Implementing Your Assessment Plan: Collecting, Analyzing, and Reporting Data

DGP Assessment Workshop 3
One of the primary goals of the Graduate School is to raise the quality of graduate education at NC State through the improvement of graduate programs.
Two Tools for Improving Graduate Programs

1. Eight-year external review
   - Self-study
   - Visit by review team, including external reviewer(s)
   - Generation of action plan for improving program
Two Tools for Improving Graduate Programs

2. Internal review through outcomes assessment

• Faculty generate program objectives and outcomes (expectations for the program)
• Faculty decide how outcomes will be assessed
• Faculty assess outcomes
• Faculty use assessment findings to identify ways of improving their programs
Two Stages for Initiating Outcomes Assessment

1. Creating an assessment plan
   - Determining objectives and outcomes
   - Identifying data, sources of data, and frequency of collection
   - Creating a timetable for assessing outcomes

2. Implementing the assessment plan
   - Collecting data
   - Analyzing data
   - Evaluating data
   - Summarizing the results in a biennial report
Improving Programs

Collecting Data

Evaluating Data

Analyzing Data
Collecting Data

Goal:
To have data readily accessible when it is time to analyze the data.
Collecting Data

What data do we collect? What is the source of the data? How often do we collect the data?

Find this information in the Master Assessment Plan in InfoWeb
**Outcomes Analysis Years:** 2006-2007  
**Biennial Report Year/Semester:** 2007/Fall

**Program(s):** Aerospace Engineering; Mechanical Engineering  
**Objective:** To enhance visibility of the doctoral programs in mechanical and aerospace engineering nationally

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<th>Collection Date</th>
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<td>To attract, secure, and retain high-quality students.</td>
<td>Application statistics (details in summary below); GRE scores and GPA's of admitted students</td>
<td>Graduate School</td>
<td>Annually</td>
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<td>To enhance doctoral education by creating advanced courses, providing</td>
<td>Number of, and enrollment in, 700-level courses; number of 700-level courses in Ph.D. plans</td>
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<td>more support —resources for fellowships, research, travel to</td>
<td>of work; dollar amount of support for students; number of graduates placed in academic</td>
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<td>conferences, etc.—for doctoral students, and providing special</td>
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<td>careers.</td>
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<td>To place more graduates in academic positions in the U.S.</td>
<td>Number of graduates placed in academic positions in the U.S.</td>
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<td>To provide more support for research-active faculty, such as reduced</td>
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<td>Annually</td>
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<td>undergraduate teaching and increased research space.</td>
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Collecting Data

How do we manage the logistics of collecting and storing assessment data?
Typical Kinds of Data

• Rubrics for prelims and defenses
• Student Activity Reports/CV's
• Statistics on InfoWeb
• Faculty Activity Reports
• Student exit surveys or interviews
# Rubrics for Prelims and Defenses

**EVALUATION RUBRIC: Dissertation**

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<th>poor</th>
<th>competent</th>
<th>excellent</th>
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<td>• Reviews the literature in a way that demonstrates a comprehensive understanding of the research in the area of study</td>
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<td>• Identifies research questions or problems pertinent to the field of study, providing a focus for making a significant contribution to the field</td>
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<td>• Gathers, organizes, analyzes, and reports data using a conceptual framework appropriate to the research question and the field of study</td>
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<td>☐</td>
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<td>• Interprets research results in a way that adds to the understanding of field of study and relates findings to teaching and learning in mathematics</td>
<td>☐</td>
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<td>• Communicates research effectively in both written and oral forms using language appropriate to the field of study</td>
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<tr>
<td>• Has established a productive research agenda that prepares student to extend his or her research beyond graduate school</td>
<td>☐</td>
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Student Activity Reports/CVs

Education  (list of degrees and dates and colleges where degrees were granted)

Professional Experience  (list of professional activities, with appropriate dates, including teaching experience; internships; fellowships; and other employment related to your academic interests)

Publications  (list of articles or other professional works. Following the citation indicate if the article has been (published), (accepted) for publication, or (submitted) for publication; include authors, date of publication, title of article, title of journal or other publication; volume and issue, page numbers)

Presentations  (list of presentations of research to any of a wide variety of audiences and venues, such as graduate seminars and professional conferences for local, regional, national, and international audiences)

Professional Organizations  (list of professional organizations you are a member of and/or have participated in, any offices you hold in those organizations, and any off campus meetings you have attended)

Grants  (list of grant applications you have submitted (if any), indicating status of grant—(accepted), (in process), (rejected).)
# Statistics from InfoWeb

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Suggestions for Collecting Data

• Identify the kinds of data you need to collect, who is responsible for collecting them, and when they are to be collected.

