Learning Communities for Graduate Students: Supporting Scholarly Teaching

Katie Keams, PhD
### Stages of teaching development for graduate students

<table>
<thead>
<tr>
<th>Aspect</th>
<th>New graduate student</th>
<th>Junior faculty</th>
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<tbody>
<tr>
<td>Grad student concerns</td>
<td>Will my students like me?</td>
<td>How do I lecture/discuss?</td>
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<tr>
<td>Training goals</td>
<td>Survival, disaster prevention</td>
<td>Teaching techniques</td>
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<tr>
<td>Programmatic support</td>
<td>Teaching orientation</td>
<td>Pedagogy course</td>
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At Indiana University (out of roughly 80 PhD granting programs):

- **100%**
- **<50%**
- **~5%**

(Sprague and Nyquist, 1989, 1991; Nyquist and Wulff, 1996)
Hypothesis: Multidisciplinary learning communities help graduate students develop outcomes-oriented teaching practice

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Challenges</th>
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<tbody>
<tr>
<td>• Pick up ideas, teaching practices, common problems from other disciplines</td>
<td>• Logistical (person-power)</td>
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<td>• Pass on ideas to others</td>
<td>• Funding for SOTL work</td>
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<td>• Become acquainted with SOTL</td>
<td>• Getting buy-in from disciplines (common language)</td>
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<td>• Can become part of the center labor</td>
<td>• Balance of examples (discipline diversity)</td>
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<tr>
<td>• Learn about research in general (IRB)</td>
<td>• Time to degree (push back from disciplines)</td>
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<td></td>
<td>• No campus culture of doing SOTL</td>
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(Cox, 2004; Richlin and Cox, 2004; Holley, 2010; McDaniels, 2010)
What programs do you have for advanced graduate students to develop intentional, evidence-based teaching practice?

What are key features of these programs? (e.g., participant composition, readings, activities, assignments, products)
Discussion of learning theory

Develops common language about:
- student-centered vs. teacher-centered
- process vs. content
- novices vs. experts
Critique of signature pedagogies

- Questions current approaches
- Aligns goals with methods and assessments
Cross-disciplinary methods for assessing learning

Objectives
- What was the teaching/learning challenge?

References
- What literature supported your intervention?

Implementation
- What approaches did you choose to address the teaching/learning challenge?

Teaching intervention

Analysis and Reflection
- What did the learning assessments tell you?

Assessment
- What evidence of student learning did you collect in your assessment(s)?

References
- What literature supported your intervention?

Assessment
- What evidence of student learning did you collect in your assessment(s)?
**Biology:** Student-centered and process-based approach to teaching plant phylogenetic analysis
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- Pre/post knowledge survey
- Scaffolded exercises
**Biology:** Student-centered and process-based approach to teaching plant phylogenetic analysis.

- Pre/post knowledge survey
- Scaffolded exercises
- Exam performance
- Pre/post knowledge survey
- Student feedback
Biology: Student-centered and process-based approach to teaching plant phylogenetic analysis

Objective

• Pre/post knowledge survey
• Scaffolded exercises

Implementation

• Exam performance
• Pre/post knowledge survey
• Student feedback

Assessment

“What prepared you the most for the phylogenetic exercises of Lab 10?”
Communication and Culture: Use cooperative learning to help students recognize, criticize, and reproduce fallacies of argument

- Assignment: identify and summarize a current fallacy
- Write fallacy exam questions
**Objective s**

- Assignment: identify and summarize a current fallacy
- Write fallacy exam questions

**Implementation**

- Quiz performance
- Exam performance
- Student feedback

**Assessment**

**Communication and Culture**: Use cooperative learning to help students recognize, criticize, and reproduce fallacies of argument

<table>
<thead>
<tr>
<th>Data</th>
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<tbody>
<tr>
<td>Causal Fallacies</td>
</tr>
<tr>
<td>1/19</td>
</tr>
<tr>
<td>Class Avg.</td>
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<tr>
<td>Presenter Avg.</td>
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**Objectives**

**Communication and Culture:** Use cooperative learning to help students recognize, criticize, and reproduce fallacies of argument

- Assignment: identify and summarize a current fallacy
- Write fallacy exam questions

**Implementation**

- Quiz performance
- Exam performance
- Student feedback

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"The value of the fallacy quizzes was that in studying for them you had to grasp the concepts and challenge yourself to think hard to understand them. In producing my own examples for fallacy quizzes, I needed to truly grasp the fallacy and think critically to find appropriate examples."

"The fallacy quizzes were very useful because it helped us better analyze the things we read. While I don’t remember all of them, I remember some, so it is something I’ll take from this class."
Objective

**Anthropology:** use coaching to help students critically analyze images of Native Americans

Implementation

- In-class discussions
- Weekly journaling

Assessment
**Anthropology**: use coaching to help students critically analyze images of Native Americans

- In-class discussions
- Weekly journaling
- Assessment of journals
- Student evaluations
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- In-class discussions
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- Assessment of journals
- Student evaluations
“Communication between different groups or people outside your field can give you valuable insight into issues you maybe having...It helped to give me differential insight to a teaching bottleneck with a particular class.”

“I also enjoyed observing other peoples’ classes and enjoyed having people visit my class and then talking with people about these different visitations afterwards.”

“I got many new ideas on how to have students involved while teaching. Both the readings, but especially the discussions with other Teagle fellows, helped me in that regard.”

“Teagle, by constantly encouraging us to answer questions about the reasons and consequences of our practices helped me rationalize some of my teaching practices, while it also led me to change or abandon some others.”

“Cross-disciplinary inquiry supports intentional teaching.”

“The Collegium made me consider ways I can test the effect of different teaching strategies, so that I actually have some sort of way to measure what is happening in the classroom, rather than just relying on my general perception.”
Teagle Fellows are publicizing their SOTL work

"Impacts from SOTL training for graduate teaching assistants: A case study of a student-centered approach for teaching phylogenetic analysis."

“The relationship between pedagogy and final student learning outcomes in a non-majors biology course.”

"The Fallacy of Over-Assessing: An Inquiry Into Quizzing as a Tool for Cooperative Learning."

“The Teaching Legacy: Preparing Future Faculty to Set a New Tidemark.”

"A step-wise approach when introducing students to primary literature increases student comprehension.”
How has the Teagle Collegium addressed some of the opportunities and challenges of a multidisciplinary learning community?
What ideas from this session can be applied to your own context?

What lessons from this session can be applied to graduate student programs more generally?