly reported, increase critical thinking, analytical skills, and/or problem-solving skills remained as the top objective. Of particular interest, discipline-based courses and project-based experiences reported nearly identical objectives, aligning five of the top six objectives: increased or improved (a) critical thinking, analytical skills, and/or problem-solving skills, (b) ability to conduct scholarly research, (c) career preparation, (d) proficiency in written communication, and (e) ability to perform independently. An additional top objective of discipline-based courses was improved professional development, also identified by respondents as a top objective for interdisciplinary courses. The sixth top objective for

³ Respondents were only able to select up to three objectives.

Table 5
Most Important Capstone Objectives by Institutional Control

Increase or improve ...	Public %	Private %	Difference %
<i>Percentage larger for public institutions</i>			
Professional development	33.7	17.5	16.2
Critical thinking and/or analytical or problem-solving skills	55.1	47.6	7.5
Life skills	3.1	1.2	1.9
Appreciation of discipline(s)	18.4	16.9	1.5
Satisfaction with academic discipline	2.0	0.6	1.4
<i>Percentage larger for private institutions</i>			
Ability to conduct scholarly research	19.4	32.5	-13.1
Proficiency in oral communication	10.2	18.1	-7.9
Proficiency in written communication	20.4	24.1	-3.7
Preparation for graduate school	2.0	5.4	-3.4
Out-of-class student-instructor interaction(s)	0.0	2.4	-2.4
Other	9.2	11.4	-2.3
Career preparation	23.5	25.3	-1.8
Certification preparation	2.0	3.6	-1.6
Ability to perform independently	17.3	18.1	-0.7
Satisfaction with institution	0.0	0.6	-0.6
Persistence to graduation	0.0	0.6	-0.6
<i>No difference between institutions</i>			
Connections with peers	0.0	0.0	0.0
Satisfaction with instructor	0.0	0.0	0.0
Use of campus services	0.0	0.0	0.0

project-based experiences was improved proficiency in oral communication, similarly shared by interdisciplinary courses as an important objective. The remaining commonly reported objectives for interdisciplinary courses include increased proficiency in written communication (shared by all capstone types), greater appreciation of the discipline(s), and *other*.

In conjunction with course objectives, respondents were asked to identify the three most important topics comprising the content of the capstone experience. It would be expected that objectives and topics would complement one another in aligning with the strategic mission of the capstone experience.

According to the 2011 National Survey, the most commonly reported objectives align consistently with the most commonly reported topics. Examining the data in the aggregate, the five most commonly reported course or capstone topics include (a) critical thinking, analytical skills, and/or problem-solving skills (51.9%); (b) discipline-specific topic (43.3%); (c) conducting scholarly

Table 6
Most Important Objectives by Capstone Type

Increase or improve ...	Percent
<i>Percentages for discipline-based course</i>	
Critical thinking and/or analytical or problem-solving skills	59.9
Ability to conduct scholarly research	36.2
Career preparation	32.9
Professional development	31.6
Proficiency in written communication	25.0
Ability to perform independently	22.4
<i>Percentages for interdisciplinary course</i>	
Critical thinking and/or analytical or problem-solving skills	69.7
Proficiency in written communication	36.4
Other	33.3
Appreciation of discipline(s)	30.3
Proficiency in oral communication	27.3
Professional development	21.2
<i>Percentages for project-based experience</i>	
Critical thinking and/or analytical or problem-solving skills	27.1
Ability to conduct scholarly research	21.4
Ability to perform independently	20.0
Career preparation	18.6
Proficiency in written communication	15.7
Proficiency in oral communication	14.3

research (26.5%); (d) writing skills (20.9%); and (e) teamwork or group work (16.8%). It is worth noting that career development fell just short of the top five most important topics at 16.4%. Table 7 illustrates the alignment between objectives and topics. Critical thinking was frequently reported as the most important objective and topic, followed by consistent overlap between conducting scholarly research and written communication. Discipline-specific topics and teamwork or group work—identified here as topics—are fundamental components of career preparation and professional development, reinforcing the overlap between objectives and topics.

A few notable differences appear when the data are disaggregated across institutional and capstone type (Table 8). Public institutions were nearly three times more likely to use teamwork or group work within the capstone experience (28.6%) compared to private institutions (10.2%). Conversely, private institutions were nearly twice as likely to incorporate writing skills within the capstone experience (25.3%) compared to their public peers (13.3%), and substantially more likely to identify conducting scholarly research (30.7% vs. 19.4%, respectively) and ethical issues (15.1% vs. 5.1%, respectively) as important course topics compared to their public peers.

Table 7
Comparison of Commonly Reported Course or Capstone Objectives and Topics

Capstone course	Percent
<i>Objective – increase or improve ...</i>	
Critical thinking and/or analytical or problem-solving skills	49.6
Ability to conduct scholarly research	27.6
Career preparation	25.0
Professional development	23.5
Proficiency in written communication	22.8
<i>Topic^a</i>	
Critical thinking and/or analytical or problem-solving skills	51.9
Discipline-specific topic	43.3
Conducting scholarly research	26.5
Writing skills	20.9
Teamwork or group work	16.8

^aCareer development was ranked sixth most important topic (16.4%).

Disaggregating the most important topics by capstone type revealed patterns similar to those seen in reported objectives across capstone types (Table 9). Critical thinking, analytical skills, and problem-solving skills; discipline-specific topics; and writing skills were commonly shared across all three capstone types. Conducting scholarly research and career development were shared between discipline-based courses and project-based experiences; whereas, teamwork or group work was shared between discipline-based and interdisciplinary courses. Oral communication skills ranked near the bottom of the most commonly reported topics for both interdisciplinary courses and project-based experiences, with ethical issues only appearing as an important topic within interdisciplinary courses.

In addition to course or capstone objectives and topics, the 2011 National Survey asked respondents to indicate which types of effective educational practices were incorporated into the capstone course. Based primarily on Chickering and Gamson's (1987, 1991) original seven principles of good practice and expanded to include other vetted practices (Pascarella et al., 2006), these characteristics of educational experiences have been positively linked to cognitive, psychosocial, and student development in college (Astin, 1993; Cruce, Wolniak, Seifert, & Pascarella, 2006; Goodman, Baxter Magolda, Seifert, & King, 2011; Pascarella, Seifert, & Blaich, 2010; Pascarella & Terenzini, 1991, 2005). Respondents had the opportunity to identify as many good practices as applied, possibly explaining the high percentages reported across each response option.

The range of percentages across the good practices varied from 14.2% (diversity experiences) to 60.1% (integrative learning). Integrative learning between courses or between coursework and life events was reported as the most incorporated good practice followed by faculty communication of high expectations (57.1%), an academically challenging course (55.2%), active learning encourage by the instructor (45.1%), cooperative learning activities (38.4%), and positive peer interactions (32.5%). Diversity experiences (14.2%), nonclassroom interactions with faculty

Table 8
Most Important Capstone Topics by Institutional Control

Control	Public %	Private %	Difference %
<i>Percentage larger for public institutions</i>			
Teamwork or group work	28.6	10.2	18.3
Other ^a	10.2	4.2	6.0
Leadership skills	11.2	6.0	5.2
Discipline-specific topic	43.9	42.2	1.7
Certification readiness	4.1	3.0	1.1
Engaged alumni or alumni opportunities	1.0	0.0	1.0
<i>Percentage larger for private institutions</i>			
Writing skills	13.3	25.3	-12.0
Conducting scholarly research	19.4	30.7	-11.3
Ethical issues	5.1	15.1	-10.0
Critical thinking and/or analytical or problem-solving skills	48.0	54.8	-6.9
Oral communication skills	6.1	11.4	-5.3
Technology skills	2.0	4.2	-2.2
Graduate school application process	0.0	1.2	-1.2
Diversity issues	1.0	1.2	-0.2
Relationship skills	1.0	1.2	-0.2
<i>No difference between institutions</i>			
Career development	16.3	16.3	0.0
Financial literacy	0.0	0.0	0.0

^a Though some respondents identified unique senior capstone experiences not captured within these data (e.g., case study techniques, musical performance, integration of coursework and real-world problems), the other category included only 10 responses that primarily described either how the capstone varied by discipline or how the course content was applied.

(17.2%), and prompt feedback (26.1%) were identified as the least incorporated good practices within the capstone experience.

Table 10 provides the breakdown of good practices between public and private institutions. Again, given the high percentages across each good practice, the percent difference across institutional type was minimal, with private institutions typically having a larger percentage for each good practice. When the data were disaggregated across capstone type, the percent difference between types was also minimal (Table 11). Five out of the seven most commonly reported good practices were incorporated into each type. A few key differences emerged, though, including (a) a greater likelihood of the use of higher order exams and assignments in discipline-based courses, (b) quality classroom interactions with the instructor within interdisciplinary courses, and (c) emphasis on time on task and submitting work as well as prompt feedback from instructor within project-based experiences.

Table 9
Most Important Topics by Capstone Type

Type	Percent
<i>Percentages for discipline-based course</i>	
Critical thinking and/or analytical or problem-solving skills	65.1
Discipline-specific topic	55.3
Conducting scholarly research	33.6
Writing skills	23.0
Career development	21.1
Teamwork or group work	21.1
<i>Percentages for interdisciplinary course</i>	
Critical thinking and/or analytical or problem-solving skills	60.6
Ethical issues	39.4
Writing skills	30.3
Discipline-specific topic	24.2
Teamwork or group work	24.2
Oral communication skills	21.2
<i>Percentages for project-based experience</i>	
Discipline-specific topic	34.3
Critical thinking and/or analytical or problem-solving skills	28.6
Conducting scholarly research	21.4
Career development	15.7
Writing skills	15.7
Oral communication skills	8.6

Following the trajectory of objectives, topics, and good practices, respondents were asked to select the final component or end-product required to complete the capstone experience. These response items ranged from a final project or examination to a résumé or graduate school application. Regardless of the type of data (i.e., aggregated or disaggregated), five final components emerged as the clear end-products for the capstone experience: (a) final project (54.9%); (b) final presentation (47.4%); (c) research paper or thesis (38.8%); (d) exhibition of art, performance, or recital (28.0%); and (e) comprehensive curricular portfolio (23.1%).

Class Size

Respondents were asked to identify the approximate class size for each section of the primary capstone experience. It is important to distinguish the difference between senior class size—the overall senior population at the institution—and capstone class size, defined as the enrollment of each course section. Class sizes of 19 or below are the typical dichotomous threshold for reporting class size in practice and within the college rankings reporting (Padgett & Keup, 2011). Nearly two thirds

Table 10
Incorporation of Good Practices by Institutional Control

Control	Public %	Private %	Difference %
<i>Percentage larger for public institutions</i>			
Cooperative learning	41.8	36.1	5.7
Diversity experiences	16.3	13.3	3.1
Other	5.1	2.4	2.7
Instructor encouragement of active learning	45.9	45.2	0.7
<i>Percentage larger for private institutions</i>			
Academically challenging course	48.0	59.6	-11.7
Quality nonclassroom interactions with instructor	11.2	21.1	-9.9
Quality classroom interactions with instructor	21.4	30.1	-8.7
Emphasis on time on task and submitting work	23.5	31.3	-7.9
Prompt feedback from instructor	21.4	28.9	-7.5
Communication of high expectations	53.1	59.0	-6.0
Integrative learning	58.2	62.0	-3.9
Positive peer interactions	30.6	33.7	-3.1
Use of higher order exams and assignments	29.6	30.7	-1.1

(66.0%) of all senior capstone experiences had an approximate class size of 19 students or lower per section. However, the average class size was more likely to be higher at public institutions (compared to private), as overall senior class size increased, and within interdisciplinary courses.

Sections

Within the aggregate, 43.9% of all respondents indicated the approximate number of sections of the capstone course or experience ranged between 1 and 10 sections. This percentage was higher at private institutions (47.5%) and institutions with a senior class size of less than 500 (57.3%). In other words, public institutions and institutions with senior class sizes above 501 were more likely to offer a greater number of capstone sections compared to their peers. Across nearly all institutional and capstone experience types, the typical length of a section of the capstone experience was one semester (83.6%). This differed somewhat for senior capstone projects, which had a slightly higher percentage (15.8% compared to the aggregate 7.0%) of sections lasting one year.

Grades and Credit

Discipline-based and interdisciplinary capstone courses are universally letter graded (93.3% and 96.6%, respectively). By comparison, senior capstone projects were less likely to be letter graded (71.1%), and a larger percentage used pass/fail or *other* (13.2%) grading systems. Nonetheless, nearly every respondent (98.5%) reported the senior capstone course or experience carried academic credits, with 70.4% offering the capstone for three credits, 13.8% offering four credits, and 8.7% offering five

Table 11
Most Commonly Reported Good Practices by Capstone Type

Type	Percent
<i>Percentages for discipline-based course</i>	
Integrative learning	73.0
Communication of high expectations	69.7
Academically challenging course	67.8
Instructor encouragement of active learning	52.6
Cooperative learning	48.0
Positive peer interactions	37.5
Use of higher order exams and assignments	37.5
<i>Percentages for interdisciplinary course</i>	
Integrative learning	84.8
Academically challenging course	60.6
Communication of high expectations	57.6
Positive peer interactions	57.6
Instructor encouragement of active learning	54.5
Cooperative learning	45.5
Quality classroom interactions with instructor	36.4
<i>Percentages for project-based experience</i>	
Communication of high expectations	40.0
Academically challenging course	35.7
Instructor encouragement of active learning	32.9
Integrative learning	31.4
Emphasis on time on task and submitting work	28.6
Cooperative learning	21.4
Prompt feedback from instructor	18.6

or more credits. In addition, credits were frequently applied to a major (63.1%) or general education requirement (15.7%), with only 3.4% of institutions having applied capstone credit as an elective. These findings highlight the legitimacy of senior capstone experiences within the college curriculum on the national level.

Administrative Unit

The legitimacy of senior capstone experiences as a core academic component of the college curriculum is even more evident when examining the campus unit directly administering the capstone course or experience. Within the aggregate, 68.9% of respondents reported the senior capstone experience is administered within an academic department(s), with 16.3% administered through academic affairs and 10.7% within a college or school. When the data are disaggregated

across institutional control, these findings differ across publics and privates. Private institutions were nearly four times more likely to administer the capstone experience within academic affairs (22.2% vs. 5.9%); whereas, public institutions were more likely to administer the capstone experience within an academic department(s) (76.5% vs. 64.3%) or college or school (14.7% vs. 8.7%). The campus unit directly administering the experience also differed across capstone types. Discipline-based (73.3%) and project-based (75.7%) capstone experiences were more likely to be administered within an academic department(s) compared to interdisciplinary courses (39.3%). Interdisciplinary courses were also as likely to be administered within academic affairs (32.1%) and to a lesser extent within a college or school or other (10.7%, each). Across all campus units administering the experience, approximately one fourth (24.1%) had a dean, director, or coordinator position, which was held by a faculty member (75.0%), academic affairs administrator (27.3%), or other (22.7%).