• Determine where the data are to be stored and check periodically to be sure data are up to date.

• Make data collection and storage as much a departmental routine as possible.
Analyzing Data

Goal:
To put data into a form that will allow faculty to use them to evaluate the program.
Analyzing Data

When are we supposed to analyze the data in our assessment plan?

The typical program analyzes data from one objective per year. Find this information in the Master Assessment Plan in InfoWeb.
### Outcomes Analysis Years: 2007-2008
**Biennial Report Year/Semester:** 2008/Fall

**Program(s):** All programs  
**Objective:** To prepare students for successful careers in industrial design

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Data</th>
<th>Data Source</th>
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<tbody>
<tr>
<td>Define problems and establish appropriate goals, determine information resources and gather pertinent information.</td>
<td>Faculty assessment of final studio presentations by students</td>
<td>Program faculty</td>
<td>Every Two Years</td>
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<tr>
<td>Assimilate information and generate diverse alternatives towards appropriate design solutions. Identify viable exploratory paths towards meeting the stated design goals.</td>
<td>Faculty assessment of final studio presentations by students</td>
<td>Profram faculty</td>
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<tr>
<td>Pursue a thoughtful and creative design process using sketches, models, and digital explorations leading to an effective and appropriate design solution.</td>
<td>Faculty assessment of final studio presentations by students</td>
<td>Program faculty</td>
<td>Every Two Years</td>
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<tr>
<td>Demonstrate a mastery of verbal and graphic communication skills and project organization through public presentations and portfolio preparation</td>
<td>Faculty assessment of final studio presentations by students and student portfolios</td>
<td>Program faculty</td>
<td>Every Two Years</td>
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**Objective:** To enhance the quality and national standing of the graduate program in industrial design

<table>
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<th>Outcome</th>
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<td>The program maintains a faculty that excels in contributions to instruction, participation in pertinent professional organizations, as well as, research and creative activity</td>
<td>Annual faculty activity reports</td>
<td>Program faculty</td>
<td>Every Two Years</td>
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</tbody>
</table>
Typical Kinds of Data

- Rubrics for prelims and defenses
- Student Activity Reports/CV’s
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- Faculty Activity Reports
- Student exit surveys or interviews
## Spreadsheet for Rubrics for Prelims and Defenses

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| **COLUMN TOTALS** | 132 | 139 | 143 | 137 | 126 | 135 | 132 | 127 | 823 |
| **COLUMN AVERAGES** | 4.4 | 4.6 | 4.8 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | **TOTAL FOR ALL CATEGORIES** | **AVE FOR PROGRAM GROUP** |
# Spreadsheet for Student Activity Reports/CVs

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Graphs from InfoWeb Statistics
Suggestions for Analyzing Data

• Check each year to see what data are to be analyzed and try not to fall behind.
• Display quantitative data in table or graph.
• Discursive data, such as responses to open-ended questions on surveys or interviews, may be transcribed in a list.
• Contact the Graduate School to get spreadsheet for rubric and help for creating graphs with InfoWeb data.
Improving Programs

Collecting Data

Evaluating Data

Analyzing Data
Evaluating Data

Goal:
To use the data to judge the extent to which the program is meeting faculty expectations.
Evaluating Data

Who should evaluate the data?

Program faculty should play a central role in evaluating data, perhaps a graduate committee or the faculty as a whole.
Evaluating Data

When should the data be evaluated?

Each year after the data have been analyzed or at the end of the biennial reporting period.
Suggestions for Evaluating Data

• In most cases, the primary criterion for evaluation is faculty expectations. Allow faculty to discuss their expectations as a way of defining criteria for evaluation.

• Guide faculty discussion by asking them to identify strengths of the program and areas of concern.

• Evaluation is typically a judgment call; encourage faculty to trust their judgments.
Improving the Program

Goal:
To apply what has been learned in evaluating the data toward identifying actions to address areas of concern.
Improving the Program

Who should decide what actions to recommend?

As in evaluating the data, program faculty should play a central role in identifying ways to improve the program.
Improving the Program

When should faculty be asked to recommend actions?

This is typically done in conjunction with evaluation of the data.
Suggestions for Improving Programs

• Lead faculty in brainstorming; try to elicit multiple suggestions for actions.

• All suggestions should be evaluated for feasibility and validity (do they offer a good chance of affecting the area of concern?).

• It’s OK to conclude that change is not yet warranted, more data need to be collected.

• Also encourage faculty to address the need for changes in assessment procedures.
Improving Programs

Collecting Data

Evaluating Data

Analyzing Data
Biennial Outcomes Assessment Reports

A report that you submit through InfoWeb every two years in which you summarize your assessment process and findings.
Two Purposes of Biennial Reports

1. *Primary*: To maintain a record of assessment and improvements for you and subsequent DGPs to be used for self-studies, accreditation agencies, boards of advisors, etc.

