Students at the Center: Discovery and Innovation in Graduate Education

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President

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John North Hopkins

The Genesis of Roman Architecture
(Yale, 2016)
Joyce Nabisaalu

Doctoral student
Design, Housing and Merchandising
Oklahoma State University
Chad Johnston

New Techniques for Identifying and Studying Microbial Natural Products
Four takeaways

• Graduate students are already at the center of knowledge production
• Ensuring continued opportunities for intellectual risk-taking may require us to rethink pedagogy, policy, and funding models
• Changes to Capstone projects may both follow from and drive preparation of our future scholars and innovators
• Strategies to document the impact of graduate student discovery and innovation
Challenges for Graduate Schools

- Our funding structures do not always support independence and intellectual risk.
  - How will we prepare students to take productive risks?

- Our students will pursue jobs that may not yet exist.
  - How will we prepare students to be adaptable, lifelong learners?

- Career trajectories are becoming less linear.
  - How will we prepare students for the “portfolio career?”
In light of these challenges, how can graduate schools foster discovery and innovation?
Design Thinking

What am I trying to know or achieve?
Design Thinking in Practice

- Project-based assignments designed to resolve “wicked problems”
- Collaborations across disciplines in areas such as water resource management, climate change, and health
New dissertation models
New dissertation models

It’s not a matter of simply rapping. I really happen to have a strategy being enacted.

A. D. Carson
New dissertation models

This model is a bridge between the traditional approach and new approaches for deaf academics.

Ellen Hibbard
New dissertation models

We make sense of the world in ways beyond text—teaching and learning shouldn’t be restricted to that narrow band.

Nick Sousanis
What do these three innovative dissertations have in common

• Invite diverse perspectives
• Make scholarship more accessible
• Make innovation in the humanities more visible
• Enable new modes of intellectual discourse
• Enable new ways of thinking
New dissertation models: Policies

Removing roadblocks

• Policies that preclude diverse formats
  • (e.g., margin requirements, single authorship)

• Policies that prevent diverse viewpoints from being represented
  • (e.g., English-language requirements)
New dissertation models: Policies

Articulating possibilities

• Explicitly allowing diverse formats, languages, co-authorship

• Explicitly allowing different kinds of experts to serve on committees
  (e.g., tribal leaders, musicians, artists)

Example: University of Wisconsin-Madison
New dissertation models: Policies

Increasing impact

- Requiring lay abstracts, video abstracts, or other short forms
- Requiring an epilogue or extra chapter explicitly outlining broader impacts
- Facilitating early conversations with external audiences
  (e.g., scholarly press editors)
How can graduate schools demonstrate the impact of student discoveries?
Professional Development and Advocacy through the 3MT®
Using the 3MT® for Advocacy

• Identify inspiring stories through student participation
• Strengthen the voices of students as advocates
• Invite the entire community to participate
• Share highlights through social media and print outlets
• Engage business leaders, alumni and local/state policymakers as judges
Tell Your Story via *GradImpact*

- **Preserving Art for the Education and Enrichment of Future Generations**
  - Claire Taggart
  - Art Conservation, Winterthur/University of Delaware

- **Improving Access to Food Pantries for Food Insecure Populations**
  - Matthew Schwartz
  - Social Work, University at Buffalo

- **Improving Airfield Safety During Extreme Weather Using Renewable Solar Energy**
  - Joseph Daniels
  - Civil Engineering, University of Arkansas

- **Developing a Breakthrough for Early Detection of Pancreatic Cancer**
  - James Froberg & Fataneh Karandish
  - Physics & Pharmaceutical Sciences, North Dakota State University

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Thank you.