Instruction and Pedagogy

The structural and administrative characteristics of senior capstones suggest the experiences are a core academic component and mimic the design and implementation of their more formal academic course counterparts. Instruction and pedagogy within the capstone experience are similarly aligned with traditional academic structures.

The 2011 National Survey asked respondents to identify the primary instructor of the senior capstone course or experience, allowing them to mark as many as eight types of instructors. More than half (57.8%) of all respondents reported tenure-track faculty as the primary instructor, followed by full-time, non-tenure-track faculty (18.3%). Combined, tenure-track and full-time, non-tenure-track faculty comprise more than 75% of the primary instructors within capstone experiences. Approximately 10% of all respondents identified adjunct faculty as the primary instructor, followed by *other* (7.5%) and academic affairs professionals (7.5%). These data tended to persist across public and private universities and discipline-based and interdisciplinary courses (Table 12), with minor differences across some types of instructors. The one exception was project-based experiences, which tended to be instructed more evenly across tenure-track faculty (31.4%); full-time, non-tenure-track faculty (20.0%); other (11.4%); and adjunct faculty (10.0%).

In addition to the identification of the primary instructor, the 2011 National Survey inquired about the approximate percentage of sections that are team-taught. The distribution of the data suggests team teaching is not a widely used pedagogical approach within senior capstone experiences. The majority of respondents (43.7%) reported less than 10% of their capstone experience sections are team taught; conversely, 5.8% report all their sections are team taught. Though no distinguishable patterns emerged when the data were disaggregated across institutional characteristics and capstone types, the percentage of capstone experiences that offered no team-taught sections hovered around 18%, with this result being lower than other transitional high-impact practices, such as first-year seminars (Padgett & Keup, 2011). Data from the 2009 National Survey of First-Year Seminars (Padgett & Keup, 2011) suggest 56.4% of first-year seminars had no sections that were team taught. First-year seminars typically use undergraduate and graduate peer leaders to foster incoming students' transition into the college environment. One possible explanation for this difference is that senior capstones may rely less on peer leaders and more on co-instructors. Unfortunately, the survey did not qualitatively assess the type of team-teaching techniques being used within the senior experience. It is encouraging that senior capstone experiences are using team teaching—though minimally—to support senior students within their culminating experiences. Future research investigating the impact of team teaching or peer leadership within the college curriculum should not overlook senior capstone experiences as a concentration for this pedagogical practice.

Table 12
Primary Instructor by Control and Capstone Type

Instructor	Control		Type			Total %
	Public %	Private %	Discipline-based course %	Interdisciplinary course %	Project-based %	
Tenure-track faculty	63.3	54.8	71.7	72.7	31.4	57.8
Full-time, non-tenure-track faculty	12.2	22.3	17.8	24.2	20.0	18.3
Adjunct faculty	11.2	10.2	9.9	18.2	10.0	10.4
Other	7.1	7.8	5.9	9.1	11.4	7.5
Academic affairs professionals	3.1	4.8	2.6	6.1	7.1	4.1
Student affairs professionals	0.0	1.2	0.7	3.0	0.0	0.7
Graduate students	2.0	0.0	0.7	3.0	0.0	0.7
Undergraduate students	0.0	0.0	0.0	0.0	0.0	0.0

Note. Percentages will sum to more than 100% since respondents were allowed to mark more than one category.

Asked if any of the sections of the senior capstone course or experience were linked to one or more other courses, 35.0% of respondents reported there were course-linked sections. This percentage remained relatively consistent across institutional characteristics. However, when the data were disaggregated across capstone types, interdisciplinary courses were less likely to have course-linked sections (24.1%) while project-based experiences were more likely to have them (55.3%). In addition to team teaching and linked courses, respondents were asked if course training was offered to capstone instructors. Only 27.8% of all respondents reported there was instructor training, and less than half of this group (42.6%) indicated the training was required. Where the training was offered, 42.9% stated it lasted one day or less.

Online Courses or Components

Respondents were asked to report the extent to which any sections of the senior capstone experience incorporated online components. Within the aggregate, 39.9% reported some form of online component was included. Public institutions were more likely to use online components (53.7%) compared to private institutions (32.8%). Discipline-based capstone courses were much more likely to incorporate an online component (60.7%) compared to interdisciplinary courses (31.6%) and project-based experiences (39.9%). Furthermore, the data suggest as the senior class size increases the percentage of capstone experiences including an online component increases (Figure 3).

As with online components, public institutions (27.1%) were nearly three times more likely to use online-only sections compared to their private peers (10.2%). Institutions with larger senior classes were also more likely to have online-only sections, with 37.8% of institutions with an enrolled senior class of more than 3,001 using online-only sections compared to institutions with a senior class of 1,001-3,000 (15.2%).

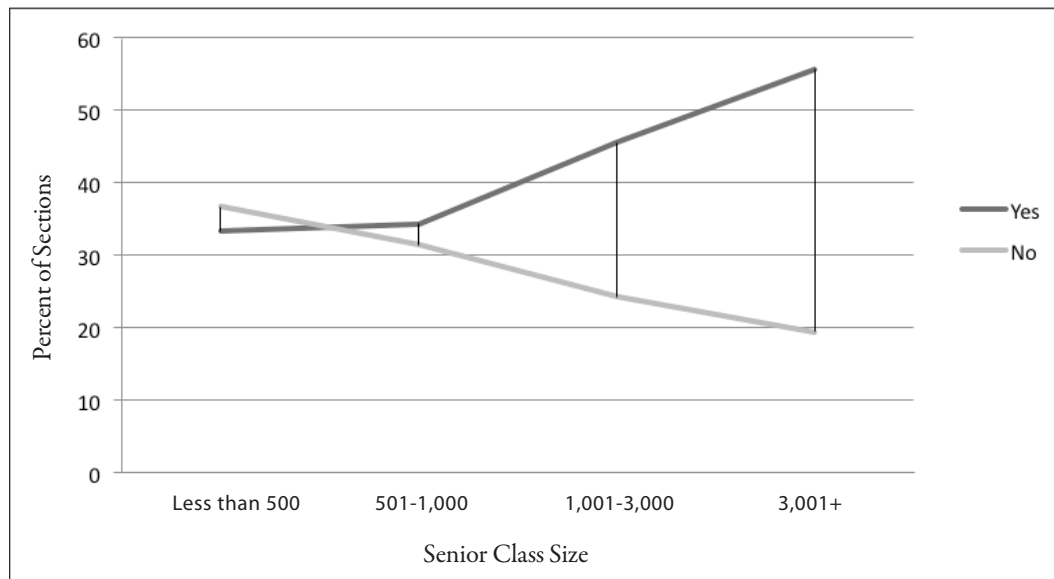


Figure 3. Percentage of sections incorporating an online component.

Assessment and Evaluation of Outcomes

More than half (55.7%) of the institutions in the 2011 National Survey had formally assessed or evaluated the senior experience over the last three years; whereas, 31.3% reported no formal assessment takes place, and 13.0% did not know if any assessment was conducted. This suggests the primary stakeholders of the senior experience have not fully engaged in formally assessing the impact of the culminating experience on their students. However, this is not to suggest capstone experiences are the only underassessed high-impact practice. Data from the 2009 National Survey of First-Year Seminars (Padgett & Keup, 2011) suggest nearly the same percentage of institutions formally assess the first-year seminar (56.5%) as assess senior experiences (55.7%).

When the assessment data are categorized by quantitative, qualitative, and mixed methods, it becomes evident institutions rely more on quantitative assessment strategies and mixed methods (e.g., accreditation) than qualitative assessment strategies (Table 13). Approximately three quarters (74.8%) of respondents who formally assess the senior experience used student course evaluations as the primary mode of assessment, followed by analysis of institutional data (62.6%), accreditation (60.7%), and survey instrument (43.0%). Institutions that used survey instruments administered both locally developed (76.1%) and national (71.7%) surveys, with the National Survey of Student Engagement (NSSE) as the primary national survey of choice (93.9%), followed by the Cooperative Institutional Research Program (CIRP) College Senior Survey (15.2%).

To further explore evaluation strategies, respondents were asked to select up to three outcomes that were measured during assessment. Theoretically, the assessment of the outcomes should align with the capstone's designated objectives and topics, and this was found to be true in the 2011 National Survey data. As noted earlier (see Objectives, Topics, and Practices subsection), the five dominant course objectives identified in the Survey, which consistently aligned with course topics, were improved or increased (a) critical thinking, analytical skills, and/or problem-solving skills (49.6%); (b) ability to conduct scholarly research (27.6%); (c) career preparation (25.0%); (d) professional development (23.5%); and (e) proficiency in written communication (22.8%). The five top measured outcomes in the 2011 National Survey were improved or increased (a) critical

Table 13
Senior Capstone Experience Assessment Methods (n = 107)

Method	Percent
<i>Quantitative assessment strategies</i>	
Student course evaluation	74.8
Analysis of institutional data	62.6
Survey instrument	43.0
<i>Qualitative assessment strategies</i>	
Focus groups with students	23.4
Focus groups with instructors	16.8
Individual interviews with students	15.0
Individual interviews with instructors	12.1
<i>Mixed Methods</i>	
Accreditation	60.7

Note. Percentages will sum to more than 100% since respondents were allowed to mark more than one category.

thinking, analytical skills, and/or problem-solving skills (71.0%); (b) written communication (44.9%); (c) connection to the discipline(s) (38.3%); (d) oral communication (28.0%); and (e) satisfaction with instructor (14.0%). It should be noted *satisfaction with instructor* was never identified as a course objective or topic—though faculty interaction was a possible selection—and is likely a by-product of the high percentage of respondents who use course evaluations (typically including questions on instructor performance) as a primary assessment tool. Nonetheless, the consistent alignment between capstone objectives—through topics and good practices—to outcomes is strong empirical evidence of the connective thread between capstones’ outlined purpose and goals that were found to be missing in other high-impact practices (Padgett & Keup, 2011).

Two-Year Institutions

The main purpose of the 2011 National Survey of Senior Capstone Experiences was to capture national data on the types, characteristics, and assessment of senior capstone experiences. The capstone—or culminating experience—is primarily associated with four-year institutions, as senior status is typically defined by credit hours obtained and the completion of a baccalaureate degree. As such, this definition would seem to exclude any culminating courses or experiences offered at two-year institutions. Yet, two-year institutions can define the capstone experience as a culminating course or project that is discipline-based or interdisciplinary offered during the students’ last year of study. To better gauge the range of culminating experiences in American higher education, a subset of survey items from the 2011 National Survey was administered to both public and private two-year institutions. For a more detailed discussion of survey findings related to two-year institutions’ experiences, please see the “Two-Year Institutions” insert on pp. 24-25.

Two-Year Institutions

Of all the colleges and universities who participated in the 2011 National Survey, only 15.6% identified themselves as two-year institutions. This percentage is significantly lower than the national average of two-year institutions within American higher education and suggests the data from two-year institutions may not be representative of the national average. Nonetheless, to the best of our knowledge this is the first national survey to collect aggregate data on the types, characteristics, and assessment of capstone experiences at two-year institutions.

2011 Survey findings suggest less than two thirds (62.8%) of participating two-year institutions offer one or more capstone experience(s) at the department or division level, while 27.9% did not have a senior experience and 9.3% did not know if one was offered. Respondents from two-year institutions were also asked to select the capstone experience(s) that best described the course or project on their campus. More than half of the two-year institution respondents (59.3%) reported their college offered a discipline-based capstone course. Table A.2 provides a list of the capstone experiences existing at two-year institutions. Following discipline-based courses, respondents reported internships (40.7%), portfolios (33.3%), comprehensive exams (22.2%), certification within a career (18.5%), and interdisciplinary capstone courses (18.5%) as the most common culminating experience at two-year institutions. It is important to note that respondents from two-year institutions were not asked to identify the primary capstone experience at their institution. Regardless, the variance in the percentages of capstone experiences offered suggests two-year institutions do not rely on one particular type of culminating experience. Furthermore, some capstone experiences existed only at two-year institutions and were not reported at four-year institutions (e.g., certification within a career, preparation for transfer).

Table A.2
Percentage of Senior Capstone Experiences at Two-Year Institutions

Capstone experience	Percent
Discipline-based capstone course	59.3
Internship	40.7
Portfolio	33.3
Comprehensive exam	22.2
Certification within career	18.5
Interdisciplinary capstone course	18.5
Service-learning or community service project	14.8
Preparation for transfer to four-year institution	11.1
Exhibition of performing, musical, or visual arts	7.4
Final presentation	7.4
Other	7.4
Senior thesis or undergraduate research paper	0

Similar to four-year institutions, two-year respondents reported hybrid-like capstone experiences, and multiple discipline-based courses were incorporated into the curriculum. For example, a hybrid course at a public, two-year institution focused on communication and composition within the discipline and incorporated a service-learning component. Another example was a unique capstone offered by each academic program, which unilaterally focused on the demonstration of competence in critical program learning objectives. Within the aggregate, these findings suggest the type of capstone experience varies minimally between two- and four-year institutions.

In addition to identifying the type of capstone experience existing on two-year campuses, respondents were asked to estimate the percentage of students who enrolled or participated in the capstone experience. More than half of all two-year respondents (53.9%) reported less than half of their students participated in a senior experience, with 15.4% reporting less than 10% participation. These numbers may be conservative given that 9.3% of the respondents did not know whether a capstone was offered on campus. Lastly, not a single institution reported the senior experience was required (i.e., 100%).

Overall, these data suggest senior capstone experiences at two-year institutions vary across disciplines and programs similar to their four-year counterparts. Though discipline-based courses were used by the largest percentage of institutions, no one capstone type was identified as a dominant program. In addition, the data suggest a lower proportion of students are likely to participate in a capstone experience at two-year institutions compared to four-year institutions. The low sample size of participating two-year institutions within the 2011 National Survey data limits the comparable statistical analyses that may uncover additional trends. Nonetheless, these data provide the beginnings for a national discussion to better understand how senior capstone experiences are used and implemented at two-year institutions.

Conclusion

Institutions continue to rely heavily on course-based senior capstone experiences, specifically within the academic disciplines. Though institutions offer many various types of capstones, including project-based experiences, the primary culminating experience for more than half of all institutions is a discipline-based course. The incorporation of the discipline-based course within the academic curriculum legitimizes the senior capstone as an integral component of the institution. Moreover, capstones use vetted instructional practices, supporting Kuh's assertion that senior capstone experiences are effective because they combine and concentrate a number of educationally purposeful practices (Brownell & Swaner, 2010). In addition to incorporating good practices, these data suggest capstone experiences are accurately and consistently measuring the objectives, topics, and practices set forth by its constituencies in preparing seniors for life after college.

