Epilogue and Prologue: A National Picture of Senior Capstone Experiences

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2017 National Conference on Students in Transition
Costa Mesa, CA
October 22, 2017
Goals of this Session

• Have an understanding of the national picture of senior capstone experiences
• Have an understanding of how senior capstones can meet institutional goals for seniors
• Develop a perspective on how broad viewpoints can inform practice at institutions
Organization of this Session

• Background on Senior Year
• Data from 2016 National Survey of Senior Capstone Experiences
• Discussion
Senior year represents the final opportunity to serve students to prepare them to face the demands that lie ahead.

Students think about undergraduate experience in 3 phases:

- Entering
- Middle
- Exiting

Lane (2014)
Timing of Student Success Programs

First-Year
- Orientation
- Common Reading Programs
- First-Year Seminars
- Student Engagement

Junior Year
- Internships
- Study Abroad
- Peer Leadership

Senior Year
- Capstone Experiences
- Job Fairs
- Professional Licensing
- Graduate and Professional School Applications
What are the opportunities for intervention in the Senior Year?

• Developmentally ready for higher-order thinking
• Integrate learning across curriculum and experiences
• Final determination and demonstration of competency
• Career preparation and placement
• Others?
High-Impact Educational Practices

First-Year Seminars and Experiences
Many schools now build into the curriculum first-year seminars or other programs that bring small groups of students together with faculty or staff on a regular basis. The highest-quality first-year experiences place a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students’ intellectual and practical competencies. First-year seminars can also involve students with cutting-edge questions in scholarship and with faculty members’ own research.

Common Intellectual Experiences
The older idea of a “core” curriculum has evolved into a variety of modern forms, such as a set of required common courses or a vertically organized general education program that includes advanced integrative studies and/or required participation in a learning community (see below). These programs often combine broad themes—e.g., technology and society, global interdependence—with a variety of curricular and cocurricular options for students.

Learning Communities
The key goals for learning communities are to encourage integration of learning across courses and to involve students with “big questions” that matter beyond the classroom. Students take two or more linked courses as a group and work closely with one another and with their professors. Many learning communities explore a common topic and/or common readings through the lenses of different disciplines. Some deliberately link “liberal arts” and “professional courses”; others feature service learning.

Writing-Intensive Courses
These courses emphasize writing at all levels of instruction and across the curriculum, including final-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this repeated practice “across the curriculum” has led to parallel efforts in such areas as quantitative reasoning, oral communication, information literacy, and, on some campuses, ethical inquiry.

Collaborative Assignments and Projects
Collaborative learning combines two key goals: learning to work and solve problems in the company of others, and sharpening one’s own understanding by listening seriously to the insights of others, especially those with different backgrounds and life experiences. Approaches range from study groups within a course, to team-based assignments and writing, to cooperative projects and research.

Undergraduate Research
Many colleges and universities are now providing research experiences for students in all disciplines. Undergraduate research, however, has been most prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are reshaping their courses to connect key concepts and questions with students’ early and active involvement in systematic investigation and research. The goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

Diversity/Global Learning
Many colleges and universities now emphasize courses and programs that help students explore cultures, life experiences, and worldviews different from their own. These studies—which may address U.S. diversity, world cultures, or both—often explore “difficult differences” such as racial, ethnic, and gender inequality, or continuing struggles around the globe for human rights, freedom, and power. Frequently, intercultural studies are augmented by experiential learning in the community and/or by study abroad.

Service Learning, Community-Based Learning
In these programs, field-based “experiential learning” with community partners is an instructional strategy—and often a required part of the course. The idea is to give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community. A key element in these programs is the opportunity students have to both apply what they are learning in real-world settings and reflect in a classroom setting on their service experiences. These programs model the idea that giving something back to the community is an important college outcome, and that working with community partners is good preparation for citizenship, work, and life.

Internships
Internships are another increasingly common form of experiential learning. The idea is to provide students with direct experience in a work setting—usually related to their career interests—and to give them the benefits of supervised learning from professionals in the field. An internship is taken for course credit to help complete a project or paper that is approved by a faculty member.

