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Every Tool in the Toolbox:

Pursuing Multilevel Institutional Change in the DeLTA Project

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In Short

- The Departmental and Leadership Teams for Action (DeLTA) project at the University of Georgia pursues transformative shifts in policies and practices related to undergraduate science, technology, engineering, and math (STEM) education.
- Achieving institutional change requires multiple change perspectives, much like a complex task requires a full toolbox rather than a single tool.
- DeLTA works across tiers of the institution reforming teaching evaluation because individual faculty, departments, and the institution influence student experiences in the classroom.
- At the university level, DeLTA draws on scientific management and political change perspectives, and at the department level it draws on social cognition and cultural change perspectives to, respectively, develop new policies and make changes to departmental practices.

For decades, educators and policy makers have called for reform in higher education, yet now the urgency is palpable. The COVID-19 pandemic and heightened attention to systemic racism have highlighted the fact that outdated teaching practices can stunt student learning and trust of science, maintain systemic biases, and prevent equitable education. Promoting change to outdated teaching practices requires fundamental shifts at each level of a university—among faculty, departments, and the institution as a whole (Bouwma-Gearhart et al., 2016). It also necessitates multiple perspectives on change (Kezar, 2014). But how do change agents actually use multiple perspectives to promote change in undergraduate science, technology, engineering, and math (STEM) education across levels of a university?

Departmental and Leadership Teams for Action (DeLTA), an institutional effort at the University of Georgia, provides one example of this. DeLTA is theoretically grounded to capitalize on what is

known about promoting change from other institutions and prior work and is tailored to the context of a large, public university with very high research activity (e.g., Corbo et al., 2016; Follmer Greenhoot et al., 2020; Kezar, 2014; National Academies of Sciences, Engineering, and Medicine, 2020; Weaver et al., 2020). This article provides examples of how DeLTA applies various change perspectives to shift thinking, practices, and policies related to evaluating teaching.

A MULTILEVEL, MULTIPERSPECTIVE APPROACH TO CHANGE

DeLTA aims to align the work of individual faculty, departments, and the university with a set of new core commitments for undergraduate education (Corbo et al., 2016). Five core commitments serve as goals and guiding principles for all of DeLTA's work:

- design educational experiences to achieve clear and measurable learning outcomes;
- base educational decisions on evidence, including students' conceptions, capabilities, and attitudes;
- actively collaborate and communicate about undergraduate education;
- foster continuous teaching improvement;
- promote inclusion and diversity.

Recognizing the tiered nature of higher education (Bouwma-Gearhart et al., 2016), DeLTA works with faculty, departments, and the university to