Implications for Practice and Research

As stated earlier in this report, the senior capstone experience has been defined and redefined over the past decade (Boyer Commission, 1998; Brownell & Swaner, 2010; Gardner & Van der Veer, 1998; Levine, 1998; Rowles et al., 2004). Ranging in scope from courses to unique senior projects, the capstone experience has emerged as an integrated programmatic tool to provide a culminating bookend to the college experience. The first assessment of senior capstone courses in 1999 provided a comprehensive national snapshot of the characteristics of this high-impact practice. The data from the 1999 National Survey suggested the senior capstone experience was firmly rooted within the academic curriculum as a course-based initiative. More than a decade later, the 2011 National Survey of Senior Capstone Experiences found nearly identical results; approximately three quarters (72.5%) of the primary capstone experiences are discipline-based or interdisciplinary courses. When accounting for the project-based experience incorporating a course, the percentage of capstone experiences using a course-based component jumps to 89.0%.

Higher education's reliance on course-based experiences legitimizes capstones as an academic initiative incorporated into the curriculum. With tenure-track and full-time, non-tenure-track faculty serving as the primary instructor, institutions are investing in personnel and resources to provide seniors with a course-based capstone.

This is not to undermine, however, the impact project-based capstone experiences, which can serve as a vehicle for innovative initiatives. As supported by the empirical evidence from the 2011 National Survey, institutions are using the capstone experience as a means to strengthen graduating seniors' critical and analytical skills, career preparation, professional development, and workplace skills (e.g., written and oral communication, ability to conduct scholarly research). Many of these objectives and skills can be applied to workplace-related, out-of-class experiences, including internships, practica, undergraduate research studies, and professional-based projects (e.g., the design project required by engineering students, a gallery exhibit by a visual arts major, student teaching by a prospective elementary teacher). The continued reliance on discipline-based and interdisciplinary courses, noted in both the 1999 and 2011 National Surveys, suggests fewer innovative project-based experiences have been implemented across four-year institutions, and institutions using unique types of capstones should be encouraged to document and share their experiences so as to chronicle successful initiatives.

Assessment

In his foreword to Brownell and Swaner's (2010) report on the effectiveness of high-impact practices, George Kuh attributes the success of these practices to their ability to "combine and

concentrate other empirically validated pedagogical approaches into a single multidimensional activity At the same time, while promising, they are not a panacea. Only when they are implemented well and continually evaluated ... will we realize their considerable potential” (p. xiii). Findings from the 2011 National Survey clearly demonstrate institutions are introducing validated and vetted good practices within the capstone experience, especially integrative learning, communication of high expectations, academic challenge, active learning, cooperative learning, and engagement in positive peer interactions. But as Kuh notes, high-impact practices (i.e., senior capstone experiences) must be assessed to measure their impact on student learning and preparation.

According to 2011 National Survey data, institutions appear to be aligning their course objectives with their measured outcomes suggesting they have a consistent planning and implementation process from the onset of the capstone (course objectives), to the topics introduced and practices implemented within it, and finally to the outset of the capstone (measuring student outcomes). Critical thinking and analytical skills were consistently ranked as the most important course objective, topic, and outcome. Other consistent themes through the capstone experience included improved or increased (a) ability to perform scholarly research, (b) written and oral communication skills, (c) knowledge of the discipline, (d) career preparation, and (e) professional development. The consistency in this alignment suggests institutions have a strategically supported process in place for their capstone experiences. This alignment is encouraging given higher education’s heavy reliance on assessment-based initiatives and processes to document the effectiveness of implemented programs and courses. Other campuswide, high-impact practices and programs would benefit from the strategic model set forth by capstone experiences.

The apparent success of strategic planning of senior experiences coupled with the multiple types of capstone experiences offered across a wide variety of departments, colleges, and majors, raises additional assessment questions. Unlike first-year seminars, which typically administer one type of course to a significantly large proportion of students (Padgett & Keup, 2011), stakeholders who assess the effectiveness of the capstone experience must account for the variation of students in each capstone as well as the different types of experiences and variety of disciplines. From an assessment perspective, it begs the question as to how institutions are properly assessing—if at all—each capstone experience. If only 55.7% of institutions are formally assessing their primary capstone experience, are the other (i.e., nonprimary) capstone experiences being formally assessed as well?

The lack of formal assessment and overreliance on student course evaluations and institutional data compromises proper assessment practices as a means of gauging student learning and development. In addition, assessment becomes more challenging when factoring in multiple types of students, experiences, and disciplines. In general, it would be erroneous to make a broad assumption that student participation in senior capstones is effective if only one type of capstone is assessed. For example, the NSSE asks seniors if they have participated in a culminating senior experience. Responses to this question can be used to measure the engagement and involvement of seniors who participated in such an experience. However, if multiple capstone experiences are offered across campus, one must account or control for these experiences so as to identify which seniors participated in which type. Reliance on aggregate data does not isolate the direct effects of participating in a particular experience. Supplemental assessment may be necessary to directly measure student involvement within a culminating experience. For this to happen, the allocation of resources, personnel, and time for more comprehensive assessment must be established.

The complexity of assessment for institutions with multiple capstone experiences suggests another overarching concern about institutions’ reliance on discipline-based courses: Is there a standard institutional metric (i.e., set of criteria or rubric) for the capstone experience? According

to the 2011 National Survey, more than two thirds (68.9%) of academic departments administer the capstone, with only 24.1% of institutions allocating a dean, director, or coordinator for the capstone. The multitude of capstones and the departmental oversight make it extremely difficult to establish a baseline comparison for assessment.

Research

As mentioned in the introduction, for an identified high-impact program embedded within the academic curriculum and legitimized by the types of personnel required to instruct it, little national- or institutional-level research on the senior capstone experience exists. In contrast, first-year seminars, also high-impact, embedded, and legitimized programs, may be the most researched course within undergraduate education (Cuseo, 2009a, 2009b; Koch, 2001; Koch, Foote, Hinkle, Keup, & Pistilli, 2007). However, first-year seminars and senior capstones experiences share a common research gap in that few studies have examined the impact of the various *types* of seminars or capstones, respectively, on student learning and development.

Future research on the senior-year experience must account or control for capstone type when estimating the effect of participation. The ability to isolate and measure the levels of engagement, involvement, and outcomes within each type will demonstrate the direct effect participation has across experiences. Furthermore, this research may begin to debunk assumptions about specific types of culminating experiences. For example, as colleges and universities continue to rely on discipline-based courses, future research may suggest interdisciplinary courses or undergraduate research papers or theses are more effective as capstone experiences. Finally, research examining the impact of senior capstones across student outcomes must expand beyond academic performance and graduation rates. Findings from the 2011 National Survey identified, among other responses, improved or increased (a) critical thinking and analytical skills, (b) career and professional development, and (c) written and oral communication as important outcomes for the senior capstone experience. Yet to the best of our knowledge, very little empirically evidence links participation in these experiences with such outcomes.

Conclusion

Much still remains to be learned about the impact participation in a senior capstone experience has on students' transitions through college and beyond. This research report provides a snapshot of how institutions administer, instruct, and assess their capstone experiences. Yet, we know very little about the capstone experience from the students' perspective. It is imperative that continuous assessment, research, and replication of the capstone experience be conducted to identify the benefits and drawbacks of student participation. Higher education's reliance on *what works* rather than *what could work* limits innovation within the academic curriculum, as evidenced by the continued predominance of course-based capstone experiences. This is not to imply course-based capstone experiences do not work; rather, it calls into question whether other culminating experiences may work better. It is only through continued assessment and innovation (and the assessment of innovation) that these types of questions can be answered to broaden our understanding of the senior capstone experience.

Appendix A: Survey Methodology

Population

Our population of interest for the 2011 National Survey of Senior Capstone Experiences was the campus representative who was the most knowledgeable on the senior capstone experience, including (a) chief academic officers; (b) chief executive officers; (c) chief student affairs officers; and/or (d) the primary campus representative for career services, planning, and placement at regionally accredited, not-for-profit, undergraduate-serving institutions of higher education within the United States. This population was pulled from the electronic edition of the *2011 Higher Education Directory*. Though the access population were likely well informed about their institution's senior capstone experience, they were asked to forward the survey to the individual on campus who would be most appropriate to complete this survey.

Survey Administration

The survey was created and constructed by the National Resource Center for The First-Year Experience and Students in Transition (NRC). The dissemination and administration of the survey instrument was conducted by Campus Labs (formally StudentVoice), a web-based survey technology program for assessing student involvement, learning outcomes, and strategic planning efforts. In addition, Campus Labs oversaw the general data management and housed the survey link.

On June 29, 2011, the survey was launched and an invitation to participate was sent via e-mail to 3,178 verified chief academic officers. Nonverified or undeliverable e-mails were omitted from participation. The invitation to participate included three primary components: (a) the NRC's definition of the senior capstone course or experience; (b) a confirmation the survey respondent was the most informed about their institution's senior capstone experience, and if not, instructions to forward the invitation on to another campus individual more knowledgeable on the capstone experience; and (c) detailed survey instructions and a link to the survey.

Following the initial launch to chief academic officers, a reminder e-mail was sent to nonrespondents on July 8. Three additional waves of invitations and reminders were administered to institutions that had not yet responded. These three waves included (a) a July 13 invitation to chief executive officers ($n = 3,516$), followed by a reminder e-mail to nonrespondents on July 20; (b) a July 27 invitation to chief student affairs officers ($n = 2,586$), followed by a reminder e-mail to nonrespondents on August, 4; and finally (c) an August 11 invitation to the primary campus representative for career services, planning, and placement ($n = 1,634$), followed by a reminder e-mail to nonrespondents on August, 16. In addition, one final reminder was sent to all primary campus representatives for career services, planning, and placement nonrespondents on August 29 upon the request for an extended deadline. The survey administration ended, and the link was closed on September 5.

A total of 276 institutions participated in the survey administration, indicating a 7.8% response rate—a lower bounds response considering the web-based survey format. Though similar in scope and administration, the response rate was substantially lower than the 40.5% response rate from the NRC's most recent administration of the National Survey of First-Year Seminars (Padgett & Keup, 2011) but more comparable to the 315 valid responses obtained from the NRC's 2008 National Survey of Sophomore-Year Initiatives (Keup, Gahagan, & Goodwin, 2010). Many hypotheses could be generated as to the low response rate on the survey, though feedback and anecdotal evidence passed along during the survey administration suggest the ubiquitous use of senior capstone experiences across college campuses and the lack of a central office overseeing these experiences may have been factors. Nonetheless, of the 276 total respondents to the survey, 268 institutions (97.1%) report offering a senior capstone experience while only 8 institutions (2.9%) reported they did not offer such an experience or did not know whether one was offered.

Analyses

The analyses of the data were entirely conducted at the descriptive level. Appendix D provides a comprehensive frequency distribution and percentages for each survey item. The frequencies were tabulated within the aggregate (total) and across institutional control, senior enrollment, and capstone type. It is important to note though the survey was administered to all undergraduate-serving institutions of higher education within the United States, the data provided within the frequency distributions and throughout most of this research report are primarily from four-year institutions (two-year institutions only completed survey items Q57 – Q59).

A number of recoding techniques were used to create the comparison groups found throughout the research report and the frequency distribution. The original measure of senior enrollment had a response set of 10 continuous iterations, ranging from less than 500 and increasing in intervals up to more than 5,000. Senior enrollment was collapsed into four categories because of the skewness of responses on the tail-ends of the distribution.

Furthermore, for comparative purposes, primary type of senior capstone experience was collapsed from a seven-item response set into four distinct categories: (a) discipline-based capstone course; (b) interdisciplinary capstone course; (c) senior thesis or undergraduate report; and (d) other noncourse experience. These categories were created because of the low responses from institutions who report the primary senior capstone experience on campus was a comprehensive examination; exhibition of performing, musical, or visual arts; internship; or other. To produce a sufficient comparative category, these noncourse experiences were collapsed into one *other* category.

Statistical Significance

Given the comparative nature of the data presentation (e.g., public vs. private, enrollment, capstone type), chi-square analyses could be conducted to test for significance across group type. However, for significance testing—specifically chi-square analyses—to be reliable, a large overall sample size and cell size (i.e., responses on each survey item) are required. Though the 276 cases in our sample is a respectable overall frequency to test for significance across groups, the variability across response sets produced extremely low cell sizes (below 10). Testing for significance with such low cell sizes may produce erroneous significant findings. As such, the findings reported throughout this research report are at the descriptive level and by no means infer any level of significant differences between groups.

Appendix B: Survey Instrument

2011 National Survey of Senior Capstone Experiences

This survey is dedicated to gathering information regarding senior capstone experiences. The survey should take 15-25 minutes to complete. You may exit the survey at any time and return, and your responses will be saved. If you would like a copy of your responses, you will need to print each page of your survey before exiting. Your responses are important to us. As such, we please ask for your response by September 5, 2011. Thank you for your participation.

1. Please provide the following background information:

- Full name of institution
- City
- State
- Respondent's name
- Respondent's title
- Respondent's e-mail address

2. Mark the appropriate category for your institution:

- Four-year institution
- Two-year institution (Go to Q57)

3. Mark the appropriate category for your institution:

- Public
- Private not-for-profit
- Private for-profit

4. Is your college or university a special-serving institution?

- Yes, Hispanic Serving Institution
- Yes, Historically Black College or University
- Yes, Tribal College
- Yes, Women's College
- Yes, other (please specify)
- No

5. What was the approximate number of enrolled seniors (senior status is typically defined by credit-hours obtained) at your institution during the academic year 2010-2011?

- Less than 500
- 501-1,000
- 1,001-1,500
- 1,501-2,000
- 2,001-2,500
- 2,501-3,000
- 3,001-3,500
- 3,501-4,000
- 4,001-5,000
- More than 5,000

The senior capstone experience is defined as a culminating course or project that is discipline-based or interdisciplinary; the course and/or experience concludes during the final year of study and is reserved for senior students (senior status is typically defined by credit-hours obtained).

- ◆ *Discipline-based capstone courses enroll seniors from the same discipline/major.*
- ◆ *Interdisciplinary capstone courses are not dependent on a specific discipline and are inclusive of more than one discipline/major.*
- ◆ *Project-based experiences are not dependent on a specific discipline or course and typically have a primary project as an end-product to the experience (e.g., internship, senior thesis).*

6. Did your institution—at any department or division level—offer one or more senior capstone experience(s) during the 2010-2011 academic year?

- Yes
- No (Go to Q52)
- I don't know. (Go to Q52)

7. What is the approximate percentage of seniors who enrolled/participated in a senior capstone experience(s) on your campus?

- Less than 10%
- 10%-19%
- 20%-29%
- 30%-39%
- 40%-49%
- 50%-59%
- 60%-69%
- 70%-79%
- 80%-89%
- 90%-99%
- 100%
- I don't know.