Capstone Courses and Projects
Whether they’re called “senior capstones” or some other name, these culminating experiences require students nearing the end of their college years to create a project of some sort that integrates and applies what they’ve learned. The project might be a research paper, a performance, a portfolio of “best work,” or an exhibit of artwork. Capstones are offered both in departmental programs and, increasingly, general education as well.
Capstone Courses and Projects

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Senior capstone experiences connected to gains in:
- student satisfaction and self-rated gains
- active and collaborative learning,
- student-faculty interaction
- critical thinking skills,
- understanding of global problems,
- and acquisition of work-related skills

Brownell & Swaner, 2010, Kuh, 2008; NSSE, 2009
Senior capstone experiences

Contested areas: Diversity

– Kilgo et al. (2015): Positive relationship between capstone participation and openness and orientation to diversity

– Eagan (2016): no relationship between capstone participation and pluralistic orientation
Senior capstone experiences

Contested areas: Academic Engagement


Senior capstone experiences

Contested areas: Critical Thinking

- NSSE: Positive relationship between capstone participation and self-rated critical thinking
- Kilgo et al. (2015): Negative relationship between capstone participation and critical thinking module of CAAP
2016 NATIONAL SURVEY OF SENIOR CAPSTONE EXPERIENCES
National Survey of Senior Capstone Experiences

- Designed to identify senior-specific practices and characteristics of senior capstone experiences
- 2016 Administration (third; previous in 1999, 2011)
  - Online survey
  - 3,419 institutions were invited to participate
  - 383 responded (11.2% response rate)
  - 332 (93.2% of sample) currently offered at least one capstone experience
    - 99.3% of 4-year institutions (n = 297/299)
    - 61.4% of 2-year colleges (n = 35/57)
Institutional Attention to the Senior Year

- Institutional assessment
- Employment or job-placement study
- Participation in a national survey
- Alumnae or alumni engagement
- Graduation study

Percentage of Respondents

0 10 20 30 40 50 60 70
# Top 10 Campus-wide Objectives for Seniors

<table>
<thead>
<tr>
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<th>%</th>
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<tbody>
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<tr>
<td>Graduation</td>
<td>61.3</td>
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<td>Graduate or professional school enrollment</td>
<td>50.5</td>
</tr>
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<td>Critical-thinking skills</td>
<td>43.3</td>
</tr>
<tr>
<td>Preparation for graduate school</td>
<td>39.7</td>
</tr>
<tr>
<td>Writing skills</td>
<td>37.0</td>
</tr>
<tr>
<td>Alumni/ae support</td>
<td>36.4</td>
</tr>
<tr>
<td>Leadership development</td>
<td>35.1</td>
</tr>
<tr>
<td>Student satisfaction</td>
<td>34.8</td>
</tr>
</tbody>
</table>
Types of Capstone Experiences

- Capstone course
- Exam
- Arts performance or exhibition
- Supervised practice
- Project
Types of Capstone Experiences

• Capstone course
  – Department or discipline-based
  – General education focused (Campuswide capstones only)
  – Other

• Exam
  – Comprehensive
  – Leading to certification or professional licensure

• Exhibition of performing, musical, or visual arts

• Project
  – Senior integrative portfolio
  – Senior integrative or applied learning project
  – Senior thesis or independent research paper
  – Service-learning or community-based learning project

• Supervised practice
  – Internship
  – Student teaching
  – Other
Where are Capstones Offered on Campus?

**Academic Department**
- Yes, 98.7%
- No, 1.3%
- I don't know, 0.3%

**Co-curricular Program**
- Yes, 51.5%
- No, 37.5%
- I don't know, 11.4%

**Campus-wide Capstone**
- Yes, 37.8%
- No, 57.9%
- I don't know, 4.7%
Capstone Courses

• Most predominant form of capstone on campus
  – Discipline-based course top academic-based capstone
  – General education capstone course top campuswide capstone
Overall Capstone Experiences Offered in Academic Department

- Discipline-based course: 96.6%
- Thesis/independent research paper: 69.4%
- Internship: 68.7%
- Arts exhibition or performance: 66.3%
- Student teaching: 66.3%
Overall Capstone Experiences Offered **Campus-wide**

<table>
<thead>
<tr>
<th>Capstone course - Gen. ed. Focus</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis/ independent research paper</td>
<td>27.7</td>
</tr>
<tr>
<td>Other</td>
<td>19.8</td>
</tr>
</tbody>
</table>

| Capstone course - other          | 18.8                      |
| Arts exhibition or performance   | 17.8                      |
Primary Capstone Experiences Offered **Campus-wide**

- **Capstone course - Gen. ed. focus**: 28.7%
- **Capstone course - other**: 13.9%
- **Thesis/ independent research paper**: 13.9%
- **Other**: 13.9%
- **Comprehensive exam**: 6.9%

Capstone Courses reached greatest proportion of students at 42.6% of institutions
Capstone Courses

Discipline-Based Capstone Predominant in Academic Departments:

