Types of SoTL Projects

SCN Conference
Emory University
April 12, 2015

SCN is funded by NSF RCN-UBE #1062049

Adapted from Klyczek, Waterman & Marsteller 2014
Types of SOTL Projects

- Action Research
- Reports on a Particular Class: informal and formal
- Reflections on many years of practice
- Comparisons of Courses
- Comparisons of Student Achievement Across Time
- Formal Research
- Summaries, Analyses and Meta-analyses
Action Research

- Improve quality and performance of individual or dept.
- Designed by practitioners to improve own practice
- Allows:
  - Reflection
  - Exploration and testing of new ideas
  - Assessment of the practicality and efficacy of new approaches
  - Usually shared with team or department
  - Used for strategic decisions
  - May be shared more broadly
Action Research

- What are you concerned about or want to improve?
- What will you do about your concern?
- What data will you need to collect to judge whether your action or intervention is effective?
- Who will you share the results with?

Example: gender differences in grades and withdrawals in general chemistry
Reports

- Pedagogies that worked in a particular class
  - Tried a Case, PBL unit, new lab
  - Active learning or writing project

- Before and After Qualitative Assessments of Change in Practice
  - Improvement in problem solving
  - Increased attendance, satisfaction, interest

- Before and After Quantitative Assessment of Change in Practice
  - Practice increased performance
  - Concept Inventory
Reflections on many years of practice

- Essays: Changes in Biology Teaching, How to Evaluate Teaching?
- Self Reflection/Own Experiments: From Lecture to Cases in Biology? Problem sets for changing students? How I used technology, then and now.
- Larger Frameworks: Cases and Moral Reasoning in Biology? Experts vs. novices? Learning styles?
Comparisons of Courses

- Qualitative: Focus groups, structured interviews to identify issues
- Quantitative: Compare grade distribution, withdrawal rate of different sections, majors vs. non-majors, pre-meds vs. research interested
- Broad array of courses common instrument: critical thinking skills pre-post, concept inventories, GRE
Formal Research

- Experimental analyses: More difficult but sometimes more valuable
- Experimental question
- Experimental and Quasi-experimental designs
- Formal often multivariate analysis
- Often requires collaboration with learning specialists and statisticians
- Often cross-institutional
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