8. Approximately how many years has a senior capstone experience(s) been offered on your campus?

- 1 year or less
- 2 years
- 3-10 years
- More than 10 years

9. Select the senior capstone experience(s) that best describes the course/project that exists on your campus: (Check all that apply.)

- Discipline-based capstone course
- Interdisciplinary capstone course
- Comprehensive exam
- Exhibition of performing, musical, or visual arts
- Internship
- Senior thesis/undergraduate research paper
- Other (please specify)

10. If you offered more than one senior capstone experience, select the one with the highest total senior enrollment on your campus during the 2010-2011 academic year:

- Discipline-based capstone course
- Interdisciplinary capstone course
- Comprehensive exam
- Exhibition of performing, musical, or visual arts
- Internship
- Senior thesis/undergraduate research paper
- Other (please specify)

11. What discipline composes the discipline-based capstone course with the highest total senior enrollment on your campus?

- Applied science (e.g., education, engineering, journalism)
- Business
- Formal sciences (e.g., computer sciences, mathematics)
- Humanities (e.g., history, language arts, literature)
- Law
- Natural sciences (e.g., biology, chemistry, physics)
- Performing arts (e.g., visual arts, music, dance)
- Pre-medicine
- Social sciences (e.g., political science, psychology, sociology)
- Other (please specify)

12. What disciplines compose the senior capstone course or experience with the highest total senior enrollment on your campus? (Check all that apply.)

- Applied science (e.g., education, engineering, journalism)
- Business
- Formal sciences (e.g., computer sciences, mathematics)
- Humanities (e.g., history, language arts, literature)
- Law
- Natural sciences (e.g., biology, chemistry, physics)
- Performing arts (e.g., visual arts, music, dance)
- Pre-medicine
- Social sciences (e.g., political science, psychology, sociology)
- Other (please specify)

13. You selected a senior capstone project as your senior capstone experience with the highest total senior enrollment on your campus during the 2010-2011 academic year. Does this senior capstone project have a course component (i.e., are students required to attend an instructor-led class as part of the project)?

- Yes
- No (Go to Q55)

Please answer the remaining questions for the senior capstone course or experience you selected as the highest total senior enrollment during the 2010-2011 academic year.

14. Select the three most important course objectives for the senior capstone course or experience:

- Ability to conduct scholarly research
- Ability to perform independently
- Appreciation of discipline(s)
- Career preparation
- Certification preparation
- Preparation into graduate school
- Increase critical thinking/analytical skills/problem-solving skills
- Increase connections with peers
- Increase satisfaction with academic discipline
- Increase satisfaction with institution
- Increase satisfaction with instructor
- Develop out-of-class student-instructor interaction(s)
- Life skills
- Persistence to graduation
- Professional development (e.g., teamwork, leadership)
- Proficiency in oral communication
- Proficiency in written communication
- Promote use of campus services
- Other (please specify)

15. Select the three most important topics that compose the content of the senior capstone course

or experience:

- Career development
- Certification readiness
- Conducting scholarly research
- Critical thinking/analytical skills/problem-solving skills
- Discipline-specific topic
- Diversity issues
- Engaged alumni/alumni opportunities
- Ethical issues
- Financial literacy
- Graduate school application process
- Leadership skills
- Oral communication skills
- Relationship skills
- Teamwork/group work
- Technology skills
- Writing skills
- Other (please specify)

16. Please select the final component/end-product that is required to complete the senior capstone course or experience: (Check all that apply.)

- Certification within career
- Comprehensive exam
- Exhibit of art/music performance/recital
- Final examination
- Final presentation
- Final project
- Graduate school application
- Portfolio – comprehensive curricular (e.g., ePortfolio)
- Résumé
- Undergraduate research paper/thesis
- No final component/end-product
- Other (please specify)

17. Please indicate which of the following practices are incorporated into the senior capstone course or experience: (Check all that apply.)

- Communication of high expectations
- Cooperative learning
- Course is academically challenging
- Diversity experiences
- Emphasis on time on task and submitting work
- Instructor encouragement of active learning
- Integrative learning (between courses or between coursework and life)
- Quality of classroom interactions with instructor
- Quality of nonclassroom interactions with instructor
- Positive peer interactions
- Prompt feedback from instructor
- Use of higher order exams and assignments
- Other (please specify)

18. Which students, by category, are required to take the senior capstone course or experience? (Check all that apply.)

- Certain majors
- First-generation students
- Honors students
- International students
- Learning community participants
- Non-traditional-aged students
- Student athletes
- Students within specific disciplines
- Transfer students
- None are required to take it.
- All seniors are required to take it.
- Other (please specify)

19. What is the approximate class size of each senior capstone course or experience section?

- 10 students or fewer
- 11-15
- 16-19
- 20-24
- 25-30
- More than 30 (please indicate)

20. Please indicate the approximate number of sections of this senior capstone course or experience that were offered during the 2010-2011 academic year:

- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 51-60
- 61-70
- 71-80
- 81-90
- 91-100
- More than 100

21. What is the typical length of a section of the senior capstone course or experience?

- Half a semester
- One quarter
- One semester
- One year
- Other (please specify)

22. How is the senior capstone course or experience graded?

- No grade
- Pass/fail
- Letter grade
- Other (please specify)

23. Does the senior capstone course or experience carry academic credit?

- Yes
- No
- I don't know.

24. How many credits does the senior capstone course or experience carry?

- 1
- 2
- 3
- 4
- 5
- More than 5

25. How is the senior capstone course or experience credit applied? (Check all that apply.)

- As an elective
- Toward general education requirements
- Toward major requirements
- Other (please specify)

26. How many total classroom contact hours are there per week in the senior capstone course or experience?

- 1
- 2
- 3
- 4
- 5
- More than 5

27. Are any sections of the senior capstone course/experience linked to one or more other courses?

- Yes
- No
- I don't know.

28. Do any sections incorporate online components?

- Yes
- No
- I don't know.

29. Please describe the online components that are included in the course:

30. Are there any online-only sections?

- Yes
- No
- I don't know.

31. Please indicate the approximate percentage of online-only sections:

- Less than 10%
- 10%-19%
- 20%-29%
- 30%-39%
- 40%-49%
- 50%-59%
- 60%-69%
- 70%-79%
- 80%-89%
- 90%-99%
- 100%

32. Please list up to three elements or aspects of your senior capstone course or experience that you consider innovative or especially successful:

1. _____
2. _____
3. _____

33. Who is the primary instructor of the senior capstone course or experience? (Check all that apply.)

- Academic affairs professionals
- Adjunct faculty
- Full-time, non-tenure-track faculty
- Graduate students
- Student affairs professionals
- Tenure-track faculty
- Undergraduate students
- Other (please specify)

34. If undergraduate students assist in the senior capstone course or experience, what is their role? (Check all that apply.)

- They teach independently.
- They teach as a part of a team.
- They assist the instructor, but do not teach.
- The role is determined by the instructor.
- Other (please specify)

35. Are any seniors intentionally placed in senior capstone course or experience sections taught by their academic advisors?

- Yes
- No
- I don't know.

36. What is the approximate percentage of students placed in sections with their academic advisors?

- Less than 10%
- 10%-19%
- 20%-29%
- 30%-39%
- 40%-49%
- 50%-59%
- 60%-69%
- 70%-79%
- 80%-89%
- 90%-99%
- 100%
- I don't know.

37. Indicate the approximate percentage of sections that are team taught:

- Less than 10%
- 10%-19%
- 20%-29%
- 30%-39%
- 40%-49%
- 50%-59%
- 60%-69%
- 70%-79%
- 80%-89%
- 90%-99%
- 100%
- I don't know.
- No sections are team taught.

38. Is instructor training offered for senior capstone course or experience instructors?

- Yes
- No
- I don't know.

39. Is instructor training required for senior capstone course or experience instructors?

- Yes
- No
- I don't know.

40. How long is new instructor training?

- Half a day or less
- 1 day
- 2 days
- 3 days
- 4 days
- 1 week
- Other (please specify)

41. What campus unit directly administers the senior capstone course or experience?

- Academic affairs
- Academic department(s) (please list)
- Career center
- College or school (e.g., college of liberal arts)
- Office of alumni relations
- Senior program office
- Student affairs
- Other (please specify)

42. Is there a dean/director/coordinator of the senior capstone course or experience?

- Yes
- No
- I don't know.

43. Does the dean/director/coordinator have another position on campus?

- Yes
- No
- I don't know.

44. The dean/director/coordinator's other campus role is as a/an: (Check all that apply.)

- Academic affairs administrator
- Faculty member
- Student affairs administrator
- Other (please specify)

45. Has your senior capstone course or experience been formally assessed or evaluated since spring 2008?

- Yes
- No (Go to Q62)
- I don't know. (Go to Q62)

46. What type of assessment or evaluation was conducted on your senior capstone course or experience? (Check all that apply.)

- Accreditation
- Analysis of institutional data (e.g., GPA, retention rates, persistence to graduation)
- Focus groups with instructors
- Focus groups with students
- Individual interviews with instructors
- Individual interviews with students
- Student course evaluation
- Survey instrument (national or local)

47. What type of survey instrument did your institution use to assess or evaluate the senior capstone course or experience? (Check all that apply.)

- A locally developed (i.e., home-grown or direct) survey
- A national survey (e.g., NSSE, CCSSE, CIRP, EBI)
- I don't know.

48. If you used a national survey, please identify the survey(s): (Check all that apply.)

- Cooperative Institutional Research Program (CIRP) College Senior Survey
- National Survey of Student Engagement (NSSE)
- Wabash National Study of Liberal Arts Education (WNS)
- Other (please specify)

49. Please describe any other types of assessment or evaluation that were conducted:

50. Select three outcome(s) that were measured using the assessment(s) or evaluation(s) listed above:

- Connection to the discipline(s)
- Connections with peers
- Critical thinking/analytical skills/problem-solving skills
- Employment after college
- Entrance into graduate school
- Grade point average
- Oral communication
- Out-of-class student-instructor interaction
- Persistence to graduation
- Satisfaction with campus services
- Satisfaction with institution
- Satisfaction with instructor
- Teamwork/group work
- Written communication
- Other (please specify)

51. Please describe the most significant findings from your assessment and evaluation of senior capstone course or experience outcomes:

52. If you did not administer a senior capstone experience on your campus during the prior academic year, please indicate the reason:

- Lack of funding
- Lack of faculty/staff/administration buy-in
- Limited time
- Senior capstone experiences are not an institutional priority.
- Other (please specify)

53. If you did not administer a senior capstone experience on your campus during the prior academic year, does your institution plan to initiate one?

- Yes, in the next year
- Yes, in the next 2-4 years
- Yes, in the next 5 or more years
- No
- I don't know.

54. If your institution is planning to initiate a senior capstone experience, please indicate which capstone experience your institution is considering: (Check all that apply.)

- Discipline-based capstone course
- Interdisciplinary capstone course
- Comprehensive exam
- Exhibition of performing, musical, or visual arts
- Internship
- Senior thesis/undergraduate research paper
- Unknown
- Other (please specify)

55. You selected a senior capstone project with no course component as your senior capstone experience with the highest total senior enrollment on your campus during the 2010-2011 academic year. Could you please describe your senior capstone project in greater detail (for example, is the project graded, do you establish any learning outcomes, do you assess or evaluate the project)?

56. May a National Resource Center research staff member contact you to discuss your senior capstone project?

- Yes
- No

The capstone experience is defined as a culminating course or project that is discipline-based or interdisciplinary during the students' last year of study.

57. Did your institution—at any department or division level—offer one or more capstone experience(s) during the 2010-2011 academic year?

- Yes
- No
- I don't know.

58. Select the capstone experience(s) that best describes the course or project that exist on your campus: (Check all that apply.)

- Discipline-based capstone course
- Interdisciplinary capstone course
- Certification within career
- Comprehensive exam
- Exhibition of performing, musical, or visual arts
- Final presentation
- Internship
- Portfolio
- Preparation for transfer to four-year institution
- Senior thesis/undergraduate research paper
- Service-learning/community service project
- Other (please specify)

59. What is the approximate percentage of students who enrolled/participated in a capstone experience(s) on your campus?

- Less than 10%
- 10%-19%
- 20%-29%
- 30%-39%
- 40%-49%
- 50%-59%
- 60%-69%
- 70%-79%
- 80%-89%
- 90%-99%
- 100%
- I don't know.

60. Could you please describe your course or project in greater detail for the capstone experience with the highest total student enrollment during the 2010-2011 academic year (for example, is there a required course component, is the course or project graded, do you establish any learning outcomes, who instructs the course or project, do you assess or evaluate the course or project, etc.)?

61. May a National Resource Center research staff member contact you to discuss your capstone experience?

- Yes
- No

62. It is our practice to make available specific and general information gathered from this survey. In general, findings from the survey are reported in aggregate, but we may identify individual institutions that have agreed to allow their responses to be shared on request. Please select the appropriate response.

- You may share my survey responses.
- Please do not share my survey responses.

Appendix C: Respondents to the 2011 National Survey of Senior Capstone Experiences⁴

Institution	City	State
Albany State University	Albany	Georgia
Allegheny College	Meadville	Pennsylvania
Anderson University	Anderson	Indiana
Arizona Christian University	Phoenix	Arizona
Augustana College	Rock Island	Illinois
Baptist Bible College	Springfield	Missouri
Bellarmino University	Louisville	Kentucky
Bethany College	Bethany	West Virginia
Bluffton University	Bluffton	Ohio
Brenau University	Gainesville	Georgia
Brandeis University	Waltham	Massachusetts
Bryn Athyn College	Bryn Athyn	Pennsylvania
California State University, Fullerton	Fullerton	California
California State University, San Marcos	San Marcos	California
Chatham University	Pittsburgh	Pennsylvania
Clarkson University	Potsdam	New York
Cleary University	Ann Arbor	Michigan
College of Charleston	Charleston	South Carolina
College of Saint Benedict/Saint John's University	Collegeville	Minnesota
College of the Desert	Palm Desert	California
Copper Mountain College	Joshua Tree	California
Cornerstone University	Grand Rapids	Michigan
Davis College	Toledo	Ohio
Dillard University	New Orleans	Louisiana

⁴This is a partial list ($n = 127$) of total respondents ($N = 276$). Institutions were provided the opportunity to opt-out of being publicly identified as a survey respondent.

