INDIRECT MEASURES
- UTILIZING CAMPUS STUDENT SURVEYS -

Mary Keenan
Coordinator, Student Success Initiatives, Academic Administration
Overview of Direct versus Indirect Measures

Indirect Measures: Campus-wide Student Surveys

National Survey of Student Engagement (NSSE)

U of MN Student Experience/Senior Exit Survey (SES)
Direct Measures

- Explicitly demonstrate students’ knowledge and/or skill.
- Attainment of the objective is obvious and does not need to be inferred.

**Objective:** Students will be proficient in the use of equipment in science labs

**Direct Measure:** Observation of students using the equipment and rating each student’s proficiency
Direct Measures

Examples:

- Writing samples
- Score gains
- Locally or nationally designed tests and inventories
- Portfolio artifacts
- Capstone projects
- Projects and presentations
- Scores and pass rates on standardized tests
- Internships, clinical experiences, practica, student teaching, and other professional/content-related experiences
- Graduates’ skills in the workplace observed and rated by employers
Indirect Measures

- Infer whether the objective has been met.
- Do not directly demonstrate students’ knowledge or skill.

**Objective:** Students will be proficient in the use of equipment in science labs

**Indirect Measure:** Survey asking students to rate how proficient they are in using the equipment
Indirect Measures

Examples:

- Course grades
- Graduation rates
- Employment or placement rates of graduating students into appropriate career positions
- Course evaluation items related to the overall course or curriculum quality
- Rate of student involvement in faculty research, collaborative publications and research, internships, service learning, etc.
- Curriculum and syllabus analysis
- Surveys, questionnaires, focus-groups, or individual interviews
Indirect Measures

Why use indirect measures of student learning?

- To complement direct measures.
- To provide evidence of subsequent success, satisfaction, and value added.
- To obtain information based on stakeholders’ perspective.
- To provide evidence of validity of competencies/learning outcomes and student attainment.
Direct or Indirect Measure?

- Evaluation of senior capstone projects: direct
- Licensure exams: direct
- Job placement rates of graduates: indirect
- Essay question responses blind scored: direct
- Analysis of grade distributions: indirect
- Satisfaction surveys: indirect
One direct measure and one indirect measure your program is considering as part of its assessment plan.
UMD Learning Goals (proposed)

UMD promotes six major student learning goals at the undergraduate level:

- **Knowledge**—Knowledge acquisition, construction, integration, and application
- **Thinking**—Cognitive complexity
- **Self-Realization**—Intrapersonal development
- **Relationships**—Relational interdependence
- **Social Responsibility**—Community engagement and humanitarianism
- **Life Skills**—Practical competence
Utilize existing data rather than create new data collection tools.
NSSE Overview

- Assesses the extent to which students engage in educational practices associated with high levels of learning and development.
- Points to areas where colleges are performing well in enhancing learning, as well as aspects of the undergraduate experience that could be improved.
- Provides national, sector, and institutional data.
A. Acquiring a broad general education (knowledge)  
   3.14

B. Acquiring job or work-related knowledge and skills (knowledge)  
   2.89

C. Thinking critically and analytically (thinking)  
   3.24

D. Analyzing quantitative problems (thinking)  
   2.99
E. Writing clearly and effectively (relationships)  
   2.96

F. Speaking clearly and effectively (relationships)  
   2.82

G. Understanding people of other racial and ethnic backgrounds (social responsibility)  
   2.37

H. Contributing to the welfare of your community (social responsibility)  
   2.3
Self-reports are likely to be valid under five general conditions:

1. when the information requested is known to the respondents;
2. the questions are phrased clearly and unambiguously;
3. the questions refer to recent activities;
4. the respondents think the questions merit a serious and thoughtful response; and
5. answering the questions does not threaten, embarrass, or violate the privacy of the respondent or encourage the respondent to respond in socially desirable ways.

NSSE was intentionally designed to satisfy all these conditions.