- Biological Sciences, Agriculture, and Natural Resources
- Business
- Communications, Media, and Public Relations
- Engineering
- Physical Sciences, Mathematics, and Computer Science
- Social Sciences
## Most Common Capstone by Field of Study

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Type of Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Humanities</td>
<td>Exhibition of performing, musical, or visual arts</td>
</tr>
<tr>
<td>Biological Sciences, Agriculture, and Natural Resources</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Physical Sciences, Mathematics, and Computer Science</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Business</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Communications, Media, and Public Relations</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Education</td>
<td>Supervised practice - student teaching</td>
</tr>
<tr>
<td>Engineering</td>
<td>Department or discipline-based course</td>
</tr>
<tr>
<td>Health Professions</td>
<td>Certification or professional licensure exam</td>
</tr>
<tr>
<td>Social Service Professions</td>
<td>Internship</td>
</tr>
</tbody>
</table>
Capstone Courses

• Discipline-based course closely aligned with Arts & Humanities (82.4%)
• More than half of respondents used discipline-based capstone courses in all but two areas of study (social services and engineering)
## Most Common Field of Study by Capstone Experience

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<thead>
<tr>
<th>Type of Capstone</th>
<th>Field of Study</th>
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<tbody>
<tr>
<td>Department or discipline-based course</td>
<td>Arts and Humanities</td>
</tr>
<tr>
<td>Capstone course - other</td>
<td>Arts and Humanities</td>
</tr>
<tr>
<td>Exam - comprehensive</td>
<td>Physical Sciences, Mathematics, and Computer Science</td>
</tr>
<tr>
<td>Certification or professional licensure exam</td>
<td>Health Professions</td>
</tr>
<tr>
<td>Exhibition of performing, musical, or visual arts</td>
<td>Arts and Humanities</td>
</tr>
<tr>
<td>Senior integrative portfolio</td>
<td>Arts and Humanities</td>
</tr>
<tr>
<td>Senior integrative or applied learning project</td>
<td>Arts and Humanities, Business</td>
</tr>
<tr>
<td>Senior thesis or independent research paper</td>
<td>Arts and Humanities</td>
</tr>
<tr>
<td>Service-learning or community-based learning project</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>Supervised practice - internship</td>
<td>Business</td>
</tr>
<tr>
<td>Supervised practice - student teaching</td>
<td>Education</td>
</tr>
<tr>
<td>Supervised practice - other</td>
<td>Health Professions</td>
</tr>
</tbody>
</table>
Co-curricular Capstone Courses

• When they show up in co-curricular programs:
  – Honors – 47.2% (#2)
  – Pre-professional organizations – 22.2% (#3)
  – Service-learning – 22.7% (#4)
Capstone Courses

• 91.2% of Campuswide capstones with courses carry academic credit
  – Applied as:
    • Gen. ed: 43.5%
    • Major: 56.5%
    • Elective: 4.8%
Educationally Effective Practices in Campuswide Capstone Course

- Integrative learning: 64.7%
- Communication of high expectations: 61.8%
- Course is academically challenging: 58.8%
- Quality interactions with instructor: 52.9%
- Active learning: 50.0%
Connecting Capstone Type to Curriculum: Specificity

- 95.7% of institutions with arts performances or exhibitions offered to majors in arts and humanities
  - Second-most frequent major: communications, media, and public relations (16.0%)

- 97.9% of institutions offering student teaching did so in education
  - Second largest group: Arts and humanities (12.3%)
Connecting Capstone Type to Curriculum: Mass Appeal

• Internships
  – 2/3 reported offering to students in business
  – At least 1/3 offered to students in all other areas of study but engineering and physical sciences

• Discipline-based courses
  – 82.4% offered in arts and humanities
  – At least ½ used them in all other areas but social services and engineering
Campus-wide Capstones
Overall Capstone Experiences Offered Campus-wide

- Capstone course - Gen. ed. Focus: 46.5%
- Thesis/ independent research paper: 27.7%
- Other: 19.8%
- Capstone course - other: 18.8%
- Arts exhibition or performance: 17.8%
Primary Capstone Experiences
Offered Campus-wide

- Capstone course - Gen. ed. focus: 28.7%
- Capstone course - other: 13.9%
- Thesis/ independent research paper: 13.9%
- Other: 13.9%
- Comprehensive exam: 6.9%
## Primary Campus-wide Capstone Objectives