Institution	City	State
Duke University	Durham	North Carolina
Elon University	Elon	North Carolina
Emporia State University	Emporia	Kansas
Evangel University	Springfield	Missouri
Family of Faith College	Shawnee	Oklahoma
Florida State University	Tallahassee	Florida
Franklin Pierce University	Rindge	New Hampshire
Frostburg State University	Frostburg	Maryland
Gettysburg College	Gettysburg	Pennsylvania
Grand Valley State University	Allendale	Michigan
Hanover College	Hanover	Indiana
Hendrix College	Conway	Arkansas
Hollins University	Roanoke	Virginia
Holy Cross College	Notre Dame	Indiana
Hope College	Holland	Michigan
Horry Georgetown Technical College	Conway	South Carolina
Indian River State College	Fort Pierce	Florida
Indiana Tech	Fort Wayne	Indiana
Indiana University of Pennsylvania	Indiana	Pennsylvania
Isothermal Community College	Spindale	North Carolina
J. F. Ingram State Technical College	Deatsville	Alabama
Kalamazoo College	Kalamazoo	Michigan
Kentucky Christian University	Grayson	Kentucky
Laguna College of Art and Design	Laguna Beach	California
Lake Forest College	Lake Forest	Illinois
Langston University	Langston	Oklahoma
Lanier Technical College	Oakwood	Georgia
Laredo Community College	Laredo	Texas
Lawrence University	Appleton	Wisconsin
LeMoyne-Owen College	Memphis	Tennessee
Linfield College	McMinnville	Oregon
Madisonville Community College	Madisonville	Kentucky
Madonna University	Livonia	Michigan
Martin University	Indianapolis	Indiana
Mid Michigan Community College	Harrison	Michigan
Mid-Plains Community College	North Platte	Nebraska
Montreat College	Montreat	North Carolina
Moody Bible Institute	Chicago	Illinois

Institution	City	State
Morningside College	Sioux City	Iowa
Mount Mercy University	Cedar Rapids	Iowa
Nassau Community College	Garden City	New York
National University	San Diego	California
New College of Florida	Sarasota	Florida
New England College	Henniker	New Hampshire
North Central Michigan College	Petoskey	Michigan
North Dakota State University	Fargo	North Dakota
Northern State University	Aberdeen	South Dakota
Northwest State Community College	Archbold	Ohio
Northwest University	Kirkland	Washington
Northwestern College	Chicago	Illinois
Oral Roberts University	Tulsa	Oklahoma
Pacific Lutheran University	Tacoma	Washington
Patten University	Oakland	California
Paul Quinn College	Dallas	Texas
Point University (formerly Atlanta Christian College)	East Point	Georgia
Polk State College	Winter Haven	Florida
Portland State University	Portland	Oregon
Prescott College	Prescott	Arizona
Rochester Community and Technical College	Rochester	Minnesota
Saint Joseph's College	Rensselaer	Indiana
Saint Michael's College	Colchester	Vermont
San Juan College	Farmington	New Mexico
Santa Fe Community College	Santa Fe	New Mexico
Shawnee State University	Portsmouth	Ohio
Sojourner-Douglass College	Baltimore	Maryland
South Florida Community College	Avon Park	Florida
Southern West Virginia Community and Technical College	Mount Gay	West Virginia
St. Ambrose University	Davenport	Iowa
Sterling College	Craftsbury Common	Vermont
Texas Tech University	Lubbock	Texas
The City College of The City University of New York	New York	New York
Trinity Christian College	Palos Heights	Illinois
Trinity College of Nursing and Health Sciences	Rock Island	Illinois
Trinity International University	Deerfield	Illinois
Tulane University	New Orleans	Louisiana

Institution	City	State
University of Cincinnati	Cincinnati	Ohio
University of Louisville	Louisville	Kentucky
University of Maine at Augusta	Augusta	Maine
University of Massachusetts Amherst	Amherst	Massachusetts
University of Massachusetts Lowell	Lowell	Massachusetts
University of Massachusetts School of Medicine	Worcester	Massachusetts
University of Mount Union	Alliance	Ohio
University of Nevada, Reno	Reno	Nevada
University of North Carolina Wilmington	Wilmington	North Carolina
University of North Texas	Denton	Texas
University of Pennsylvania	Philadelphia	Pennsylvania
University of South Carolina Aiken	Aiken	South Carolina
University of Tampa	Tampa	Florida
University of the District of Columbia	Washington	District of Columbia
University of the Southwest	Hobbs	New Mexico
University of Wisconsin - Madison	Madison	Wisconsin
University of Wisconsin - Platteville	Platteville	Wisconsin
University of Wyoming	Laramie	Wyoming
Ursuline College	Pepper Pike	Ohio
Valparaiso University	Valparaiso	Indiana
Wake Technical Community College	Raleigh	North Carolina
Warner Pacific College	Portland	Oregon
Warren Wilson College	Swannanoa	North Carolina
West Hills College Lemoore	Lemoore	California
West Kentucky Community and Technical College	Paducah	Kentucky
Western Carolina University	Cullowhee	North Carolina
Western State College of Colorado	Gunnison	Colorado
Worcester Polytechnic Institute	Worcester	Massachusetts

**Appendix D: Comprehensive Frequency
Distribution Tables for the 2011 National
Survey of Senior Capstone Experiences**

Table continued from p. 55

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q11	What discipline composes the discipline-based capstone course with the highest total senior enrollment on your campus?														
	Applied science	16	26.2	12	14.3	9	14.5	7	24.1	6	26.1	6	20.7	28	19.1
	Business	21	34.4	26	31.0	23	37.1	6	20.7	6	26.1	12	41.4	48	32.7
	Formal sciences	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Humanities	1	1.6	14	16.7	8	12.9	5	17.2	2	8.7	0	0.0	15	10.2
	Law	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Natural sciences	3	4.9	9	10.7	6	9.7	4	13.8	0	0.0	1	3.5	12	8.2
	Performing arts	1	1.6	1	1.2	2	3.2	0	0.0	0	0.0	0	0.0	2	1.4
	Premedicine	1	1.6	0	0.0	0	0.0	0	0.0	1	4.4	0	0.0	1	0.7
	Social sciences	10	16.4	14	16.7	7	11.3	6	20.7	4	17.4	5	17.2	24	16.3
	Other	8	13.1	8	9.5	7	11.3	1	3.5	4	17.4	5	17.2	17	11.6
	Total	61	100.0	84	100.0	62	100.0	29	100.0	23	100.0	29	100.0	147	100.0
Q12	What disciplines compose the senior capstone course or experience (interdisciplinary capstone course) with the highest total senior enrollment on your campus? (Check all that apply)														
	Applied science	2	20.0	8	34.8	3	20.0	4	66.7	1	20.0	2	33.3	10	30.3
	Business	6	60.0	7	30.4	5	33.3	1	16.7	5	100.0	2	33.3	13	39.4
	Formal sciences	1	10.0	1	4.3	1	6.7	0	0.0	0	0.0	1	16.7	2	6.1
	Humanities	5	50.0	12	52.2	9	60.0	2	33.3	4	80.0	2	33.3	17	51.5
	Law	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Natural sciences	4	40.0	6	26.1	4	26.7	1	16.7	3	60.0	2	33.3	10	30.3
	Performing arts	1	10.0	6	26.1	3	20.0	2	33.3	1	20.0	1	16.7	7	21.2
	Premedicine	0	0.0	1	4.3	1	6.7	0	0.0	0	0.0	0	0.0	1	3.0
	Social sciences	4	40.0	9	39.1	5	33.3	3	50.0	4	80.0	1	16.7	13	39.4
	Other	3	30.0	6	26.1	5	33.3	0	0.0	0	0.0	3	50.0	9	27.3
Q13	Does the senior capstone project have a course component (are students required to attend an instructor-led class as part of the project)?														
	Yes	10	62.5	31	62.0	23	65.7	7	46.7	8	72.7	4	66.7	42	62.7
	No	6	37.5	19	38.0	12	34.3	8	53.3	3	27.3	2	33.3	25	37.3
	Total	16	100.0	50	100.0	35	100.0	15	100.0	11	100.0	6	100.0	67	100.0

Table continues on p. 57

Table continued from p. 57

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q14	Select the three most important course objectives for the senior capstone course or experience: (Cont.)														
	Professional development	33	33.7	29	17.5	18	15.7	15	28.3	12	25.5	18	38.3	63	23.5
	Proficiency in oral communication	10	10.2	30	18.1	19	16.5	7	13.2	4	8.5	8	17.0	40	14.9
	Proficiency in written communication	20	20.4	40	24.1	29	25.2	9	17.0	10	21.3	11	23.4	61	22.8
	Promote use of campus services	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Other	9	9.2	19	11.4	14	12.2	6	11.3	5	10.6	3	6.4	28	10.4
Q15	Select the three most important topics that compose the content of the senior capstone course or experience:														
	Career development	16	16.3	27	16.3	24	20.9	4	7.5	9	19.1	5	10.6	44	16.4
	Certification readiness	4	4.1	5	3.0	6	5.2	0	0.0	2	4.3	1	2.1	9	3.4
	Conducting scholarly research	19	19.4	51	30.7	35	30.4	11	20.8	12	25.5	11	23.4	71	26.5
	Critical thinking, analytical skills, or problem-solving skills	47	48.0	91	54.8	64	55.7	25	47.2	20	42.6	27	57.4	139	51.9
	Discipline-specific topic	43	43.9	70	42.2	50	43.5	23	43.4	17	36.2	22	46.8	116	43.3
	Diversity issues	1	1.0	2	1.2	2	1.7	0	0.0	0	0.0	1	2.1	3	1.1
	Engaged alumni or alumni opportunities	1	1.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.1	1	0.4
	Ethical issues	5	5.1	25	15.1	17	14.8	5	9.4	2	4.3	5	10.6	30	11.2
	Financial literacy	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Graduate school application process	0	0.0	2	1.2	1	0.9	1	1.9	0	0.0	0	0.0	2	0.7
	Leadership skills	11	11.2	10	6.0	10	8.7	1	1.9	5	10.6	7	14.9	23	8.6
	Oral communication skills	6	6.1	19	11.4	14	12.2	3	5.7	4	8.5	3	6.4	25	9.3
	Relationship skills	1	1.0	2	1.2	3	2.6	0	0.0	0	0.0	0	0.0	3	1.1
	Teamwork or group work	28	28.6	17	10.2	14	12.2	6	11.3	8	17.0	16	34.0	45	16.8

Table continues on p. 59

Table continued from p. 60

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q18	Which students, by category, are required to take the senior capstone course or experience? (Check all that apply.)														
	Certain majors	39	39.8	48	28.9	34	29.6	14	26.4	17	36.2	20	42.6	88	32.8
	First-generation students	0	0.0	1	0.6	1	0.9	0	0.0	0	0.0	0	0.0	1	0.4
	Honors students	21	21.4	17	10.2	10	8.7	9	17.0	6	12.8	12	25.5	38	14.2
	International students	0	0.0	1	0.6	1	0.9	0	0.0	0	0.0	0	0.0	1	0.4
	Learning community participants	0	0.0	3	1.8	1	0.9	0	0.0	2	4.3	0	0.0	3	1.1
	Non-traditional-aged students	0	0.0	1	0.6	1	0.9	0	0.0	0	0.0	0	0.0	1	0.4
	Student athletes	0	0.0	2	1.2	1	0.9	0	0.0	1	2.1	0	0.0	2	0.7
	Students within specific disciplines	15	15.3	23	13.9	15	13.0	8	15.1	6	12.8	7	14.9	38	14.2
	Transfer students	0	0.0	1	0.6	1	0.9	0	0.0	0	0.0	0	0.0	1	0.4
	None are required to take it.	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	All seniors are required to take it.	29	29.6	76	45.8	54	47.0	21	39.6	16	34.0	15	31.9	107	39.9
	Other	5	5.1	4	2.4	3	2.6	0	0.0	2	4.3	3	6.4	9	3.4
Q19	What is the approximate class size of each senior capstone course or experience section?														
	10 students or fewer	7	10.1	25	19.5	20	21.7	5	14.7	3	9.1	2	5.6	32	16.0
	11-15	7	10.1	46	35.9	30	32.6	7	20.6	11	33.3	6	16.7	55	27.5
	16-19	15	21.7	30	23.4	24	26.1	10	29.4	4	12.1	6	16.7	45	22.5
	20-24	16	23.2	20	15.6	14	15.2	7	20.6	5	15.2	10	27.8	36	18.0
	25-30	13	18.8	4	3.1	2	2.2	3	8.8	8	24.2	5	13.9	18	9.0
	More than 30	11	15.9	3	2.3	2	2.2	2	5.9	2	6.1	7	19.4	14	7.0
	Total	69	100.0	128	100.0	92	100.0	34	100.0	33	100.0	36	100.0	200	100.0

Table continues on p. 62

Table continued from p. 61

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q20	Please indicate the approximate number of sections of this senior capstone course or experience that were offered during the 2010/2011 academic year:														
	1-10	23	37.1	58	47.5	51	57.3	11	39.3	10	31.3	8	23.5	82	43.9
	11-20	7	11.3	27	22.1	23	25.8	3	10.7	5	15.6	3	8.8	34	18.2
	21-30	5	8.1	16	13.1	10	11.2	5	17.9	3	9.4	2	5.9	21	11.2
	31-40	5	8.1	9	7.4	4	4.5	3	10.7	2	6.3	6	17.7	15	8.0
	41-50	9	14.5	4	3.3	1	1.1	3	10.7	6	18.8	3	8.8	14	7.5
	51-60	0	0.0	1	0.8	0	0.0	1	3.6	0	0.0	0	0.0	1	0.5
	61-70	0	0.0	1	0.8	0	0.0	0	0.0	1	3.1	0	0.0	1	0.5
	71-80	1	1.6	0	0.0	0	0.0	0	0.0	0	0.0	1	2.9	1	0.5
	81-90	3	4.8	0	0.0	0	0.0	0	0.0	0	0.0	3	8.8	3	1.6
	91-100	3	4.8	4	3.3	0	0.0	1	3.6	4	12.5	2	5.9	7	3.7
	More than 100	6	9.7	2	1.6	0	0.0	1	3.6	1	3.1	6	17.7	8	4.3
	Total	62	100.0	122	100.0	89	100.0	28	100.0	32	100.0	34	100.0	187	100.0
Q21	What is the typical length of a section of the senior capstone course or experience?														
	Half a semester	0	0.0	1	0.8	1	1.1	0	0.0	1	2.9	0	0.0	2	1.0
	One quarter	3	4.3	3	2.3	1	1.1	1	2.8	2	5.9	2	5.6	6	3.0
	One semester	60	85.7	107	83.0	76	83.5	33	91.7	26	76.5	29	80.6	168	83.6
	One year	5	7.1	9	7.0	8	8.8	1	2.8	2	5.9	3	8.3	14	7.0
	Other	2	2.9	9	7.0	5	5.5	1	2.8	3	8.8	2	5.6	11	5.5
	Total	70	100.0	129	100.0	91	100.0	36	100.0	34	100.0	36	100.0	201	100.0
Q22	How is the senior capstone course or experience graded?														
	No grade	0	0.0	1	0.8	1	1.1	0	0.0	0	0.0	0	0.0	1	0.5
	Pass/fail	1	1.4	7	5.4	4	4.4	0	0.0	2	5.9	2	5.6	8	4.0
	Letter grade	64	90.1	115	89.2	84	92.3	33	91.7	28	82.4	31	86.1	181	89.6
	Other	6	8.5	6	4.7	2	2.2	3	8.3	4	11.8	3	8.3	12	5.9
	Total	71	100.0	129	100.0	91	100.0	36	100.0	34	100.0	36	100.0	202	100.0

