General Education Assessment

Assessment is a Team Sport

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ethoven

ANNY Presentation
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17,950 students (fall 2012 total)
- 15,085 undergraduates
- represent all 50 states and more than 100 countries
- 9 colleges
- 1,032 full-time faculty
- 3.5 Assessment Office staff (Academic Affairs)
- UNIVERSITY COLORS: Orange and brown
- UNIVERSITY MASCOT: Bengal tiger “Ritchie”
- UNIVERSITY ATHLETIC TEAMS: Tigers
Brief Overview: General Education Framework and Assessment Plan

Faculty Engagement Model
- Planning
- Implementation
- Data Collection
- Analysis & Use of Results
- Continuous Improvement
New Gen Ed Framework

- General Education Student Learning outcomes approved prior to Framework development
- Framework approved fall 2010, implemented fall 2012
- Focus on university-wide engagement
- Not disciplinary, but outcome driven
- Opportunities for integrated and inter-/trans-disciplinary experiences
Other opportunities for campus-wide faculty engagement

- General Education Committee – nine colleges represented
- Developed Gen Ed Faculty Associate Position
Faculty Engagement

“The more faculty are engaged and involved in assessment, the more successful and meaningful the assessment is.”
Faculty Engagement Model

Here's What It Looks Like On Our Campus

PLANNING
General Education Faculty Team(s) (re)convene to review, plan, design or refine instruments, and set or review achievement benchmarks (summer)

USING RESULTS FOR CONTINUOUS IMPROVEMENT
Combined faculty teams review data and assessment processes, prioritize and make recommendations for improvements and next steps (summer)
Assessment Office produces Gen Ed Report for community and facilitates follow-up assessment initiatives (ongoing)

IMPLEMENTATION
Faculty member(s) determine which course assignment(s), map and review rubric(s) and achievement benchmark(s), and assess outcome(s) in course(s) (fall, winter, or spring)

ANALYSIS & USE OF RESULTS
Faculty review data and make recommendations to maintain or improve curriculum, instruction, or assessment practices (end of assessment cycle)

DATA COLLECTION
Faculty collect course level data and submit electronic data collection information on student achievement to Assessment Office (end of course)
Engaging Faculty: Strengths and Challenges at RIT

**Strengths**

Positive momentum
- Leveraging university initiatives
- Semester conversion
- New framework and outcomes

**Challenges**

Time constraints
- Program and course re-design
- Semester conversion
- New SIS
How engaged are faculty in General Education Assessment on your campus?

What are the strengths and challenges on your campus as you engage faculty in General Education Assessment?

1. Highlight one Strength
2. Identify one Challenge
3. Place sticky notes to elements of the engagement model
Faculty Engagement Model

General Education Faculty Teams

**Input**
- Multidisciplinary Team with expertise
- Charge (see slide 11)
- Rubric examples
- Rubric template
- Assessment Office facilitation
- Stipend for summer work

**Output**
- Final Rubric (see slide 12)
- Preliminary benchmark
- Planning document
- Ongoing consultation and relationship
- Faculty engagement

**Planning**
General Education Faculty Team(s) (re)convene to review, plan, design or refine instruments, and set or review achievement benchmarks (summer)
Charge

In spring 2009, the ICC and Academic Senate approved RIT’s General Education Student Learning Outcomes and initial three year schedule. To ensure thoughtful planning and implementation of the General Education Assessment Plan, faculty work teams are being developed based on the General Education Student Learning Outcomes. The faculty team will focus on two Scientific student learning outcomes: 1) Demonstrate knowledge of basic principles and concepts of one of the natural sciences, and 2) Apply methods of scientific inquiry and problem solving to contemporary issues.

The purpose of the team is to review the current assessment work and select the courses and assignments to measure the student learning outcomes. The team will:

- Develop a data collection schedule
- Recommend faculty development and resources
- Recommend strategies for sharing and using results

Deliverables

- Review general education project pilot information, planning matrix, and make recommendations for data collection
- Review and select courses and assignments
- Review and select or develop rubrics for assignments
- Develop plan for 2009-10 assessment to include data collection schedule and faculty development
- Recommend strategies for sharing results and discussing needed improvements
### Student Learning Outcome: Demonstrate Knowledge of Basic Principles and Concepts of One of the Natural Sciences

**Perspectives: Natural Science Inquiry or Scientific Principles**

<table>
<thead>
<tr>
<th>Beginning (1)</th>
<th>Developing (2)</th>
<th>Competent (3)</th>
<th>Exemplary (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student does not exhibit clear understanding of scientific principles and concepts. Displays little or no comprehension of basic ideas, their scope, and their interrelationships. Often unable to rely on basic principles to solve problems or to identify applicable principles when faced with unfamiliar problems.</td>
<td>Student displays limited understanding of scientific principles and concepts. Displays comprehension of basic ideas, but fails to understand their scope and interrelationships. Occasionally relies on basic principles to solve problems, and sometimes identifies applicable principles when faced with unfamiliar problems.</td>
<td>Student displays frequent but inconsistent understanding of scientific principles and concepts. Displays thorough comprehension of basic ideas, but exhibits occasional confusion about their scope and interrelationships. Often able to rely on basic principles to solve problems or to identify applicable principles when faced with unfamiliar problems.</td>
<td>Student manifests a thorough understanding of scientific principles and concepts. Displays thorough understanding of basic ideas, how they interrelate, and their domain of validity. Able to call upon correct scientific arguments when faced with unfamiliar problems.</td>
</tr>
</tbody>
</table>