Additional information available at http://nsse.iub.edu/html/PsychometricPortfolio_Validity.cfm
NSSE Assesses

- Quality of effort and time spent studying
- Involvement in active and collaborative learning
- Experiences with higher order thinking, reflective learning and integrative learning
- Quality of interactions with peers and faculty in and outside classroom
- Perceptions of environment of learning (support for academic work, emphasis on attending speakers, diversity experiences)
NSSE Survey Items

- Academic activities
- Learning mental activities
- Reading and writing
- Homework
- Academic challenge
- Co-curricular activities
- Enriching educational experiences
- Campus relationship
- Time usage
- Institutional emphasis
- Gains
- Satisfaction
UMD’s Participation with NSSE

  - Will participate every two years
  - Next - Spring 2010
- Proctored via the online survey
  - UMD provides pool; NSSE contacts and follows up
- Respondents/response rate
  - First-Year Students – 30% (603 of 2042)
  - Senior Students – 35% (689 of 1942)
Student Experience /Senior Exit Survey (SES)

University of Minnesota Survey
Includes student responses about a variety of behaviors and attitudes:

- Involvement in campus programs and engagement with the faculty
- Time spent working and studying
- Finances
- Overall satisfaction with the University
- Assessment of coursework, advising, and campus facilities
Time devoted to coursework?

What percentage of undergraduate students report that they spend 20 or more hours per week studying?

1. 34%
2. 48%
3. 53%
4. 27%
Student Experience /Senior Exit Survey (SES)

- Conducted via the Internet every two years
  - 2007 results are available; 2009 results just received by UMD

- Student Experience Survey: a sample of UMD undergraduate and graduate/professional students
  - Undergraduate response rate: 46.9% (489 or 1043)
  - Graduate/professional response rate: 58% (301 of 519)

- Senior Exit Survey: all undergraduate seniors who applied for graduation (including those in SES sample)
  - Senior response rate: 50.7% (494 or 974)
Assessment of UMD Learning Outcomes

Mapping Campus-wide Student Survey Data to UMD’s Learning Outcomes
UMD undergraduate graduates will…

- LO 1: Demonstrate competence in a major field. (Knowledge)
- LO 2: Construct, integrate, and apply knowledge from instruction and experience. (Knowledge)
- LO 3: Think critically and creatively in seeking solutions to practical and theoretical problems. (Thinking)
- LO 4: Use ethical reasoning to make informed and principled choices. (Self-Realization and Social Responsibility)
- LO 5: Demonstrate self-knowledge across a range of developmental areas. (Self-Realization)
- LO 6: Communicate effectively through writing, speaking, and interpersonal and group interactions. (Relationships)
- LO 7: Apply understanding of cultural differences in diverse environments. (Social Responsibility)
- LO 8: Contribute to local, national and global communities in which they live. (Social Responsibility)
- LO 9: Apply life skills to succeed in college and beyond. (Life Skills)
<table>
<thead>
<tr>
<th>NSSE Measures: To what extent has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?</th>
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<tbody>
<tr>
<td>Acquiring a broad general education</td>
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<td>Using computing and information technology</td>
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<td>Working effectively with others</td>
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<td>Voting in local, state, or national elections</td>
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<td>Learning effectively on your own</td>
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<td>Understanding yourself</td>
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<td>Understanding people of other racial and ethnic backgrounds</td>
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<td>Solving complex real-world problems</td>
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<td>Developing a personal code of values and ethics</td>
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<td>Contributing to the welfare of your community</td>
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<td>Developing a deepened sense of spirituality</td>
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Next Steps

- 2010 NSSE
  - Increase student response rate
  - Systematically share results with campus and programs

Additional NSSE information available at www.d.umn.edu/vcaa/retention
Indirect Measures

- Complement your direct measures.
- Provide evidence of success, satisfaction, and value added.
- Inform us of the stakeholders’ perspective.
- Strengthen the assessment process by providing evidence of validity of competencies/learning outcomes and student attainment.

Utilize existing data rather than create new data collection tools.
Thank you!

Mary Keenan
130 Montague Hall
mkeenan@d.umn.edu
726-7009