Critical factors affecting the outcomes of liberal education

Phoenix, March 2006

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“A society that demands quantitative measures greets with growing skepticism the anecdotal evidence typically used to support the effectiveness of the liberal arts.”

– Proposal to the Lilly Endowment, Inc. 2000

$33 million from Lilly Endowment, Inc.
- Trippet Hall
- Support for Wabash programs
- Support for the Center’s research
Research

• Collaborators
  – Ernest Pascarella (University of Iowa)
  – Greg Wolniak (Human Capital Research Corporation)
  – Tricia Seifert (University of Iowa)
  – Ty Cruce (Indiana University)
  – Kathleen Goodman (University of Iowa)
  – Carol Geary Schneider (AAC&U)

• Two Studies
  – First phase of the Wabash National Study of Liberal Arts Education (2005)
• National Study of Student Learning
  – 16 institutions, 2900 students
    • 3–year longitudinal study
    • Pre–college measures on all variables
  – 11 outcome measures
  – 19 measures of good teaching practices

• First phase, Wabash National Study of Liberal Arts Education
  – 4 institutions, 650 students
    • Cross–sectional study
  – Wider array of outcome measures
  – Similar measures of teaching practices

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1 - Test
- Reading
- Writing skills
- Mathematics
- Science
- Critical thinking
- Openness to diversity/challenge
- Learning for self-understanding
- Sense of responsibility for one’s own academic success
- Preference for deep and difficult intellectual work
- Positive attitude toward literacy
- Plans to obtain a graduate degree

2 - Survey
Ask students about teaching conditions

3 - Retest
Same items as first test

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ACT Collegiate Assessment of Academic Proficiency (CAAP) Test

• Designed to test general education outcomes
• Includes multiple-choice tests on
  – Reading
  – Writing skills
  – Mathematics
  – Science
  – Critical thinking
• Each test is 45–60 minutes long
Scales measuring

• Openness to diversity and challenge
• Learning for self-understanding
• Internal locus of control for academic success
• Preference for higher–order cognitive tasks
• Positive attitude towards literacy

These are modest liberal arts outcomes

• Multiple–choice tests and surveys are limited
• Do not represent our most ambitious goals
Teaching conditions

• Student–faculty contact
• Cooperative and peer learning
• Active learning/time on task
• Prompt feedback
• High expectations
• Quality of teaching
• Interactions with other students
Differences among institutional types?

• Yes on teaching practices and institutional conditions
  – Liberal arts colleges had higher levels on many supportive practices and conditions

• No on outcomes
  – Variability “washed out” any differences among institutional types
What if we examine a core set of practices and conditions —

- High quality non-classroom interactions with faculty
- Faculty interest in teaching and student development
- Instructional skill, clarity, organization, and preparation
- Scholarly/intellectual emphasis
- Academic effort, involvement, and challenge
- Number of essay exams in courses
- Quality of interactions with students
- Extracurricular involvement
- Integration of ideas across courses
- Coursework in arts and sciences

—But pay no attention to where these practices occur?
This combination of practices and conditions produced gains in:

- Reading comprehension
- Critical thinking
- Science reasoning
- Writing skills
- Openness to diversity/challenge
- Learning for self–understanding
- Sense of responsibility for one’s own academic success
- Preference for deep and difficult intellectual work
- Positive attitude toward literacy
- Plans to obtain a graduate degree
Additional findings

• Institutions with higher average levels of these conditions had greater average gains in the outcomes

• Combination effective at all institution types
  – Community colleges, historically black institutions, liberal arts colleges, regional universities, and research universities

• Combination effective to date in Wabash National Study
  – New outcomes: need for cognition, well-being, leadership
  – Replication: openness to diversity, valuing literacy
Additional findings

• The presence of these teaching practices and institutional conditions was not related to institutional selectivity

• These teaching practices and institutional conditions had the largest positive impact for:
  – Students of color
  – Women
  – At-risk students
Importance of variability

• Why no outcome differences among types of institutions?

• What about the differences among our students?
Courtesy George D. Kuh and NSSE

- Level of Academic Challenge
- Active and Collaborative Learning
- Student Interactions with Faculty Members

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Discussed ideas from your readings or classes with faculty members outside of class

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<th>Frequency</th>
<th>Doc-Ext</th>
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<th>Bac-LA</th>
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<td>Never</td>
<td>48%</td>
<td>43%</td>
<td>31%</td>
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<tr>
<td>Sometimes</td>
<td>37%</td>
<td>38%</td>
<td>45%</td>
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<tr>
<td>Often</td>
<td>11%</td>
<td>14%</td>
<td>16%</td>
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<tr>
<td>Very often</td>
<td>4%</td>
<td>5%</td>
<td>8%</td>
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</table>

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First year students - NSSE 2005
Who experiences our combination of practices and conditions?

• Race
  – Students of color experience lower levels than white students

• Class
  – Students in the lowest SES quartile experience lower levels than students in the highest quartile
Conclusion

• We have identified a set of teaching conditions and institutional practices that:
  – Produce a broad spectrum of outcomes
  – Are easily measured by student self-report
  – Work across different types of institutions

• We also found important variation both between and within institutions
Wabash National Study of Liberal Arts Education

- Longitudinal study
- 18 institutions and 5,500 students
- Qualitative and quantitative methods
- Outcomes include:
  - Effective reasoning and problem solving
  - Inclination to inquire and lifelong learning
  - Integration of learning
  - Intercultural effectiveness
  - Leadership
  - Moral character
  - Well-being

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