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**RIT Benchmark**

The majority (more than 50%) of students will demonstrate a mid-developing (2.5) to competent rating (3.0) on the 4 point scale.
In-depth look at a Faculty Team Workshop

- General Education Faculty Team – Science, Math and Technology Outcomes
- 4 faculty, 3 days, 6 outcomes
  - Start with “unpacking the outcomes”
    - What do they mean?
  - Develop a rubric across disciplines
    - Examples are helpful here!!!!!
  - Start with best and worst, then fill in the gaps
  - Brainstorm about courses and instructors
Basic Implementation Strategy:

1. Review course level learning outcomes (See Slide 15)
2. Select course constructs that align to performance criteria on the rubric
3. Select assignments for assessment
   Homework, quizzes, exams (all, some, none?)
4. Review the SLO rubric
5. Review benchmark
   3.0 Competent
6. Assessment!

IMPLEMENTATION
Faculty member(s) determine which course assignment(s), map and review rubric(s) and achievement benchmark(s), and assess outcome(s) in course(s) (fall, winter, or spring)
<table>
<thead>
<tr>
<th>Course Learning Outcome</th>
<th>Assessment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Define basic genetic principles.</td>
<td>Homework, Quiz, Exam</td>
</tr>
<tr>
<td>3.2 Explain the theory of evolution and its role as the central theme in biology.</td>
<td>Homework, Quiz, Exam</td>
</tr>
<tr>
<td>3.3 Describe the contributions of Wallace, Darwin, and others to the principles of evolution.</td>
<td>Homework</td>
</tr>
<tr>
<td>3.4 Explain how genetic variation and selection are the basis for evolution in a given environment.</td>
<td>Homework, Quiz, Exam</td>
</tr>
<tr>
<td>3.5 Explain how global climate change and environmental forces (including anthropogenic sources) can impact evolution in a given environment.</td>
<td>Exams</td>
</tr>
</tbody>
</table>
Basic Data Collection Strategy:

- Review current grading practices for selected assignments and align to rubric levels (1-2-3-4)
- Track student progress for each selected assignment
- Aggregate data across rubric levels and assignments
- Complete data collection form

DATA COLLECTION
Faculty collect course level data and submit electronic data collection information on student achievement to Assessment Office (end of course)
### Faculty Engagement Model

**General Biology Spring 2012**

#### HOMEWORKS

<table>
<thead>
<tr>
<th>Rank</th>
<th>HW #1</th>
<th>HW #2</th>
<th>HW #3</th>
<th>HW #4</th>
<th>HW #5</th>
<th>HW #6</th>
<th>HW #7</th>
<th>HW #8</th>
<th>HW #9</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2.34%</td>
<td>2.80%</td>
<td>1.87%</td>
<td>6.07%</td>
<td>3.27%</td>
<td>3.27%</td>
<td>3.27%</td>
<td>0.93%</td>
<td>11.21%</td>
</tr>
<tr>
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<td>0.47%</td>
<td>3.74%</td>
<td>0.47%</td>
<td>1.40%</td>
<td>0.93%</td>
<td>3.74%</td>
<td>0.47%</td>
<td>0.93%</td>
<td>2.80%</td>
</tr>
<tr>
<td>2</td>
<td>0.93%</td>
<td>2.34%</td>
<td>5.14%</td>
<td>4.21%</td>
<td>0.93%</td>
<td>0.93%</td>
<td>1.40%</td>
<td>0.47%</td>
<td>2.34%</td>
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<tr>
<td>3</td>
<td>5.61%</td>
<td>23.83%</td>
<td>14.95%</td>
<td>7.94%</td>
<td>10.28%</td>
<td>10.75%</td>
<td>13.08%</td>
<td>2.34%</td>
<td>7.48%</td>
</tr>
<tr>
<td>4</td>
<td>90.65%</td>
<td>67.29%</td>
<td>77.57%</td>
<td>80.84%</td>
<td>84.58%</td>
<td>81.31%</td>
<td>81.78%</td>
<td>95.33%</td>
<td>76.17%</td>
</tr>
</tbody>
</table>

| Avg Rank | 3.91 | 3.59 | 3.73 | 3.78 | 3.85 | 3.75 | 3.82 | 3.94 | 3.77 | 3.793 |

