Building Coherence Through Vertical Integration of High-Impact Practices Across the Undergraduate Curriculum
Session Overview
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Chief Operating Officer,
John N. Gardner Institute for Excellence in Undergraduate Education
Setting the Context
Origins of High Impact Practices (HIPs)
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 ideal idea of a "core" curriculum has evolved into a variety of modules, such as a set of required courses or a vertically organized general education program that includes advanced integrative modules and core 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 smaller 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. Strategies 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," often feature service learning.

Writing-intensive Courses
These courses emphasize writing at all levels of instruction and across the curriculum, including first-year courses. Students are encouraged to produce and receive varied 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, in some campuses, ethical inquiry.

Collaborative Assignments and Projects
Collaborative learning involves 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 more prominently used in science disciplines. With strong support from the National Science Foundation and the research community, scientists are redesigning their courses to connect key concepts and questions with students' early and active involvement in scientific investigation and research. The goal is to involve students with actively engaged professors, 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 culture, life experiences, and worldviews different from their own. These programs—which 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, crosscultural studies are augmented by experiential learning in the community and/or by study abroad.

Service Learning, Community-Based Learning
In these programs, field-school "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 to do so 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 benefit of supervision and coaching from professionals in the field. If the internship is taken for course credit, students complete a project or paper that is approved by a faculty member.

Capstone Courses and Projects
Whether they are 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, in general education as well.
Balkanization or Intentional Integration?

Balkanization

Bal·kan·ize  [bawl-kuh-nahyz]
verb (used with object), Bal·kan·ized, Bal·kan·iz·ing.

1. to divide (a country, territory, etc.) into small, quarrelsome, ineffectual states.
Vertical Integration

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.
Some Conceptual Frameworks for Alignment

• Foundations of Excellence (FoE)
  ▪ Aspirational standards – FoE Dimensions
  ▪ Horizontal & vertical alignment across the new student experience
  ▪ Guiding question

• Gateways to Completion (G2C)
  ▪ Aspirational standards – G2C Principles
  ▪ Horizontal & vertical alignment in gateway courses & curriculum
  ▪ Guiding question
Criteria for “Excellence”

• **Intentional** – Evidence of an intentional, comprehensive approach

• **Scale** – Broad impact on significant numbers of students

• **Sustained & Supported** – Strong administrative support for and durability over time

• **Inclusive / Broad Engagement** – Involvement of a wide range of constituent groups
Outcomes Correlated with Intentional Integration from FoE & G2C

• Improvements in
  • Persistence
  • Completion
  • Grades
  • Finances
  • Return on Investment
  • Use of Resources
Order of Operations

• Are there benefits of sustained exposure to HIPs?
  - Kevin Eagan

• Are we paying enough attention to the “how” and the “who”?
  - Jillian Kinzie

• Does vertical integration of programs even exist?
  - Jennifer Keup

• How do we help students become intentional learners?
  - Tia Brown McNair
Kevin Eagan, Ph.D.
Interim Managing Director,
Higher Education Research Institute, UCLA
The Sooner the Better: How Early and Sustained Exposure to HIPs Contribute to Students’ Development of Habits of Mind for Lifelong Learning and Pluralistic Orientation

Kevin Eagan, Ph.D.
Higher Education Research Institute
University of California, Los Angeles
Motivation for Study

• Increased emphasis on ability to get a job in students’ college choice process
• Employers’ needs
• Connection between institutional initiatives and students’ development of core skills sought by employers
Essential Learning Outcomes

• Critical thinking
• Commitment to lifelong learning
• Multicultural competencies
• Knowledge in particular field/discipline
• Ability to synthesize
High-Impact Practices

• Students devote considerable time/effort
• Feedback mechanisms
• Examples:
  – Intensive writing courses
  – Undergraduate research
  – Capstone experience
  – Independent study
  – Study abroad
Data and Dependent Variables

• Data
  – 2012 TFS, 2013 YFCY, 2016 CSS
  – 3,304 students at 30 four-year colleges and universities

