Changing Faculty Practice: Promoting the Scholarship of Teaching with Faculty Mentoring Networks

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Hurdle 1: Engaging faculty
Surprisingly little is known about what motivates faculty to participate in teaching professional development, but recent literature¹ points to:

• relatedness - desire to have connections with peers.
• competence - worries about teaching efficacy.
• autonomy - gaining comfort with extreme independence to determine instructional practices.

Notably, traditional faculty development models (occasional topical workshops) often do little to build community among peers (relatedness), and true competence is only likely to develop through sustained interaction and reflective practice.

Hurdle 2: Maintaining momentum
At least eighteen barriers to STEM education reform for faculty have been identified², with adequate training, time for reform, and incentives for change high on the list³. How can we foster faculty persistence in teaching reform?

The role of faculty identity³
STEM faculty were nearly all trained primarily as disciplinary. scholars, and research prowess has higher professional status than teaching. Personal interest in teaching is often hidden.

Levers to promote teaching as scholarship: tapping into faculty identity as scholars
1. Incorporate in graduate/new faculty training.
2. Build/support outlets for publishing.
3. Leverage professional societies influence on disciplines.

Remedy: Teaching as scholarship
Just like any scholarship, teaching should:

• Start with the literature
• Build from knowledge of others
• Be collaborative and multidisciplinary
• Feature open methods, tools, resources
• Is not finished until results are shared!

Mechanisms to promote teaching as scholarship:
Faculty Mentoring Networks and Open Education Resources

Faculty Mentoring Networks are:

• Online peer groups, typically 6-10 faculty members per subgroup.
• Content and/or pedagogy mentors.
• Meet every 1-2 weeks for sustained support over semester.
• Sharing Open Educational Resources back to the community.

Benefits of participating in a Faculty Mentoring Network

• Connections with a community of colleagues (relatedness).
• Increased confidence with quantitative content, biological contexts, evidence-based instructional practices, (competence / autonomy).

Incentives faculty see for sharing Open Educational Resources

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<tr>
<th>Names</th>
<th>Reasons</th>
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<tbody>
<tr>
<td>OER</td>
<td>“The OER will get out more frequently”</td>
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<tr>
<td>An opportunity for my research</td>
<td>“The OER will be more visible”</td>
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Resources and tools for scholarly teaching
QUBESHub hosts education resources with teacher notes, assessments, adaptations, reviews, and extensions produced by FMN participants. Open computational software lowers barrier for student and faculty use, and facilitates versioning.

Moving disciplinary culture
QUBES works with professional societies and education projects to push the disciplines towards more effective STEM instruction.

• 40 FMNs have reached ~500 faculty at diverse institutions.
• Professional societies provide goals, funding, recognition.

Explore partner’s activities: https://qubeshub.org/community

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References:
³Brownell and Tanner, 2012. Barriers to faculty pedagogical change: lack of training, time, incentives, and... professionals? CBE—Life Sciences Education 11:338-346

Explore more resources and tools at https://qubeshub.org/qubesresources

Example FMN hosted by the Ecological society of America 2016

Educational resource
Original peer-reviewed open educational resource
Professionally sponsored Faculty Mentoring Network multiplies value of OER resource
Faculty receive meaningful recognition for teaching scholarship
Learn more about upcoming FMNs:
https://qubeshub.org/community/fmns

DBI Life Sciences Education
Explore partner’s activities: https://qubeshub.org/community

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Reference:
• OER Hub (https://qubeshub.org)

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