

# Types of SoTL Projects

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SCN Conference  
Emory University  
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Adapted from Klyczek, Waterman & Marsteller 2014

# Types of SOTL Projects

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- ❑ 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

Complexity & Time



# Action Research

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- ❑ 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

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- 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

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- 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

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- ❑ 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

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- ❑ 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

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- 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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