Table continues on p. 63

Table continued from p. 62

Item	Survey question	Senior class size														
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total		
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Q23	Does the senior capstone course or experience carry academic credit?															
	Yes	70	98.6	127	98.5	90	98.9	35	97.2	34	100.0	36	97.3	200	98.5	
	No	1	1.4	1	0.8	1	1.1	0	0.0	0	0.0	1	2.7	2	1.0	
	I don't know.	0	0.0	1	0.8	0	0.0	1	2.8	0	0.0	0	0.0	1	0.5	
	Total	71	100.0	129	100.0	91	100.0	36	100.0	34	100.0	37	100.0	203	100.0	
Q24	How many credits does the senior capstone course or experience carry?															
	1	0	0.0	11	8.8	6	6.7	2	5.9	3	9.1	0	0.0	11	5.6	
	2	1	1.5	2	1.6	3	3.4	0	0.0	0	0.0	0	0.0	3	1.5	
	3	56	82.4	79	63.2	58	65.2	23	67.7	24	72.7	28	80.0	138	70.4	
	4	2	2.9	25	20.0	17	19.1	6	17.7	3	9.1	1	2.9	27	13.8	
	5	1	1.5	0	0.0	0	0.0	0	0.0	1	3.0	0	0.0	1	0.5	
	More than 5	8	11.8	8	6.4	5	5.6	3	8.8	2	6.1	6	17.1	16	8.2	
	Total	68	100.0	125	100.0	89	100.0	34	100.0	33	100.0	35	100.0	196	100.0	
Q25	How is the senior capstone course or experience credit applied? (Check all that apply.)															
	As an elective	3	3.1	6	3.6	2	1.7	3	5.7	2	4.3	2	4.3	9	3.4	
	Toward general education requirements	10	10.2	32	19.3	22	19.1	5	9.4	6	12.8	8	17.0	42	15.7	
	Toward major requirements	65	66.3	101	60.8	75	65.2	30	56.6	30	63.8	30	63.8	169	63.1	
	Other	4	4.1	2	1.2	1	0.9	1	1.9	1	2.1	3	6.4	6	2.2	

Table continues on p. 64

Table continued from p. 63

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q26	How many total classroom contact hours are there per week in the senior capstone course or experience?														
	1	1	1.5	10	8.3	9	10.2	2	6.5	1	3.2	0	0.0	12	6.3
	2	4	5.9	7	5.8	6	6.8	1	3.2	3	9.7	1	2.8	11	5.8
	3	55	80.9	89	73.6	63	71.6	24	77.4	23	74.2	30	83.3	145	75.9
	4	4	5.9	7	5.8	5	5.7	2	6.5	3	9.7	1	2.8	11	5.8
	5	0	0.0	2	1.7	1	1.1	1	3.2	0	0.0	0	0.0	2	1.1
	More than 5	4	5.9	6	5.0	4	4.6	1	3.2	1	3.2	4	11.1	10	5.2
	Total	68	100.0	121	100.0	88	100.0	31	100.0	31	100.0	36	100.0	191	100.0
Q27	Are any sections of the senior capstone course or experience linked to one or more other courses?														
	Yes	24	34.3	46	36.2	29	32.2	14	40.0	8	24.2	16	43.2	70	35.0
	No	29	41.4	62	48.8	46	51.1	15	42.9	15	45.5	16	43.2	94	47.0
	I don't know.	17	24.3	19	15.0	15	16.7	6	17.1	10	30.3	5	13.5	36	18.0
	Total	70	100.0	127	100.0	90	100.0	35	100.0	33	100.0	37	100.0	200	100.0
Q28	Do any sections incorporate online components?														
	Yes	36	53.7	42	32.8	30	33.3	12	34.3	15	45.5	20	55.6	79	39.9
	No	10	14.9	49	38.3	33	36.7	11	31.4	8	24.2	7	19.4	60	30.3
	I don't know.	21	31.3	37	28.9	27	30.0	12	34.3	10	30.3	9	25.0	59	29.8
	Total	67	100.0	128	100.0	90	100.0	35	100.0	33	100.0	36	100.0	198	100.0
Q30	Are there any online-only sections?														
	Yes	19	27.1	13	10.2	9	9.9	3	8.6	5	15.2	14	37.8	32	15.9
	No	33	47.1	105	82.0	73	80.2	29	82.9	20	60.6	15	40.5	140	69.7
	I don't know.	18	25.7	10	7.8	9	9.9	3	8.6	8	24.2	8	21.6	29	14.4
	Total	70	100.0	128	100.0	91	100.0	35	100.0	33	100.0	37	100.0	201	100.0

Table continues on p. 65

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q31	Please indicate the approximate percentage of online-only sections:														
	Less than 10%	14	73.7	5	38.5	4	44.4	3	100.0	4	80.0	7	50.0	19	59.4
	10%-19%	3	15.8	0	0.0	0	0.0	0	0.0	0	0.0	3	21.4	3	9.4
	20%-29%	0	0.0	1	7.7	1	11.1	0	0.0	0	0.0	0	0.0	1	3.1
	30%-39%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	40%-49%	1	5.3	3	23.1	2	22.2	0	0.0	1	20.0	1	7.1	4	12.5
	50%-59%	1	5.3	1	7.7	1	11.1	0	0.0	0	0.0	1	7.1	2	6.3
	60%-69%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	70%-79%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	80%-89%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	90%-99%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	100%	0	0.0	3	23.1	1	11.1	0	0.0	0	0.0	2	14.3	3	9.4
	Total	19	100.0	13	100.0	9	100.0	3	100.0	5	100.0	14	100.0	32	100.0

Q33 Who is the primary instructor of the senior capstone course or experience? (Check all that apply.)

Academic affairs professionals	3	3.1	8	4.8	6	5.2	2	3.8	3	6.4	0	0.0	11	4.1
Adjunct faculty	11	11.2	17	10.2	7	6.1	3	5.7	8	17.0	9	19.1	28	10.4
Full-time, non-tenure-track faculty	12	12.2	37	22.3	22	19.1	8	15.1	8	17.0	11	23.4	49	18.3
Graduate students	2	2.0	0	0.0	0	0.0	0	0.0	0	0.0	2	4.3	2	0.7
Student affairs professionals	0	0.0	2	1.2	1	0.9	0	0.0	1	2.1	0	0.0	2	0.7
Tenure-track faculty	62	63.3	91	54.8	65	56.5	28	52.8	27	57.4	30	63.8	155	57.8
Undergraduate students	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Other	7	7.1	13	7.8	9	7.8	2	3.8	4	8.5	4	8.5	20	7.5

Table continued from p. 66

Item	Survey question	Senior class size														
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total		
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Q37	Indicate the approximate percentage of sections that are team taught:															
	Less than 10%	29	43.3	52	43.0	35	40.7	14	42.4	14	45.2	18	50.0	83	43.7	
	10%-19%	3	4.5	13	10.7	10	11.6	1	3.0	1	3.2	4	11.1	16	8.4	
	20%-29%	1	1.5	3	2.5	2	2.3	1	3.0	0	0.0	1	2.8	4	2.1	
	30%-39%	0	0.0	1	0.8	1	1.2	0	0.0	0	0.0	0	0.0	1	0.5	
	40%-49%	1	1.5	1	0.8	1	1.2	0	0.0	1	3.2	0	0.0	2	1.1	
	50%-59%	2	3.0	5	4.1	5	5.8	0	0.0	1	3.2	1	2.8	7	3.7	
	60%-69%	0	0.0	1	0.8	1	1.2	0	0.0	0	0.0	0	0.0	1	0.5	
	70%-79%	0	0.0	2	1.7	1	1.2	1	3.0	0	0.0	0	0.0	2	1.1	
	80%-89%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	90%-99%	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	100%	4	6.0	7	5.8	6	7.0	2	6.1	2	6.5	1	2.8	11	5.8	
	I don't know.	16	23.9	13	10.7	7	8.1	8	24.2	6	19.4	7	19.4	29	15.3	
	No sections are team taught.	11	16.4	23	19.0	17	19.8	6	18.2	6	19.4	4	11.1	34	17.9	
	Total	67	100.0	121	100.0	86	100.0	33	100.0	31	100.0	36	100.0	190	100.0	
Q38	Is instructor training offered for senior capstone course or experience instructors?															
	Yes	19	27.5	35	28.5	26	29.9	8	24.2	9	28.1	11	29.7	54	27.8	
	No	33	47.8	69	56.1	47	54.0	20	60.6	17	53.1	16	43.2	103	53.1	
	I don't know.	17	24.6	19	15.5	14	16.1	5	15.2	6	18.8	10	27.0	37	19.1	
	Total	69	100.0	123	100.0	87	100.0	33	100.0	32	100.0	37	100.0	194	100.0	

Table continues on p. 68

Table continued from p. 71

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q52	If you did not administer a senior capstone experience on your campus during the prior academic year, please indicate the reason:														
	Lack of funding	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Lack of faculty/staff/administration buy-in	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Limited time	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Senior capstone experiences are not an institutional priority	1	33.3	1	33.3	0	0.0	1	100.0	1	33.3	0	0.0	2	33.3
	Other	2	66.7	2	66.7	2	100.0	0	0.0	2	66.7	0	0.0	4	66.7
	Total	3	100.0	3	100.0	2	100.0	1	100.0	3	100.0	0	0.0	6	100.0
Q53	If you did not administer a senior capstone experience on your campus during the prior academic year, does your institution plan to initiate one?														
	Yes, in the next year	1	25.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	1	14.3
	Yes, in the next 2-4 years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Yes, in the next 5 or more years	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	No	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	I don't know.	3	75.0	3	100.0	1	50.0	1	100.0	4	100.0	0	0.0	6	85.7
	Total	4	100.0	3	100.0	2	100.0	1	100.0	4	100.0	0	0.0	7	100.0
Q54	If your institution is planning to initiate a senior capstone experience, please indicate which capstone experience your institution is considering: (Check all that apply.)														
	Discipline-based capstone course	1	25.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	1	14.3
	Interdisciplinary capstone course	1	25.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	1	14.3
	Comprehensive exam	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0

Table continues on p. 73

Table continued from p. 72

Item	Survey question	Senior class size														
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total		
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Q54	If your institution is planning to initiate a senior capstone experience, please indicate which capstone experience your institution is considering: (Check all that apply.)															
	Exhibition of performing, musical, or visual arts	1	25.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	1	14.3	
	Internship	1	25.0	0	0.0	1	50.0	0	0.0	0	0.0	0	0.0	1	14.3	
	Senior thesis or undergraduate research paper	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	Unknown	2	50.0	2	66.7	1	50.0	0	0.0	3	75.0	0	0.0	4	57.1	
	Other	1	25.0	1	33.3	2	100.0	0	0.0	0	0.0	0	0.0	2	28.6	
<i>Two-Year Institutions (Q57-Q59)</i>																
Q57	Did your institution—at any department or division-level—offer one or more capstone experience(s) during the 2010-2011 academic year?															
	Yes	25	62.5	2	100.0	-	-	-	-	-	-	-	-	27	62.8	
	No	12	30.0	0	0.0	-	-	-	-	-	-	-	-	12	27.9	
	I don't know.	3	7.5	0	0.0	-	-	-	-	-	-	-	-	4	9.3	
	Total	40	100.0	2	100.0	-	-	-	-	-	-	-	-	43	100.0	
Q58	Select the capstone experience(s) that best describes the course/project that exists on your campus: (Check all that apply.)															
	Discipline-based capstone course	15	60.0	1	50.0	-	-	-	-	-	-	-	-	16	59.3	
	Interdisciplinary capstone course	4	16.0	1	50.0	-	-	-	-	-	-	-	-	5	18.5	
	Certification within career	5	20.0	0	0.0	-	-	-	-	-	-	-	-	5	18.5	
	Comprehensive exam	5	20.0	1	50.0	-	-	-	-	-	-	-	-	6	22.2	
	Exhibition of performing, musical, or visual arts	2	8.0	0	0.0	-	-	-	-	-	-	-	-	2	7.4	
	Final presentation	1	4.0	1	50.0	-	-	-	-	-	-	-	-	2	7.4	

Table continues on p. 74

Table continued from p. 74

Item	Survey question	Public		Private		Senior class size						Total	
		Freq.	%	Freq.	%	Less than 500	501-1,000	1,001-3,000	3,001+	Freq.	%	Freq.	%
Q58	Select the capstone experience(s) that best describes the course/project that exists on your campus: (Cont.)												
	Internship	10	40.0	1	50.0	-	-	-	-	-	-	11	40.7
	Portfolio	8	32.0	1	50.0	-	-	-	-	-	-	9	33.3
	Preparation for transfer to four-year institution	3	12.0	0	0.0	-	-	-	-	-	-	3	11.1
	Senior thesis or undergraduate research paper	0	0.0	0	0.0	-	-	-	-	-	-	0	0.0
	Service-learning or community service project	2	8.0	2	100.0	-	-	-	-	-	-	4	14.8
	Other	2	8.0	0	0.0	-	-	-	-	-	-	2	7.4
Q59	What is the approximate percentage of students who enrolled/participated in a capstone experience(s) on your campus?												
	Less than 10%	4	16.7	0	0.0	-	-	-	-	-	-	4	15.4
	10%-19%	4	16.7	0	0.0	-	-	-	-	-	-	4	15.4
	20%-29%	3	12.5	0	0.0	-	-	-	-	-	-	3	11.5
	30%-39%	1	4.2	1	50.0	-	-	-	-	-	-	2	7.7
	40%-49%	1	4.2	0	0.0	-	-	-	-	-	-	1	3.9
	50%-59%	2	8.3	0	0.0	-	-	-	-	-	-	2	7.7
	60%-69%	1	4.2	0	0.0	-	-	-	-	-	-	1	3.9
	70%-79%	2	8.3	0	0.0	-	-	-	-	-	-	2	7.7
	80%-89%	1	4.2	0	0.0	-	-	-	-	-	-	1	3.9
	90%-99%	1	4.2	1	50.0	-	-	-	-	-	-	2	7.7
	100%	0	0.0	0	0.0	-	-	-	-	-	-	0	0.0
	I don't know.	4	16.7	0	0.0	-	-	-	-	-	-	4	15.4
	Total	24	100.0	2	100.0	-	-	-	-	-	-	26	100.0