• Dependent Variables
  – Habits of mind for lifelong learning
  – Pluralistic orientation
  – Senior-year GPA
Key Independent Variables

• YFCY HIPs:
  – FYS on academic inquiry
  – FYS on study skills
  – FYS on college adjustment
  – Made presentation in class
  – Worked with classmates on group projects
  – Positive CRI
  – Negative CRI

• CSS HIPs:
  – Study abroad
  – Capstone
  – Leadership training
  – Internship
  – Undergraduate research
  – # of classes requiring 10+ page papers
  – # of classes requiring multiple short writing assignments
  – Independent study
  – Positive CRI
  – Negative CRI
Analyses and Limitations

• Analytic Approach
  – Descriptive analyses
  – Blocked regression

• Limitations
  – CSS HIPs measured at the same time as outcomes
  – Sample
  – Analytic approach
Key Findings: Habits of Mind (R²=.41)

• YFCY
  – Effective study habits (+, NS)
  – Apply concepts from class to everyday life (+,+)
  – Took remedial course (+,+)
  – FYS, group projects, class presentations (NS, NS)

• CSS
  – Independent study (+)
  – Group projects (+)
  – Intensive writing courses (+)
  – Undergraduate research (+)
  – Internship, capstone, study abroad (NS)
Key Findings: Pluralistic Orientation ($R^2=.25$)

- **YFCY:**
  - Participation in a racial/ethnic student org (+, +)
  - FYS study skills (-, -)
  - Positive CRI (+, NS)
  - Class presentation, academic inquiry FYS, college adjustment FYS, group projects, negative CRI (NS, NS)

- **CSS:**
  - Positive CRI (+)
  - Negative CRI (-)
  - Study abroad (+)
  - Independent study (+)
  - Internship, capstone, leadership training, intensive writing courses, undergraduate research (NS)
Key Findings: Senior-Year GPA ($R^2=.41$)

- **YFCY:**
  - Study skills advising (-, -)
  - Disability resource center (-, -)
  - Writing center (+, +)
  - Negative CRI (-, -)
  - Positive CRI, FYS, group projects, presentation (NS)

- **CSS:**
  - Study abroad (+)
  - Internship (+)
  - Departmental club (+)
  - Intensive writing (+)
  - Undergraduate research (+)
  - CRI (-)
  - Group projects, independent study (NS)
Discussion

• Role of FYS experiences in longer-term college outcomes?
• Opportunities for cross-racial interaction, particularly in the first year
• Direct students to key support services early
• Intensive writing courses – GPA and HOM
Jillian Kinzie, Ph.D.
Associate Director
Center for Postsecondary Research & NSSE Institute
Multiple HIPs and Integrated Learning: Considerations for Equity and Quality

Jillian Kinzie
IU Center for Postsecondary Research
HIP Origins

In 2007, NSSE identified a set of practices – fairly well-researched, enriching pedagogies - that make a substantial contribution to student learning and success.
Some Educational Activities are Unusually Effective

“High-impact practices” provide substantial educational benefits to students

HIPs on NSSE

High-Impact Practices

- Learning community
- Service-learning
- Research with faculty
- Internship or field experience
- Study abroad
- Culminating senior experience
HIPs Positively Related to Deep, Integrated Learning, and Educational Gains

### Relationships between Selected High-Impact Activities, Deep Learning, and Self-Reported Gains

<table>
<thead>
<tr>
<th></th>
<th>Deep Learning</th>
<th>Gains: General</th>
<th>Gains: Personal</th>
<th>Gains: Practical</th>
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<tbody>
<tr>
<td><strong>First-Year</strong></td>
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<tr>
<td>Learning Communities</td>
<td>+++</td>
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<tr>
<td>Service Learning</td>
<td>+++</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>Study Abroad</td>
<td>++</td>
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<td>Student–Faculty Research</td>
<td>+++</td>
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<tr>
<td>Internships</td>
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<tr>
<td>Service Learning</td>
<td>+++</td>
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<tr>
<td>Senior Culminating Experience</td>
<td>+++</td>
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</table>