*NOTE: Average rank has Rank=0 removed*
## General Biology Spring 2012

<table>
<thead>
<tr>
<th>Rank</th>
<th>Quiz #1</th>
<th>Quiz #2</th>
<th>Quiz #3</th>
<th>Quiz #4</th>
<th>Quiz #5</th>
<th>Quiz #6</th>
<th>Quiz #7</th>
<th>Quiz #8</th>
<th>Quiz #9</th>
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<td>4.67%</td>
<td>6.54%</td>
<td>3.74%</td>
<td>5.61%</td>
<td>4.67%</td>
<td>4.21%</td>
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<tr>
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<td>6.07%</td>
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<td>4.67%</td>
<td>7.48%</td>
<td>2.80%</td>
<td>0.19%</td>
<td>4.21%</td>
<td>17.76%</td>
<td>13.08%</td>
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<td>2.80%</td>
<td>10.28%</td>
<td>8.41%</td>
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<tr>
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<td>16.82%</td>
<td>27.57%</td>
<td>11.21%</td>
<td>24.30%</td>
<td>10.28%</td>
<td>20.56%</td>
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<td>28.97%</td>
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<tr>
<td>4</td>
<td>66.36%</td>
<td>50.93%</td>
<td>76.17%</td>
<td>54.21%</td>
<td>80.37%</td>
<td>61.68%</td>
<td>69.63%</td>
<td>28.04%</td>
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<tr>
<td>Avg Rank</td>
<td>3.51</td>
<td>3.34</td>
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<td>3.5</td>
<td>3.55</td>
<td>2.7</td>
<td>2.98</td>
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*NOTE: Average rank has Rank=0 removed*
### EXAMS

<table>
<thead>
<tr>
<th>Rank</th>
<th>Exam #1</th>
<th>Exam #2</th>
<th>Exam #3</th>
<th>Final Exam</th>
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<tr>
<td>2</td>
<td>21.03%</td>
<td>31.78%</td>
<td>32.24%</td>
<td>9.35%</td>
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<tr>
<td>3</td>
<td>44.39%</td>
<td>41.12%</td>
<td>39.25%</td>
<td>19.16%</td>
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<tr>
<td>4</td>
<td>21.03%</td>
<td>7.48%</td>
<td>16.82%</td>
<td>7.94%</td>
</tr>
<tr>
<td>Avg Rank</td>
<td>2.74</td>
<td>2.4</td>
<td>2.63</td>
<td>2.74</td>
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</table>

*NOTE: Average rank has Rank=0 removed*
**Faculty Engagement Model**

**Analysis & Use of Results**

**General Biology Spring 2012**

<table>
<thead>
<tr>
<th>Assessed Item</th>
<th>Avg Item Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>3.793%</td>
</tr>
<tr>
<td>Quiz</td>
<td>3.371%</td>
</tr>
<tr>
<td>Exam</td>
<td>2.628%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Final Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>1</td>
<td>3.74%</td>
</tr>
<tr>
<td>2</td>
<td>14.02%</td>
</tr>
<tr>
<td>3</td>
<td>52.80%</td>
</tr>
<tr>
<td>4</td>
<td>29.44%</td>
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**Analysis & Use of Results**

Faculty review data and make recommendations to maintain or improve curriculum, instruction, or assessment practices (end of assessment cycle)

*NOTE: Average rank has Rank=0 removed*
### General Biology Spring 2012

<table>
<thead>
<tr>
<th>Demonstrate Knowledge of Basic Principles and Concepts of One of the Natural Sciences</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of students = 214</td>
<td>8 students achieved rating of 1</td>
<td>30 students achieved rating of 2</td>
<td>113 students achieved rating of 3</td>
<td>63 students achieved rating of 4</td>
</tr>
<tr>
<td>Percentage by course = 100%</td>
<td>3.74% of students achieved rating of 1</td>
<td>14.02% of students achieved rating of 2</td>
<td>52.80% of students achieved rating of 3</td>
<td>29.44% of students achieved rating of 4</td>
</tr>
</tbody>
</table>

17.76% did not meet Benchmark

82.24% met Benchmark
Take aways for me:

1. Identify problem areas through assessment of individual assignments
2. Modify assignments, lecture, study aides to assist with problem areas
3. Refocus “required” learning
Cautions for me:

1. Don’t take out the “hard stuff” and replace with “easy stuff”
2. Is everything I learned in college really necessary for my students today?
3. Memorization of tedious facts is not learning!
My recommendations:

1. Determine the need for foundational knowledge
2. Identify the core requirements of that foundational knowledge
3. Find the best ways to lead the students learning in those foundations

- Frequent assessment of changes!
Assessment Office:

**Using Results for Continuous Improvement**

Combined faculty teams review data and assessment processes, prioritize and make recommendations for improvements and next steps (summer). Assessment Office produces Gen Ed Report for community and facilitates follow-up assessment initiatives (ongoing).
Assessment Office:

- Collects data from faculty, “rolls up” at the university level
- Compile recommendations
- Facilitates combined faculty teams at annual mini retreat (coordinates closing the loop)
- Presents results, publishes reports
- Follow up with a Gen Ed work plan
What are the challenges and strengths on your campuses?

Top 3 Strengths

Top 3 Challenges