Table continues on p. 75

Table continued from p. 74

Item	Survey question	Senior class size													
		Public		Private		Less than 500		501-1,000		1,001-3,000		3,001+		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q62	Release of data:														
	You may share my survey responses.	56	48.9	70	48.0	48	47.1	19	47.5	17	43.6	19	48.7	127	47.9
	Please do not share my survey responses.	61	52.1	76	52.1	54	52.9	21	52.5	22	56.4	20	51.3	138	52.1
	Total	117	100.0	146	100.0	102	100.0	40	100.0	39	100.0	39	100.0	265	100.0

All Responses by Capstone Type

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q7	What is the approximate percentage of seniors who enrolled/participated in a senior capstone experience(s) on your campus?								
	Less than 10%	3	2.1	0	0.0	2	2.9	5	2.1
	10% - 19%	7	4.9	2	6.1	4	5.9	13	5.4
	20% - 29%	9	6.3	0	0.0	8	11.8	17	7.0
	30% - 39%	7	4.9	1	3.0	1	1.5	9	3.7
	40% - 49%	4	2.8	1	3.0	2	2.9	7	2.9
	50% - 59%	9	6.3	1	3.0	3	4.4	13	5.4
	60% - 69%	11	7.8	1	3.0	2	2.9	14	5.8
	70% - 79%	10	7.0	1	3.0	2	2.9	13	5.4
	80% - 89%	13	9.2	1	3.0	6	8.8	20	8.2
	90% - 99%	12	8.5	5	15.2	4	5.9	21	8.6
	100%	43	30.3	20	60.6	23	33.8	86	35.4
	I don't know.	14	9.9	0	0.0	11	16.2	25	10.3
	Total	142	100.0	33	100.0	68	100.0	243	100.0
Q8	Approximately how many years has a senior capstone experience(s) been offered on your campus?								
	1 year or less	2	1.4	0	0.0	0	0.0	2	0.8
	2 years	0	0.0	1	3.0	0	0.0	1	0.4
	3 - 10 years	56	37.8	11	33.3	17	24.6	84	33.6
	More than 10 years	90	60.8	21	63.6	52	75.4	163	65.2
	Total	148	100.0	33	100.0	69	100.0	250	100.0

Table continues on p. 77

Table continued from p. 76

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q9	Select the senior capstone experience(s) that best describes the course/project that exist on your campus: (Check all that apply.)								
	Discipline-based capstone course	150	98.7	21	63.6	56	80.0	227	84.7
	Interdisciplinary capstone course	38	25.0	33	100.0	18	25.7	89	33.2
	Comprehensive exam	32	21.1	3	9.1	19	27.1	54	20.1
	Exhibition of performing, musical, or visual arts	94	61.8	16	48.5	46	65.7	156	58.2
	Internship	77	50.7	10	30.3	38	54.3	125	46.6
	Senior thesis or undergraduate research paper	102	67.1	15	45.5	56	80.0	173	64.6
	Other (please specify)	9	5.9	1	3.0	9	12.9	19	7.1
Q11	What discipline composes the discipline-based capstone course with the highest total senior enrollment on your campus?								
	Applied science	28	19.1	-	-	-	-	28	19.1
	Business	48	32.7	-	-	-	-	48	32.7
	Formal sciences	0	0.0	-	-	-	-	0	0.0
	Humanities	15	10.2	-	-	-	-	15	10.2
	Law	0	0.0	-	-	-	-	0	0.0
	Natural sciences	12	8.2	-	-	-	-	12	8.2
	Performing arts	2	1.4	-	-	-	-	2	1.4
	Premedicine	1	0.7	-	-	-	-	1	0.7
	Social sciences	24	16.3	-	-	-	-	24	16.3
	Other	17	11.6	-	-	-	-	17	11.6
	Total	147	100.0	-	-	-	-	147	100.0

Table continues on p. 78

Table continued from p. 77

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q12	What disciplines compose the senior capstone course or experience (interdisciplinary capstone course with the highest total senior enrollment on your campus? (Check all that apply.)								
	Applied science	-	-	10	30.3	-	-	10	3.7
	Business	-	-	13	39.4	-	-	13	4.9
	Formal sciences	-	-	2	6.1	-	-	2	0.7
	Humanities	-	-	17	51.5	-	-	17	6.3
	Law	-	-	0	0.0	-	-	0	0.0
	Natural sciences	-	-	10	30.3	-	-	10	3.7
	Performing arts	-	-	7	21.2	-	-	7	2.6
	Premedicine	-	-	1	3.0	-	-	1	0.4
	Social sciences	-	-	13	39.4	-	-	13	4.9
	Other	-	-	9	27.3	-	-	9	3.4
Q13	Does the senior capstone project have a course component (e.g., are students required to attend an instructor-led class as part of the project)?								
	Yes	-	-	-	-	42	62.7	42	62.7
	No	-	-	-	-	25	37.3	25	37.3
	Total	-	-	-	-	67	100.0	67	100.0

Table continues on p. 79

Table continued from p. 78

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q14	Select the three most important course objectives for the senior capstone course or experience:								
	Ability to conduct scholarly research	55	36.2	4	12.1	15	21.4	74	27.6
	Ability to perform independently	34	22.4	2	6.1	14	20.0	50	18.7
	Appreciation of discipline(s)	30	19.7	10	30.3	7	10.0	47	17.5
	Career preparation	50	32.9	4	12.1	13	18.6	67	25.0
	Certification preparation	5	3.3	1	3.0	2	2.9	8	3.0
	Preparation into graduate school	10	6.6	0	0.0	1	1.4	11	4.1
	Increase critical thinking, analytical skills, or problem-solving skills	91	59.9	23	69.7	19	27.1	133	49.6
	Increase connections with peers	0	0.0	0	0.0	0	0.0	0	0.0
	Increase satisfaction with academic discipline	1	0.7	1	3.0	1	1.4	3	1.1
	Increase satisfaction with institution	1	0.7	0	0.0	0	0.0	1	0.4
	Increase satisfaction with instructor	0	0.0	0	0.0	0	0.0	0	0.0
	Develop out-of-class student-instructor interaction(s)	3	2.0	0	0.0	1	1.4	4	1.5
	Life-skills	4	2.6	0	0.0	1	1.4	5	1.9
	Persistence to graduation	0	0.0	0	0.0	1	1.4	1	0.4
	Professional development	48	31.6	7	21.2	8	11.4	63	23.5

Table continues on p. 80

Table continued from p. 79

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q14	Select the three most important course objectives for the senior capstone course or experience: (Cont.)								
	Proficiency in oral communication	21	13.8	9	27.3	10	14.3	40	14.9
	Proficiency in written communication	38	25.0	12	36.4	11	15.7	61	22.8
	Promote use of campus services	0	0.0	0	0.0	0	0.0	0	0.0
	Other	14	9.2	11	33.3	3	4.3	28	10.4
Q15	Select the three most important topics that compose the content of the senior capstone course or experience:								
	Career development	32	21.1	1	3.0	11	15.7	44	16.4
	Certification readiness	5	3.3	1	3.0	3	4.3	9	3.4
	Conducting scholarly research	51	33.6	5	15.2	15	21.4	71	26.5
	Critical thinking, analytical skills, or problem-solving skills	99	65.1	20	60.6	20	28.6	139	51.9
	Discipline-specific topic	84	55.3	8	24.2	24	34.3	116	43.3
	Diversity issues	0	0.0	3	9.1	0	0.0	3	1.1
	Engaged alumni or alumni opportunities	0	0.0	1	3.0	0	0.0	1	0.4
	Ethical issues	13	8.6	13	39.4	4	5.7	30	11.2
	Financial literacy	0	0.0	0	0.0	0	0.0	0	0.0
	Graduate school application process	1	0.7	0	0.0	1	1.4	2	0.7
	Leadership skills	20	13.2	3	9.1	0	0.0	23	8.6
	Oral communication skills	12	7.9	7	21.2	6	8.6	25	9.3
	Relationship skills	1	0.7	2	6.1	0	0.0	3	1.1
	Teamwork or group work	32	21.1	8	24.2	5	7.1	45	16.8
	Technology skills	6	3.9	0	0.0	3	4.3	9	3.4
	Writing skills	35	23.0	10	30.3	11	15.7	56	20.9
	Other	9	5.9	4	12.1	4	5.7	17	6.3

Table continues on p. 81

Table continued from p. 80

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q16	Please select the final component or end-product that is required to complete the senior capstone course or experience: (Check all that apply.)								
	Certification within career	11	7.2	1	3.0	3	4.3	15	5.6
	Comprehensive exam	25	16.4	4	12.1	7	10.0	36	13.4
	Exhibit of art, music performance, or recital	58	38.2	5	15.2	12	17.1	75	28.0
	Final examination	25	16.4	4	12.1	4	5.7	33	12.3
	Final presentation	94	61.8	14	42.4	19	27.1	127	47.4
	Final project	110	72.4	19	57.6	18	25.7	147	54.9
	Graduate school application	2	1.3	0	0.0	1	1.4	3	1.1
	Portfolio - comprehensive curricular	44	28.9	5	15.2	13	18.6	62	23.1
	Résumé	15	9.9	1	3.0	2	2.9	18	6.7
	Undergraduate research paper or thesis	73	48.0	12	36.4	19	27.1	104	38.8
	No final component or end-product	0	0.0	3	9.1	0	0.0	3	1.1
	Other	11	7.2	3	9.1	4	5.7	18	6.7
Q17	Please indicate which of the following practices are incorporated into the senior capstone course or experience: (Check all that apply.)								
	Communication of high expectations	106	69.7	19	57.6	28	40.0	153	57.1
	Cooperative learning	73	48.0	15	45.5	15	21.4	103	38.4
	Course is academically challenging	103	67.8	20	60.6	25	35.7	148	55.2
	Diversity experiences	21	13.8	10	30.3	7	10.0	38	14.2
	Emphasis on time on task and submitting work	50	32.9	6	18.2	20	28.6	76	28.4

Table continues on p. 82

Table continued from p. 81

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q17	Please indicate which of the following practices are incorporated into the senior capstone course or experience: (Cont.)								
	Instructor encouragement of active learning	80	52.6	18	54.5	23	32.9	121	45.1
	Integrative learning (between courses or between coursework and life)	111	73.0	28	84.8	22	31.4	161	60.1
	Quality of classroom interactions with instructor	47	30.9	12	36.4	12	17.1	71	26.5
	Quality of nonclassroom interactions with instructor	29	19.1	6	18.2	11	15.7	46	17.2
	Positive peer interactions	57	37.5	19	57.6	11	15.7	87	32.5
	Prompt feedback from instructor	47	30.9	10	30.3	13	18.6	70	26.1
	Use of higher order exams and assignments	57	37.5	11	33.3	12	17.1	80	29.9
	Other	4	2.6	2	6.1	3	4.3	9	3.4
Q18	Which students, by category, are required to take the senior capstone course or experience? (Check all that apply.)								
	Certain majors	65	42.8	4	12.1	19	27.1	88	32.8
	First-generation students	1	0.7	0	0.0	0	0.0	1	0.4
	Honors students	29	19.1	2	6.1	7	10.0	38	14.2
	International students	1	0.7	0	0.0	0	0.0	1	0.4
	Learning community participants	3	2.0	0	0.0	0	0.0	3	1.1
	Nontraditional-aged students	1	0.7	0	0.0	0	0.0	1	0.4
	Student athletes	2	1.3	0	0.0	0	0.0	2	0.7

Table continues on p. 83

Table continued from p. 82

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q18	Which students, by category, are required to take the senior capstone course or experience? (Cont.)								
	Students within specific disciplines	25	16.4	2	6.1	11	15.7	38	14.2
	Transfer students	1	0.7	0	0.0	0	0.0	1	0.4
	None are required to take it.	0	0.0	0	0.0	0	0.0	0	0.0
	All seniors are required to take it.	67	44.1	24	72.7	16	22.9	107	39.9
	Other	5	3.3	1	3.0	3	4.3	9	3.4
Q19	What is the approximate class size of each senior capstone course or experience section?								
	10 students or fewer	23	17.2	1	3.5	8	21.6	32	16.0
	11-15	37	27.6	3	10.3	15	40.5	55	27.5
	16-19	31	23.1	8	27.6	6	16.2	45	22.5
	20-24	24	17.9	8	27.6	4	10.8	36	18.0
	25-30	11	8.2	6	20.7	1	2.7	18	9.0
	More than 30	8	6.0	3	10.3	3	8.1	14	7.0
	Total	134	100.0	29	100.0	37	100.0	200	100.0
Q20	Please indicate the approximate number of sections of this senior capstone course or experience that were offered during the 2010-2011 academic year:								
	1-10	56	44.8	10	35.7	16	47.1	82	43.9
	11-20	17	13.6	5	17.9	12	35.3	34	18.2
	21-30	15	12.0	4	14.3	2	5.9	21	11.2
	31-40	13	10.4	2	7.1	0	0.0	15	8.0
	41-50	8	6.4	3	10.7	3	8.8	14	7.5

Table continues on p. 84

Table continued from p. 83

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q20	Please indicate the approximate number of sections of this senior capstone course or experience that were offered during the 2010-2011 academic year: (Cont.)								
	51-60	1	0.8	0	0.0	0	0.0	1	0.5
	61-70	1	0.8	0	0.0	0	0.0	1	0.5
	71-80	1	0.8	0	0.0	0	0.0	1	0.5
	81-90	2	1.6	1	3.6	0	0.0	3	1.6
	91-100	7	5.6	0	0.0	0	0.0	7	3.7
	More than 100	4	3.2	3	10.7	1	2.9	8	4.3
	Total	125	100.0	28	100.0	34	100.0	187	100.0
Q21	What is the typical length of a section of the senior capstone course or experience?								
	Half a semester	2	1.5	0	0.0	0	0.0	2	1.0
	One quarter	4	3.0	1	3.6	1	2.6	6	3.0
	One semester	115	85.2	26	92.9	27	71.1	168	83.6
	One year	7	5.2	1	3.6	6	15.8	14	7.0
	Other	7	5.2	0	0.0	4	10.5	11	5.5
	Total	135	100.0	28	100.0	38	100.0	201	100.0
Q22	How is the senior capstone course or experience graded?								
	No grade	0	0.0	0	0.0	1	2.6	1	0.5
	Pass/fail	3	2.2	0	0.0	5	13.2	8	4.0
	Letter grade	126	93.3	28	96.6	27	71.1	181	89.6
	Other	6	4.4	1	3.5	5	13.2	12	5.9
	Total	135	100.0	29	100.0	38	100.0	202	100.0