* p<0.001, ++ p<0.001 & Unstd B > 0.10, +++ p<0.001 & Unstd B > 0.30

Impact of HIPs is Greatest for Historically Underserved Students
HIP Effectiveness Research Led to Prescription:

All Students Do 2... one early, one later
Effect of Multiple HIPs

• Huber (2010) CSUN senior analysis: multiple HIP participation modestly...
  – enhanced GPA at exit
  – reduced time to degree among students who entered first-time, first-year
  – increased likelihood that student graduated in timely fashion
Impact of Participation in HIPs on % of Senior NSSE Respondents Graduating on Time by Racial & Ethnic Background

HIP participation benefits Latina/o students more; Latina/o respondents Graduating “on time” Increases as HIP Participation increases, Rising from 38% to 73%
Reflective & Integrative Learning

During the current school year, how often have you

- Combined ideas from different courses when completing assignments
- Connected your learning to societal problems or issues
- Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments
- Examined the strengths and weaknesses of your own views on a topic or issue
- Tried to better understand someone else’s views by imagining how an issue looks from his or her perspective
- Learned something that changed the way you understand an issue or concept
- Connected ideas from your courses to your prior experiences and knowledge
NSSE 2015-16: Senior Reflective & Integrative Learning by Multiple HIPs

Oneway ANOVA revealed statistically significant differences, but effects were small (Cohen’s $f\ 0.208$).
HIP Participation NSSE 2007 vs. 2016

- Learning Community: 25% (2007) vs. 25% (2016)
- Undergrad Research: 19% (2007) vs. 25% (2016)
- Study Abroad: 14% (2007) vs. 14% (2016)
- Internships: 53% (2007) vs. 51% (2016)
- Service-Learning*: 46% (2007) vs. 61% (2016)
- Capstone: 32% (2007) vs. 46% (2016)

* S-L question changed in 2013, but is roughly approximate.
HIPs: Differences by Race-Ethnicity

- 52% Internships overall
- Yet only 42% of African American students did an Internship

Source: “Assessment of High-Impact Practices: Using Findings to Drive Change in the Compass Project,” by A. Finley, Spring 2011, Peer Review.
More Difference... HIPs & First Generation Status

Data source: NSSE 2016
Overall HIP Participation: Race/Ethnicity

Senior year

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>No HIPs</th>
<th>One HIP</th>
<th>Two or more HIPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>14%</td>
<td>23%</td>
<td>63%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>17%</td>
<td>29%</td>
<td>55%</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>16%</td>
<td>27%</td>
<td>55%</td>
</tr>
<tr>
<td>Asian</td>
<td>14%</td>
<td>27%</td>
<td>59%</td>
</tr>
</tbody>
</table>

Data source: NSSE 2016
HIPs: What We Know for Sure

• HIP participation positively related to several educational outcomes
• Salutary effect for historically underserved students
• Multiple HIPs overall positive – including reflective & integrative learning
• Desired by employers
• Enjoyable to students & faculty
• HIP participation growing
  (HIPs on NSSE show modest increases, more multiples)
HIP Concerns: Equity & Quality

• Equity concerns:
  • accessibility
  • negative experiences for students of color
  • effect on faculty

• Quality concerns:
  • curricular coherence
  • connections to co-curriculum
  • must be done well
  • little assessment of quality alignment with future of degree
Critiques of Negative Impact for Students of Color?

**Critical Race Theory (Patton, Harper & Harris, 2015):**

- Are HIPs appealing to underrepresented students?
- HIPs may create opportunities for impactful, but negative experiences for students of color by exposing students to micro-aggressions & other racist behaviors in an intensive, academic experience
- Are there HIPs that bolster students of color belongingness that aren’t captured in current HIP definitions?
Educational Coherence: Stacked or Integrated HIPs?
Connecting HIPs in Co-Curriculum?

- HIPs demand student time & effort in and out of class
- Ensure all educators guide students to practices
- Collaborate to deliver effective HIPs
HIP Effect on Faculty?

