



Cornell University

# **Educating Future Faculty on Student Assessment: Cornell's Approach Through Graduate Student Development**

Council of Graduate Schools  
December 3, 2010

Barbara A. Knuth  
Vice Provost and Dean of the Graduate School



# Multiple Opportunities for Future Faculty

- Attention to student assessment occurs over range of programs, through Center for Teaching Excellence (Richard Kiely, Director):
  - Brown bag lunches
  - Seminars
  - Workshops
  - Graduate Teaching Assistant Excellence Certificate Program
  - Future Faculty Teaching Certificate Program (Teagle Foundation)
- Students simultaneously experience the roles of teacher and student in the learning assessment process, making the value of assessment to learning more tangible and real.



# Graduate Student Workshops: Examples

- Creating and Using Effective Assessment Instruments
- Reflective Course Development: Constructing a Learning-centered Syllabus
- Using Student Feedback to Assess and Improve Your Teaching
- What Do I Want My Students To Learn? Identifying Learning Objectives as the Basis for Instruction and Assessment



# Graduate Teaching Excellence Workshop Series: Example

- Creating and Using Effective Assessment Instruments:  
interactive format, assessment techniques
  - What is it that you want to measure?
  - Why are you developing this instrument?
  - How to do you want to measure this construct?
  - Who will be taking the test?
  - What are the conditions of measurement?



# Graduate Teaching Excellence Workshop

## Series: Example

- Using Student Feedback to Assess and Improve Your Teaching
  - Formal and informal tools for eliciting feedback, reflecting on your own teaching styles.
  - How to translate student feedback into improved teaching and learning.



# Workshop Certificate in Assessing Learning and Teaching

- Certificate Learning Outcomes: completion of the Certificate series will enable participants to:
  - Identify specific student learning objectives in your courses.
  - Choose, evaluate, create, and implement methods to assess learning.
  - Use feedback from student assessment and course evaluations to improve teaching and learning.



# Workshop Certificate in Assessing Learning and Teaching

- To earn certificate, complete 3 workshops:
  - What do I want my students to learn? Identifying learning objectives as the basis for instruction and assessment.
  - Utilizing classroom assessment techniques to evaluate student learning.
  - Using student feedback to assess and improve your teaching.
  - Creating and using effective assessment instruments.



# Future Faculty Teaching Certificate Program

- Addresses assessment and learning outcomes as an integrative approach, intentionally sequenced to align six key dimensions:
  - (1) 2-credit ALS 6015 Teaching in Higher Education.**
  - (2) Syllabus design.**
  - (3) Mentorship relationship with faculty.**
  - (4) Practice teaching.**
  - (5) Research project on teaching.**
  - (6) Electronic teaching and professional development portfolio.**





# FFTC Program Learning Goals and Outcomes

- Students will be able to:
  - Construct and communicate a teaching philosophy statement.
  - Design an original course syllabus that includes learning outcomes, instructional methods, diversity statement, technology, and assessment strategies (i.e., rubrics).
  - Construct a research statement that demonstrates research skills and scholarly potential.
  - Design and execute a research project that examines the impact of a specific pedagogical approach and communicate findings orally and in a written publication.
  - Create an electronic teaching and professional development portfolio that demonstrates evidence of teaching skills and professional preparation in their discipline as a future faculty member.



# Future Faculty Teaching Certificate Program

## Course: ALS 6015 Teaching in Higher Education

- Use 5-lens framework: learner, process, educator, context, methods.
- Complete 3 assignments: (a) teaching philosophy statement; (b) course syllabus; (c) research on teaching proposal.
- Each assignment uses criterion-referenced rubrics to assess student learning; require identification and alignment of learning outcomes, teaching methods, and assessment strategies.
- Final work is integrated into electronic teaching and professional development portfolio.



# Future Faculty Teaching Certificate Program: Syllabus Design

- Design learning outcomes based on different frameworks (e.g., learner-centered; Bloom's taxonomy; integrative approach; backward course design).
- Select appropriate instructional strategies to foster learning outcomes; Choose assessment strategies that measure learning outcomes.
- Receive feedback from peers & instructors based on criterion-referenced rubric.
- Design criterion-referenced rubric to assess one learning outcome specified in syllabus.



# Future Faculty Teaching Certificate Program: Research Project on Teaching

- First semester: review literature, design project proposal.
- Second semester: conduct research, analyze data, report findings through research seminar series.
- Some students produce peer-reviewed conference papers and journal publications.
- Gain in-depth knowledge of specific pedagogical approach and its impact on learning outcomes.
- Gap in empirical evidence of Future Faculty training impact on UG learning and how GS transfer their knowledge of teaching and student learning to the classroom.



# Research Assignment Assessment Rubric (Stage 1: Research Proposal)

- Literature Review and Research Design/Methods (5 points):
  - Research question addresses a topic that pertains to undergraduate teaching/learning.
  - Research is relevant to your field of study.
  - Literature review draws on at least 10 cited references related to the proposed area (to include, *at a minimum*, 4 peer-reviewed articles, 2 books/chapters and 4 websites).
  - Research design and methods are in alignment with research questions (i.e. provides an adequate approach to answering proposed questions).



# Future Faculty Teaching Certificate Program: Electronic Portfolio

- Design eportfolio to archive, reflect on, represent, assess progress and extent to which student achieved program learning outcomes based on a criterion-referenced rubric.
- Direct evidence of students' progress and extent of achieving each of the learning outcomes.
- Tool to foster peer assessment, instructor assessment, self-assessment, program assessment, public assessment.



# Teagle Foundation Future Faculty Graduate Teaching Certificate Pilot Programs

- University-wide program: doctoral students from disciplines across the university (English to Mechanical Engineering).
- Two discipline-specific programs (City and Regional Planning; Biomedical Sciences and Immunology).
- Add programs tailored to unique needs of field (e.g, CRP student-directed pro-seminar; BMS/I “rounds” and 2-semester teaching practicum with faculty mentors).

<http://www.cte.cornell.edu/tap/futurefaculty.html>



# FFTC Measures of Assessment: Direct

- Scores on criterion-based rubrics in final eportfolio and course assignments.
- Reflective drafts and feedback on portfolio assessment software.
- Research project on teaching proposal and final report.
- Conference presentations and publications; observations of research on teaching presentations.





# FFTC Measures of Assessment: Indirect

- Monthly group meetings.
- Focus groups.
- Exit interviews.
- Self-rated pre- and post-course surveys.
- Indirect measures of students' perceptions of learning and factors that enhanced or hindered learning.



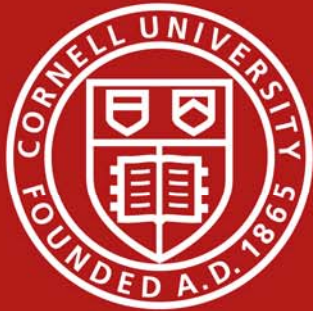
# Challenges for Future Faculty Teaching Certificate Participants

- Competing priorities with their dissertation research.
- Allocating sufficient time to design and implement “research on teaching” projects.
- Faculty participation in terms of buy-in and mentoring.
- Benefit: graduate students gain knowledge of teaching, learning, assessment; professional development.



# FFTC Potential Improvements

- Two or more course sequence.
- Begin UG teaching research in May, IRB and proposal over summer, so can test in fall, analyze and write in spring – consider time frame for research implementation.
- Create faculty mentor guide.



Cornell University