

DeLTA: Transforming STEM Education Through Multi-Level Action

<https://seercenter.uga.edu/delta-project/>

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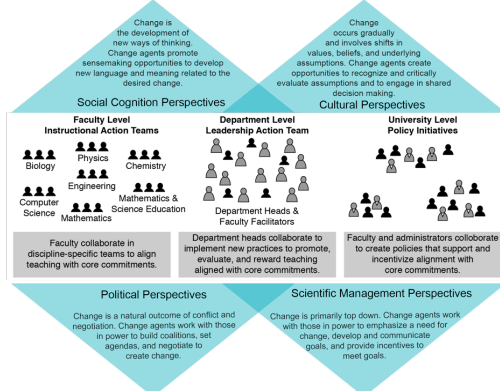
Need

- R1 universities need to move beyond the status quo to adopt brand new ways of thinking about and implementing education.
- The goal of the DeLTA project is to align STEM education at the University of Georgia with new core commitments through cultural and cognitive transformation at the university and department level.

DeLTA Core Commitments

- Center diversity, equity, and inclusion
- Use evidence in decision making
- Foster continuous teaching improvement

Approach and Theoretical Perspectives



DeLTA Tackles Teaching Evaluation

- Changing teaching evaluation is imperative to addressing racial and other social inequities and injustices in STEM teaching.
- Adequately evaluating teaching must involve multiple measures and stakeholders rather than a single measure from one stakeholder.
- Teaching evaluation should include evidence from students, trained peers, and systematic instructor self-reflection.

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Outcomes

Department Level Leadership Action Team:

- STEM department chairs have recognized the need to improve departmental systems and are willing to engage in STEM educational reform.
- Chairs need new knowledge and facilitation.
- STEM departments have implemented new teaching evaluation committees, peer observation protocols, and instructor self-reflection guides (Andrews *et al.*, 2021).

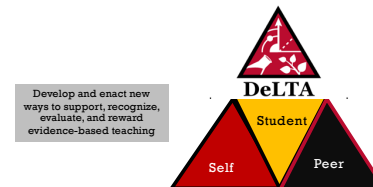
University Level Policy Initiatives:

- DeLTA partnered with the Office of Faculty Affairs to revise the promotion and tenure guidelines regarding how to document teaching effectiveness.
- DeLTA partnered with a university committee tasked by the President and created a comprehensive new teaching evaluation policy.

Research:

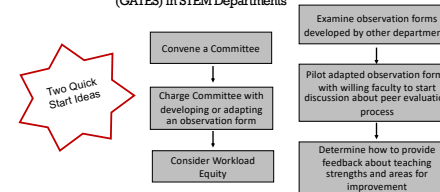
- DeLTA created the research-based Guides to Advance Teaching Evaluation (GATEs) (Krishnan *et al.*, 2022). GATEs assists STEM departments as they self-assess their current teaching evaluation practices, build a long-term vision for reform, and develop robust practices.

Department Level Leadership Action Team

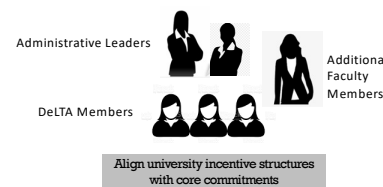


- Department leaders engage across units as a Leadership Action Team.
- Meetings focus on reflection that uncovers assumptions and interaction that leads to action
- Meetings involve learning about new frameworks and processes for evaluating teaching.
- For example, the Leadership Action Team learned about the three-voice framework that utilizes evidence of teaching effectiveness from students, trained peers, and instructor self-reflection.

Guides to Advance Teaching Evaluation (GATEs) in STEM Departments



University Level Policy Initiatives



- DeLTA works strategically with university administrators and faculty leaders of university committees on teaching evaluation policies.
- DeLTA volunteers to write and revise policy and to shepherd policies through university committees.
- This work requires awareness of who has power to influence committee agendas and outcomes.
- This work requires a willingness to genuinely listen and respond to the diverse experiences and perspectives administrators and faculty bring to policy work.

Broader Impacts

- The work is producing theoretically-grounded research tools that can be used by other institutions studying STEM education reform.
- DeLTA is promoting learning at all levels of the institution by facilitating long-term opportunities to explore and integrate knowledge about teaching, learning, and higher education reform among department heads and institutional leaders.
- The project is building human resources by employing and mentoring multiple undergraduates, graduate students, and postdoctoral scholars.



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