2. *Secondary*: To provide evidence of a process of accountability at NC State.
Biennial Report: 5 Questions

1. What outcomes were you scheduled to assess during the present biennial reporting period? What outcomes did you assess?

2. What data did you collect? Summarize your findings for these data.

3. What did you and your faculty learn about your program and/or your students from the analysis of the data? What areas of concern have emerged?
Biennial Report: 5 Questions

4. As a result of your assessment, what changes, if any, have you and your faculty implemented or considered implementing to address areas of concern?

5. What outcomes are you planning to assess for the upcoming biennial reporting period?
Suggestions for Biennial Reports

• The emphasis is on brevity, responses that summarize findings.
• You do not have to include your actual data; again, summaries are preferable.
• Update assessment findings in the biennial reporting page in InfoWeb each year for that year’s objective.
Pilot Project: Biennial Reports

- Accounting
- Food Science
- Industrial Design
- Mathematics Education
- Mechanical and Aerospace Engineering
- Parks, Recreation, and Tourism Management
- Textiles Chemistry/Textiles Engineering
2 Examples: Question 1

During this period we planned to assess the four outcomes related to objective 1, “To guide the graduate education of students preparing for professional careers.” See assessment plan for full description of the four outcomes. We assessed outcomes 1 and 2 for objective 1. We were not able to assess outcomes 3 and 4 because efforts to collect curriculum vitae forms from students at their final defenses have largely failed.

We were scheduled to assess and assessed the three outcomes for objective 3, To maintain and improve the program’s leadership position nationally and internationally: (1) to attract, secure, retain, and graduate high-quality, diverse students; (2) to enhance doctoral education by providing advanced courses, providing effective mentoring, and providing financial support for fellowships, research, and travel to conferences; (3) to develop and maintain a diverse graduate faculty of scholars who actively contribute to knowledge production in their fields, participate in service to the department, and propose and attain grants related to research, teaching, and engagement.
Example: Question 2

We gathered data from rubrics filled out by faculty evaluating students’ final studio presentations and portfolios in spring semester 2006. In a sample of over half the students in the studio, nearly all performed at the level of the best that the faculty could expect or with only a slight margin for improvement. Only two students fell well below the highest levels of expectations listed on the rubric. Those two students were Track 3 students, admitted to the program with no previous experience in industrial design. This was their first semester in the program. The only other Track 3 student in the sample was a third-semester student, and that student scored with the rest of the students.
Example: Question 2

DATA COLLECTED: alumni surveys, rubrics to be filled out by faculty on student’s committee at student’s final defense. FINDINGS: OUTCOME A The College of Textiles Student Services Department has stated that “nearly all TC and TE MS graduates find appropriate employment within six months of graduation”. More precise data is not available since graduates do not always contact Student Services after accepting a job offer. OUTCOMES B, C, & D: The TECS Department uses a rubric at each student’s final defense to rate the student’s performance in effective communication, competency in their discipline, and effective interpersonal skills. The rating scale is 1 – 5 with 1 being unacceptable, 2 being poor, 3 being competent, 4 being good, and 5 being excellent. Between May 2005 and August 2006, 17 students received their MS in either TC or TE. The following rating averages were found. b. communicate effectively orally and in writing RATING 4.16; c. demonstrate competency in their discipline RATING 4.03; d. demonstrate effective interpersonal skills RATING 4.32.
Example: Questions 3 & 4

PhD students are continuing to enhance their research skills between the preliminary exam and the final defense. The high scores for PhD final defenses suggest that the research skills of PhD students are meeting the expectations of faculty. One area of concern is the relatively low scores of MS students on the 2 criteria related to communication abilities.

A workshop for graduate students on improving their written and spoken communication skills will be offered once per year as part of the regular MAE graduate seminar series. We will assess the value of the workshops through workshop evaluation forms and scores on criteria 1 and 5 of the rubric.
Example: Questions 3 & 4

While no significant concerns arose in our assessment, we have identified three areas of concern. 1. We feel that we could make a stronger case for students to consider other professional certifications in addition to or as an alternative to the CPA. In instances where students will begin their careers in IT auditing, the CISA certification is particularly relevant. For those students entering industry/corporate careers, the CMA or CFM certification would be highly valued. 2. MAC student involvement in student organizations could be improved. 3. Finally, the knowledge and understanding of environmental issues as they related to the accounting field has not been stressed as much as it could be. MAC faculty will be asked to consider where this knowledge can be included in course development and add coverage in their course presentations.

