Assessing Student Learning
Lessons Learned from the Wabash National Study
January 2010
Wabash National Study

- 49 institutions
- More than 17,000 students to date
- Longitudinal
- Purpose – identify high-impact practices that promote liberal education
What do students bring into their science courses?

• Tuning courses/programs for where your students start
  – What are your students’ incoming
    ‣ Study skills?
    ‣ Preparation?
    ‣ Engagement in previous classes?
    ‣ Resilience - Tools for dealing with challenges?

• Selection effects
  – To what extent does your students’ performance reflect what they brought into the course rather than their effort and growth in your course?
Of 17,500 entering students

- 23% report that contributing to science is important
- Of that 23%
  - 34% intend to earn an MS/MA, and 49% intend to earn a PhD
  - 10% are African American, 6% Latino/Latina
  - 52% are women
  - 30% intend to major in science
    - About the same at the end of the first year
  - 3% intend to major in math/statistics
Measure good practices

- **NSSE, CSEQ, HERI**
  - Students’ self-reports on good practices predict their growth on outcomes, GPA, and credits completed
    - *Disaggregate survey results at the department level*

- **Survey at the classroom level**
  - **CLASSE, IDEA**

- “Appropriate” questions from surveys for your class
  - e.g., Are you participating in study groups for this class?

- Ask student-led student interviews and focus groups
What experiences improved student interest in contributing to the sciences?
**NSSE Active & Collaborative Learning**

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class
- Worked with classmates outside of class to prepare class assignments
- Tutored or taught other students (paid or voluntary)
- Participated in a community-based project (e.g., service learning) as part of a regular course
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
NSSE Student-Faculty Interaction

- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside of class
- Worked with faculty members on activities other than coursework (committees, orientation, student-life activities, etc.)
- Received prompt written or oral feedback from faculty on your academic performance
- Worked on a research project with a faculty member outside of course or program requirements
Cooperative learning

- Students teaching each other in addition to faculty teaching
- Faculty encouraging students to form study groups
- Students participating in study groups
- Working with classmates to prepare class assignments or projects
<table>
<thead>
<tr>
<th>Active and Collaborative Learning</th>
<th>✓</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking</td>
<td>✓</td>
</tr>
<tr>
<td>Contribution to the Arts</td>
<td>✓</td>
</tr>
<tr>
<td>Political/Social Involvement</td>
<td>✓</td>
</tr>
<tr>
<td>Leadership</td>
<td>✓</td>
</tr>
<tr>
<td>Academic Motivation</td>
<td>✓</td>
</tr>
<tr>
<td>Well-Being</td>
<td>✓</td>
</tr>
<tr>
<td>Literacy</td>
<td>✓</td>
</tr>
<tr>
<td>Diversity/Challenge</td>
<td>✓</td>
</tr>
<tr>
<td>Moral Reasoning</td>
<td>✓</td>
</tr>
<tr>
<td>Need for Cognition</td>
<td>✓</td>
</tr>
<tr>
<td>Universality/Diversity</td>
<td>✓</td>
</tr>
</tbody>
</table>
Explore variability

What do students in the 1st and 4th quartiles tell you about how things are going?
NSSE Student Faculty Interaction

Large Schools

Small Schools