• How important is it to faculty that undergraduates do HIPs (“very important + important”):
  – Culminating Exp/Capstone 86%
  – Internships 82%
  – Community Service 58%
  – Research with faculty 57%
  – Learning comm.(FY) 46%
  – Study Abroad 41%

» FSSE 2015 Upper Division Faculty results

• Implies other pedagogies are “low-impact”?
• HIPs on top of teaching load?
• Administrative curricular change?
• Expensive, siphon $ from research?
HIP Implementation Challenges?

• Most High Impact Practices demand:
  – Financial resources
  – Significant time and coordination for students
    (harder for commuters/non-trads/working students)
  – Faculty/mentor time that is often only regarded
    as service
  – Administrative resources, professional development

• There’s a significant learning curve to doing them well
Stuff that has been on the margins of the curricular experience – service learning, undergraduate research, internships – could be built into the degree.

Randy Bass, vice provost of undergraduate education, Georgetown University
HIPs Aligned with Future of the Degree?

Mix of academic disciplines interwoven with workplace experiences & hands on projects

Cohort-based projects

Agile, and adaptive

Modular
Jennifer Keup, Ph.D.
Director
National Resource Center for The First-Year Experience and Students in Transition
Creating Coherence Across the Curriculum: Finding Evidence of Vertically Integrated High-Impact Student Transition Programs

Jennifer R. Keup
Director, National Resource Center for FYE&SIT
keupj@mailbox.sc.edu
To answer demands for accountability; meet goals set by the federal government, state legislatures, and institutional constituents for increased persistence and graduation rates; and respond to the public outcry regarding higher education’s return on investment, institutions have become more attentive to facilitating student success. Particular attention has been paid to college transitions during periods that represent typical leakage points in the educational pipeline toward degree completion.
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 for a specific period. The higher-quality first-year experiences place a strong emphasis on critical thinking, 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.

Core Course Intellectual Experiences
The ideal idea of a “core” curriculum has evolved into a variety of modern forms, such as a series 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 co-curricular 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” or offer future service learning.

Writing-intensive Courses
These courses emphasize writing at all levels of instruction and across the curriculum, including first-year projects. Students are encouraged to produce and revise various forms of writing for different audiences in different disciplines. The effectiveness of this required 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.

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Evidence of Effectiveness
More Than Passing the Baton
GAP: Literature on HIPs and student success has focused on each year, transition point, or intervention as a separate unit.

PURPOSE: Exploring the connections between HIPs toward the creation of a comprehensive and integrated institutional approach to supporting undergraduate students.
Introduction & Objectives

• **RATIONALE**: Integrated approaches would:
  
  – Increase the relevance, accessibility, and effectiveness of institutional support structures for students
  
  – Streamline the delivery of services and create economies of scale
  
  – Respond to the call to treat HIPs “as a set of effective tools rather than as discrete experiences...to conceptualize the collective impact [of] these practices.” (Finley & McNair, 2013)
Conceptual Framework

• “Foundations of Excellence” for the first-year and transfer experience (Barefoot, Gardner, Cutright, et al., 2005)

• Undergraduate curriculum
  – Vertical and horizontal alignment in curriculum coherence, learning standards, and educational progression
  – Instructional scaffolding
Methods: Data

• 2012-2013 National Survey of First-Year Seminars (NSFYS) (N = 896)
  – 90% with a FYS
  – Most common: Extended orientation type of FYS

• 2014 National Survey of Sophomore-Year Initiatives (NSSYI) (N=778)
  – 47% with a program intentional targeted to second-year students
  – Most common: Academic advising
Methods: Data

• 2016 National Survey of Senior Capstone Experiences (NSSCE) (N = 383)
  – 95% with a capstone
  – Most common: Discipline-based capstone course

• Limitations
  – Survey items tended to focus on primary HIP method
  – Not the same group of institutions
Methods: Analyses