1. We will establish a tracking plan to capture the number of students who sit for these alternative professional certification exams. 2. MAC faculty and staff will be asked to encourage student involvement and make the case for continued networking as a professional development tool. The number of MAC students actively involved in student organizations such as Beta Alpha Psi will also be monitored. 3. MAC faculty will be asked to consider where this knowledge can be included in course development and add coverage in their course presentations.
Example: Questions 3 & 4

Our MS graduates do not report job placements in a manner that is easy to quantify. While all the ratings were in the good to excellent range, the lowest rating was for competency in the discipline while the highest was in interpersonal skills. This indicates to us that a more rigorous approach in our course work may be needed.

The faculty will encourage their students at final defenses to properly report job placements. We will continue to monitor these objectives with our rubric data and look to discern any long term trends. We do not plan any significant program changes until more data is available.
We were very pleased with the performance of the students in their final studio projects. The data suggest that the program appears to be doing an excellent job of preparing the students for successful careers in industrial design. It is to be expected that the two Track 3 students in their first semester would not perform on the same level as students who have strong backgrounds in industrial design. However, the evidence that the third-semester Track 3 student performed at the same level as the non-Track 3 students suggests that our program is effective in preparing those students as well. We look forward to analyzing more data for the next report.

We feel that in the light of the evidence, there is no need to make any changes in our program.
During the next reporting period we plan to assess objective 1 (to enable students to develop as successful professionals for highly competitive positions and pursue a wide array of scholarship and career opportunities) and objective 2 (to prepare students to be effective researchers in the field of parks, recreation and tourism management).

For the next biennial report, due fall 2007, we will focus on objective 3, “To enhance the visibility of graduate programs in mechanical and aerospace engineering nationally.” (Our first biennial report, for 2004/05, was delayed. The present report is for 2005/06.) We have adjusted our assessment plan accordingly.
Accounting Program Evaluation Management Home

This application provides Directors of Graduate programs and administrators tools for managing outcomes assessment and program review for the following graduate programs:

Accounting

Use the links below to access the management tools.

Continuous and Ongoing Outcomes Assessment

- View/Build Program Outcomes Assessment Plan
- Create/Manage Biennial Outcomes-Assessment Report

Program Review

- Upload/Download Documents
- Access Graduate Program Profile Reports

Back to InfoWeb
Accounting Biennial Outcomes-Assessment Report Home

Program(s): Accounting
To create a Biennial Outcomes-Assessment Report:

1. First, click on the "Create New Biennial Outcomes-Assessment Report" below. Follow the directions on that screen.
2. After creating your report, and entering any or all of your information, you may "Save as Draft", "Delete Draft", or "Submit as Final."

Create New Biennial Outcomes-Assessment Report

For more information on developing objectives and outcomes, see the following documents posted on the Graduate School's Program Evaluation web page: "Assessing Graduate Programs: Outcomes-Based Assessment," "Procedures for Developing Outcomes," and "Questions for Brainstorming."
Biennial Outcomes-Assessment Report

Program(s): Accounting
   1. Select the reporting year for the report.
   2. Mark the checkboxes beside the programs related to this report.
   3. Click "Submit".

On-Site Review Date: Fall/2009

Biennial Reporting Years: [SELECT]

Programs (Reminder: If the report applies to all of the programs, leave the checkboxes blank.)

☐ Accounting

Submit  Cancel
**Biennial Outcomes-Assessment Report**

**Biennial Report Year:** Fall 2009  [Edit Biennial Report Year]

**Program(s):** Accounting  [Edit Programs]
1. Select one of the question prompts for which you would like to enter data. You may enter data for any question - they do not have to be completed in a specific order. 
   NOTE: There is a 2000 character limit for all question responses.
2. After you have entered any or all of your data, select one of the following options: "Save Draft," "Delete Draft," "Submit as Final," "Copy as New," or "View."

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<td>As a result of your assessment, what changes, if any, have you and your faculty implemented or considered implementing to address areas of concern? (These can include changes in the program and in the assessment plan.) How will you measure the effectiveness of these changes?</td>
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<td>What outcomes are you planning to assess for the upcoming biennial reporting period? (If they are different from what you proposed in your assessment plan, please update the assessment plan to reflect the change.)</td>
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**REPORT ACTIONS**

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Biennial Outcomes-Assessment Report

Biennial Report Year: Fall/2009

Program(s): Accounting

1. What outcomes were you scheduled to assess during the present biennial reporting period? What outcomes did you assess? (You can refer to the program assessment plan online.)

0 characters (2000-character limit).

Submit  Cancel

Return to Biennial Outcomes-Assessment Report Management Home

Return to InfoWeb