Table continues on p. 85

Table continued from p. 84

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q23	Does the senior capstone course or experience carry academic credit?								
	Yes	135	99.3	29	100.0	36	94.7	200	98.5
	No	0	0.0	0	0.0	2	5.3	2	1.0
	I don't know.	1	0.7	0	0.0	0	0.0	1	0.5
	Total	136	100.0	29	100.0	38	100.0	203	100.0
Q24	How many credits does the senior capstone course or experience carry?								
	1	8	6.0	0	0.0	3	8.8	11	5.6
	2	2	1.5	1	3.5	0	0.0	3	1.5
	3	94	70.7	22	75.9	22	64.7	138	70.4
	4	18	13.5	4	13.8	5	14.7	27	13.8
	5	1	0.8	0	0.0	0	0.0	1	0.5
	More than 5	10	7.5	2	6.9	4	11.8	16	8.2
	Total	133	100.0	29	100.0	34	100.0	196	100.0
Q25	How is the senior capstone course or experience credit applied? (Check all that apply.)								
	As an elective	7	4.6	1	3.0	1	1.4	9	3.4
	Toward general education requirements	16	10.5	22	66.7	4	5.7	42	15.7
	Toward major requirements	127	83.6	9	27.3	33	47.1	169	63.1
	Other	3	2.0	2	6.1	1	1.4	6	2.2

Table continues on p. 86

Table continued from p. 85

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q26	How many total classroom contact hours are there per week in the senior capstone course or experience?								
1		6	4.8	0	0.0	6	16.7	12	6.3
2		8	6.4	1	3.5	2	5.6	11	5.8
3		99	78.6	25	86.2	21	58.3	145	75.9
4		7	5.6	1	3.5	3	8.3	11	5.8
5		1	0.8	1	3.5	0	0.0	2	1.1
	More than 5	5	4.0	1	3.5	4	11.1	10	5.2
	Total	126	100.0	29	100.0	36	100.0	191	100.0
Q27	Are any sections of the senior capstone course or experience linked to one or more other courses?								
Yes		42	31.6	7	24.1	21	55.3	70	35.0
No		63	47.4	21	72.4	10	26.3	94	47.0
	I don't know.	28	21.1	1	3.5	7	18.4	36	18.0
	Total	133	100.0	29	100.0	38	100.0	200	100.0
Q28	Do any sections incorporate online components?								
Yes		50	37.9	17	60.7	12	31.6	79	39.9
No		39	29.6	8	28.6	13	34.2	60	30.3
	I don't know.	43	32.6	3	10.7	13	34.2	59	29.8
	Total	132	100.0	28	100.0	38	100.0	198	100.0

Table continues on p. 87

Table continued from p. 86

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q30	Are there any online-only sections?								
	Yes	20	14.8	6	20.7	6	16.2	32	15.9
	No	94	69.6	21	72.4	25	67.6	140	69.7
	I don't know.	21	15.6	2	6.9	6	16.2	29	14.4
	Total	135	100.0	29	100.0	37	100.0	201	100.0
Q31	Please indicate the approximate percentage of online-only sections:								
	Less than 10%	13	65.0	3	50.0	3	50.0	19	59.4
	10%-19%	3	15.0	0	0.0	0	0.0	3	9.4
	20%-29%	0	0.0	1	16.7	0	0.0	1	3.1
	30%-39%	0	0.0	0	0.0	0	0.0	0	0.0
	40%-49%	2	10.0	1	16.7	1	16.7	4	12.5
	50%-59%	1	5.0	1	16.7	0	0.0	2	6.3
	60%-69%	0	0.0	0	0.0	0	0.0	0	0.0
	70%-79%	0	0.0	0	0.0	0	0.0	0	0.0
	80%-89%	0	0.0	0	0.0	0	0.0	0	0.0
	90%-99%	0	0.0	0	0.0	0	0.0	0	0.0
	100%	1	5.0	0	0.0	2	33.3	3	9.4
	Total	20	100.0	6	100.0	6	100.0	32	100.0

Table continues on p. 88

Table continued from p. 87

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q33	Who is the primary instructor of the senior capstone course or experience? (Check all that apply.)								
	Academic affairs professionals	4	2.6	2	6.1	5	7.1	11	4.1
	Adjunct faculty	15	9.9	6	18.2	7	10.0	28	10.4
	Full-time, non-tenure-track faculty	27	17.8	8	24.2	14	20.0	49	18.3
	Graduate students	1	0.7	1	3.0	0	0.0	2	0.7
	Student affairs professionals	1	0.7	1	3.0	0	0.0	2	0.7
	Tenure-track faculty	109	71.7	24	72.7	22	31.4	155	57.8
	Undergraduate students	0	0.0	0	0.0	0	0.0	0	0.0
	Other	9	5.9	3	9.1	8	11.4	20	7.5
Q34	If undergraduate students assist in the senior capstone course or experience, what is their role? (Check all that apply.)								
	They teach independently.	0	0.0	0	0.0	0	0.0	0	0.0
	They teach as a part of a team.	0	0.0	0	0.0	0	0.0	0	0.0
	They assist the instructor, but do not teach.	0	0.0	0	0.0	0	0.0	0	0.0
	The role is determined by the instructor.	0	0.0	0	0.0	0	0.0	0	0.0
	Other	0	0.0	0	0.0	0	0.0	0	0.0
Q35	Are any seniors intentionally placed in senior capstone course or experience sections taught by their academic advisors?								
	Yes	6	4.6	0	0.0	9	24.3	15	7.7
	No	98	75.4	26	92.9	20	54.1	144	73.9
	I don't know.	26	20.0	2	7.1	8	21.6	36	18.5
	Total	130	100.0	28	100.0	37	100.0	195	100.0

Table continues on p. 89

Table continued from p. 88

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q36	What is the approximate percentage of students placed in sections with their academic advisors?								
	Less than 10%	1	16.7	0	0.0	1	11.1	2	13.3
	10%-19%	1	16.7	0	0.0	0	0.0	1	6.7
	20%-29%	0	0.0	0	0.0	0	0.0	0	0.0
	30%-39%	0	0.0	0	0.0	1	11.1	1	6.7
	40%-49%	0	0.0	0	0.0	0	0.0	0	0.0
	50%-59%	0	0.0	0	0.0	0	0.0	0	0.0
	60%-69%	0	0.0	0	0.0	2	22.2	2	13.3
	70%-79%	0	0.0	0	0.0	1	11.1	1	6.7
	80%-89%	0	0.0	0	0.0	1	11.1	1	6.7
	90%-99%	1	16.7	0	0.0	0	0.0	1	6.7
	100%	1	16.7	0	0.0	1	11.1	2	13.3
	I don't know.	2	33.3	0	0.0	2	22.2	4	26.7
	Total	6	100.0	0	0.0	9	100.0	15	100.0
Q37	Indicate the approximate percentage of sections that are team taught:								
	Less than 10%	59	46.8	12	42.9	12	33.3	83	43.7
	10%-19%	8	6.4	4	14.3	4	11.1	16	8.4
	20%-29%	3	2.4	0	0.0	1	2.8	4	2.1
	30%-39%	1	0.8	0	0.0	0	0.0	1	0.5
	40%-49%	2	1.6	0	0.0	0	0.0	2	1.1
	50%-59%	3	2.4	1	3.6	3	8.3	7	3.7
	60%-69%	1	0.8	0	0.0	0	0.0	1	0.5
	70%-79%	1	0.8	1	3.6	0	0.0	2	1.1

Table continues on p. 90

Table continued from p. 89

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q37	Indicate the approximate percentage of sections that are team-taught: (Cont.)								
	80%-89%	0	0.0	0	0.0	0	0.0	0	0.0
	90%-99%	0	0.0	0	0.0	0	0.0	0	0.0
	100%	6	4.8	2	7.1	3	8.3	11	5.8
	I don't know.	22	17.5	1	3.6	6	16.7	29	15.3
	No sections are team-taught.	20	15.9	7	25.0	7	19.4	34	17.9
	Total	126	100.0	28	100.0	36	100.0	190	100.0
Q38	Is instructor training offered for senior capstone course or experience instructors?								
	Yes	28	21.5	17	63.0	9	24.3	54	27.8
	No	71	54.6	10	37.0	22	59.5	103	53.1
	I don't know.	31	23.9	0	0.0	6	16.2	37	19.1
	Total	130	100.0	27	100.0	37	100.0	194	100.0
Q39	Is instructor training required for senior capstone course or experience instructors?								
	Yes	10	35.7	7	41.2	6	66.7	23	42.6
	No	17	60.7	8	47.1	3	33.3	28	51.9
	I don't know.	1	3.6	2	11.8	0	0.0	3	5.6
	Total	28	100.0	17	100.0	9	100.0	54	100.0

Table continues on p. 91

Table continued from p. 90

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q40	How long is new instructor training?								
	Half a day or less	8	29.6	3	20.0	1	14.3	12	24.5
	1 day	4	14.8	2	13.3	3	42.9	9	18.4
	2 days	0	0.0	0	0.0	0	0.0	0	0.0
	3 days	1	3.7	0	0.0	0	0.0	1	2.0
	4 days	0	0.0	0	0.0	0	0.0	0	0.0
	1 week	0	0.0	2	13.3	0	0.0	2	4.1
	Other	14	51.9	8	53.3	3	42.9	25	51.0
	Total	27	100.0	15	100.0	7	100.0	49	100.0
Q41	What campus unit directly administers the senior capstone course or experience?								
	Academic affairs	19	14.5	9	32.1	4	10.8	32	16.3
	Academic department(s)	96	73.3	11	39.3	28	75.7	135	68.9
	Career center	0	0.0	1	3.6	0	0.0	1	0.5
	College or school	15	11.5	3	10.7	3	8.1	21	10.7
	Office of alumni relations	0	0.0	0	0.0	0	0.0	0	0.0
	Senior program office	0	0.0	1	3.6	0	0.0	1	0.5
	Student affairs	0	0.0	0	0.0	0	0.0	0	0.0
	Other	1	0.8	3	10.7	2	5.4	6	3.1
	Total	131	100.0	28	100.0	37	100.0	196	100.0

Table continues on p. 92

Table continued from p. 91

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q42	Is there a dean, director, or coordinator of the senior capstone course or experience?								
	Yes	19	14.6	17	60.7	11	29.7	47	24.1
	No	105	80.8	11	39.3	24	64.9	140	71.8
	I don't know.	6	4.6	0	0.0	2	5.4	8	4.1
	Total	130	100.0	28	100.0	37	100.0	195	100.0
Q43	Does the dean, director, or coordinator have another position on campus?								
	Yes	18	94.7	16	94.1	10	90.9	44	93.6
	No	1	5.3	1	5.9	1	9.1	3	6.4
	I don't know.	0	0.0	0	0.0	0	0.0	0	0.0
	Total	19	100.0	17	100.0	11	100.0	47	100.0
Q44	The dean, director, or coordinator's other campus role is as a/an: (Check all that apply.)								
	Academic affairs administrator	4	22.2	5	31.3	3	30.0	12	27.3
	Faculty member	15	83.3	12	75.0	6	60.0	33	75.0
	Student affairs administrator	0	0.0	0	0.0	0	0.0	0	0.0
	Other	5	27.8	2	12.5	3	30.0	10	22.7
Q45	Has your senior capstone course or experience been formally assessed or evaluated since spring 2008?								
	Yes	70	54.3	18	64.3	19	54.3	107	55.7
	No	41	31.8	9	32.1	10	28.6	60	31.3
	I don't know.	18	14.0	1	3.6	6	17.1	25	13.0
	Total	129	100.0	28	100.0	35	100.0	192	100.0

Table continues on p. 93

Table continued from p. 92

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q46	What type of assessment or evaluation was conducted on your senior capstone course or experience? (Check all that apply.)								
	Accreditation	43	61.4	10	55.6	12	63.2	65	60.7
	Analysis of institutional data	43	61.4	12	66.7	12	63.2	67	62.6
	Focus groups with instructors	11	15.7	1	5.6	6	31.6	18	16.8
	Focus groups with students	17	24.3	1	5.6	7	36.8	25	23.4
	Individual interviews with instructors	6	8.6	2	11.1	5	26.3	13	12.1
	Individual interviews with students	9	12.9	3	16.7	4	21.1	16	15.0
	Student course evaluation	51	72.9	17	94.4	12	63.2	80	74.8
	Survey instrument	23	32.9	13	72.2	10	52.6	46	43.0
Q47	What type of survey instrument did your institution use to assess or evaluate the senior capstone course or experience? (Check all that apply.)								
	A locally developed	16	69.6	11	84.6	8	80.0	35	76.1
	A national survey	17	73.9	11	84.6	5	50.0	33	71.7
	I don't know.	0	0.0	0	0.0	0	0.0	0	0.0
Q48	If you used a national survey, please identify the survey(s): (Check all that apply.)								
	Cooperative Institutional Research Program (CIRP) College Senior Survey	4	23.5	0	0.0	1	20.0	5	15.2
	National Survey of Student Engagement (NSSE)	17	100.0	10	90.9	4	80.0	31	93.9
	Wabash National Study of Liberal Arts Education	1	5.9	0	0.0	0	0.0	1	3.0
	Other	0	0.0	3	27.3	2	40.0	5	15.2

Table continues on p. 94

Table continued from p. 93

Item	Survey question	Discipline-based course		Interdisciplinary course		Project-based experience		Total	
		Freq.	%	Freq.	%	Freq.	%	Freq.	%
Q50	Select three outcome(s) that were measured using the assessment(s) or evaluation(s) listed above:								
	Connection to the discipline(s)	26	37.1	6	33.3	9	47.4	41	38.3
	Connections with peers	0	0.0	0	0.0	3	15.8	3	2.8
	Critical thinking, analytical skills, or problem-solving skills	49	70.0	15	83.3	12	63.2	76	71.0
	Employment after college	8	11.4	0	0.0	1	5.3	9	8.4
	Entrance into graduate school	3	4.3	0	0.0	2	10.5	5	4.7
	Grade-point average	5	7.1	1	5.6	0	0.0	6	5.6
	Oral communication	18	25.7	7	38.9	5	26.3	30	28.0
	Out-of-class student-instructor interaction	2	2.9	1	5.6	0	0.0	3	2.8
	Persistence to graduation	1	1.4	0	0.0	0	0.0	1	0.9
	Satisfaction with campus services	0	0.0	0	0.0	1	5.3	1	0.9
	Satisfaction with institution	6	8.6	1	5.6	3	15.8	10	9.3
	Satisfaction with instructor	11	15.7	2	11.1	2	10.5	15	14.0
	Teamwork or group work	4	5.7	4	22.2	2	10.5	10	9.3
	Written communication	29	41.4	10	55.6	9	47.4	48	44.9
	Other	14	20.0	4	22.2	3	15.8	21	19.6
Q62	Release of data:								
	You may share my survey responses.	52	40.6	18	64.3	33	53.2	127	47.9
	Please do not share my survey responses.	76	59.4	10	35.7	29	46.8	138	52.1
	Total	128	100.0	28	100.0	62	100.0	265	100.0

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