• Comparable questions across surveys
  – **PURPOSE**: 14 items on HIP objective
  – **STRUCTURE**: 1 on length of time on campus, 1 on proportion of students reached, 1 on administrative unit overseeing the HIP, and 3 on leadership of the HIP
  – **ASSESSMENT**: 2 items on assessment methods

• Comparative & descriptive analyses
Results: Purpose

• Retention & academic skills misaligned [-]
• Personal development & student-faculty interaction equal & of moderate importance [+]
• Financial & information literacies were equal but of low importance [n/a]
Figure 2. Most Important Objectives: Developmentally Aligned [+]

- Provide orientation to campus resources & services/information
- Develop study skills
- Develop support network or friendships
- Preprofessional/career preparation
- Develop intercultural competence
Results: Structure

• **HISTORICAL DURATION [+]:** The % of the respective HIPs that had been in place for “3 to 10 years” was very similar (41% to 42.7%)

• **STUDENT REACH [+]:** Majority of institutions report that at least 80% of their target student populations participate in the initiatives and senior capstone experiences and first-year seminars have even higher rates of student engagement
Figure 3. Unit Administering the HIP [-]

- Academic affairs (central office)
- College or school
- Academic department(s)
- Student affairs (central office)
- Other

Legend:
- 12-13 NSFYS
- 14 NSSYI
- 16 NSSCE
Results: Assessment

- **HISTORY [+]**: Approximately half or more of the institutions responding to the surveys indicate that they have conducted assessment of the initiative.

- **METHODS [-]**: Several assessment methods were employed for each initiative, but similar patterns of use of assessment methods across high-impact practices did not emerge.
Conclusions

• Potential for developmental alignment of purpose across HIPs

• Common historical duration and student reach provide structural foundation for connection

• Administrative oversight is most substantial structural limitation; requires collaboration

• Type/method of assessment is a fundamental (but fixable) constraint on alignment across HIPs
INTENTIONALITY
BY DESIGN
Guiding Questions for Integrative Liberal Learning

How do we help students become intentional learners?
Cycle of Intentional Learning

FACULTY LEADERSHIP FOR INTEGRATIVE LIBERAL LEARNING: PRINCIPLES AND PRACTICES

SOURCE: ANN S. FERREN AND DAVID C. PARIS, AAC&U, 2015
Principles and Practices for Faculty Leadership

- Promoting Shared Responsibility
- Aligning Policies and Procedures
- Engaging Faculty and Staff—Motivation? Rewards? Incentives?
- Building Institutional Capacity
- Emphasizing High Levels of Student Learning
- Initiating and Sustaining Change
Guiding Questions for Integrative Liberal Learning

How are intellectual and practical skills practiced extensively across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance?

Are opportunities for students to achieve learning outcomes related to personal and social responsibility anchored through active involvement with diverse communities and real-world challenges?

How are students demonstrating their application of knowledge, skills, and responsibilities to new settings and complex problems?
Guiding Questions for Integrative Liberal Learning

How do our current curricular designs recognize the stages of student development and the importance of connecting and scaffolding learning experiences?

Where in the curriculum and co-curriculum do we emphasize a variety of student-centered and problem-based pedagogies?

How do we make explicit connections among a variety of learning practices for students?
Guiding Questions for Implementation of Integrative Liberal Learning

1. How can faculty leaders promote shared responsibility for student learning outcomes, making the crucial shift from “my work” to “our work”?

2. How can faculty leaders work at both the institutional and the departmental level to identify barriers to integrative liberal learning?

3. How can faculty leaders facilitate communication among practitioners, experimenters, and observers to connect integrative liberal learning to the guiding vision for the institution?

4. How can faculty leaders create a shared culture receptive to innovation?
Guiding Questions for Implementation of Integrative Liberal Learning

1. How can faculty leaders promote professional development to enhance faculty and staff capacity?

2. How can faculty leaders see integrative learning as open-ended and encourage increasing levels of challenge and continuous improvement in student achievement?

3. How can faculty leaders use evidence to promote development of integrative liberal learning and demonstrate its effectiveness for all students?
Discussion