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<td>Critical-thinking skills</td>
<td>43.0</td>
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<tr>
<td>Integrative and applied learning</td>
<td>32.7</td>
</tr>
<tr>
<td>Academic skills</td>
<td>19.6</td>
</tr>
<tr>
<td>Career preparation (e.g., internships, co-ops)</td>
<td>16.8</td>
</tr>
<tr>
<td>Writing skills</td>
<td>16.8</td>
</tr>
<tr>
<td>Analytical or inquiry-based skills</td>
<td>15.9</td>
</tr>
<tr>
<td>Self-exploration or personal development</td>
<td>13.1</td>
</tr>
<tr>
<td>Graduation</td>
<td>12.1</td>
</tr>
<tr>
<td>Employment or job placement</td>
<td>11.2</td>
</tr>
<tr>
<td>Ethical reasoning</td>
<td>11.2</td>
</tr>
</tbody>
</table>
Administration of Primary Campus-wide Capstone Experience

<table>
<thead>
<tr>
<th>Campus Unit</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic affairs</td>
<td>40.6</td>
</tr>
<tr>
<td>Academic department(s)</td>
<td>42.7</td>
</tr>
<tr>
<td>Career center</td>
<td>2.1</td>
</tr>
<tr>
<td>College or school (e.g., college of liberal arts)</td>
<td>7.3</td>
</tr>
<tr>
<td>Student affairs</td>
<td>3.1</td>
</tr>
<tr>
<td>Other, please specify</td>
<td>4.2</td>
</tr>
</tbody>
</table>
Assessment of Primary Campus-wide Capstone

Most Frequently Named Outcomes Measured:

- Critical-thinking skills
- Academic skills
- Writing skills
- Analytical or inquiry-based skills
- Problem-solving skills

Has capstone experience been assessed?

- Yes, 57.3
- No, 25.0
- I don't know, 17.7
Capstones in the Co-curriculum
Capstones in the Co-curriculum

- Present on slightly more than half of responding campuses
- Most prevalent in Honors programs
  - No other co-curricular program present on more than half of campuses
Overall Co-curricular Programs Offering Capstone Experiences

- Honors: 74.0%
- Leadership: 42.5%
- Service-learning or community engagement: 30.8%
- Career center: 25.3%
- Preprofessional organization: 18.5%
- Student clubs and organizations: 17.8%
- Student athletics: 13.0%
- Other, please specify: 11.6%
- Greek life: 4.1%
Capstones in the Co-curriculum

• Service-learning the capstone most frequent in co-curricular activities
# Most Common Capstone by Co-curricular Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Type of Capstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career center</td>
<td>Supervised practice - internship</td>
</tr>
<tr>
<td>Honors</td>
<td>Senior thesis or independent research paper</td>
</tr>
<tr>
<td>Greek life</td>
<td>Service-learning or community-based learning project</td>
</tr>
<tr>
<td>Leadership</td>
<td>Service-learning or community-based learning project</td>
</tr>
<tr>
<td>Preprofessional organization</td>
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<td>Student clubs and organizations</td>
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Capstones in the Co-curriculum

• Greek Life:
  – Frequently used service-learning or community-based learning

• Service-learning:
  – Nearly 7 in 10 used service-learning as senior capstone
Capstones in the Co-curriculum

• Honors Programs:
  – Frequently used senior theses and discipline-based courses
  – Used multiple formats for culminating experiences

• Career Centers:
  – More than half used internships
  – No other co-curricular program used internships at more than 15% of institutions
## Most Common Co-curricular Program by Capstone Experience

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<thead>
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Calls to integrate undergraduate experience

• Achieving and Sustaining Institutional Excellence in the First Year of College (Barefoot, et al., 2005)
  – Criterion 1: An intentional, comprehensive approach to improving the first year
  – Description of Criterion 1 suggests an overall integrated approach to student success

• Boyer Commission - Reinventing Undergraduate Education (1998)
  – First-year seminars and programs form bridge from HS on one end to “more open and more independent world of the …university on the other”
Calls to integrate undergraduate experience

- Helping Sophomores Succeed (Gardner, et al., 2010)
  - A need to create a “seamless approach” to the administration of support initiatives across the undergraduate experience

- Scott (2012) – Supporting Student Success in South Africa
  - Initiatives should be like the Janus face, looking forward and backward simultaneously
  - Programmes supporting students in transition should be a special but not discrete part of the educational process.
What students learn in one lesson or course prepares them for the next lesson or course. Educational experiences are purposefully structured and logically sequenced so that students gain the knowledge and skills to progressively prepare them for more challenging, higher-level work.
## Top 10 Campus-wide Objectives for Seniors

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Discussion/Questions
Thank You!

• youngdal@mailbox.sc.edu