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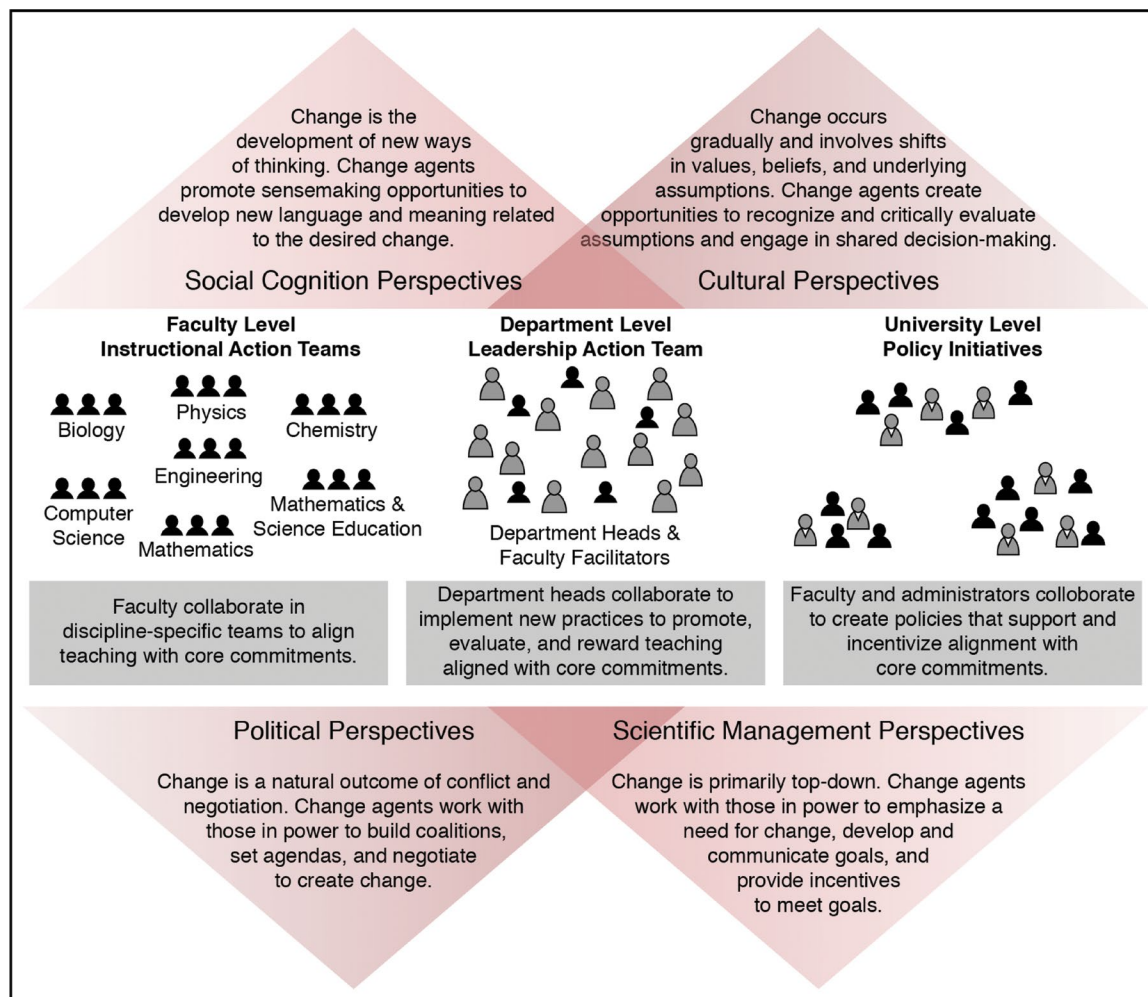
pursue second-order change across these levels (Figure 1). Whereas first-order change involves minor improvements to existing structures, second-order change involves reforming underlying values and assumptions, and developing new practices and systems grounded in different values (Kezar, 2014).

As shown in Figure 1, DeLTA works with faculty, departments, and the university to promote change. First, DeLTA works directly with STEM faculty using a long-term faculty learning community model. Discipline-specific teams meet 8 to 12 times per year to work toward a goal that is both shared and individualized, such as adding active learning into mathematics courses, developing interactive lessons on quantitative reasoning in biology courses, or aligning assessments and learning objectives in engineering.

This work with faculty is crucial to achieve change for students but is insufficient as it largely ignores contextual factors that influence faculty work. Departments are central to the educational business of a large university in hiring, mentoring, and evaluating and rewarding faculty, typically within their own culture related to undergraduate education. To work with departments, DeLTA convenes and supports a Leadership Action Team composed of department heads from 13 units. The Leadership Action Team and DeLTA leaders meet six times annually for facilitated discussions to examine and make changes to departmental practices in order to promote, evaluate, incentivize, and reward teaching.

Although departments often enjoy considerable independence, they rely on colleges and the university for resources and respond to their structures, priorities, and values. The university is led by provosts and university-level committees whose work

FIGURE 1. DeLTA WORKS WITH FACULTY REGARDING THEIR TEACHING, AND DEPARTMENTS AND THE UNIVERSITY REGARDING PRACTICES AND POLICIES. THIS WORK IS GUIDED BY MULTIPLE PERSPECTIVES ON CHANGE.



affects all colleges and their departments. Thus, DeLTA works opportunistically with leaders in multiple positions at the college and university level to better align university policies and practices with the core commitments. For example, DeLTA has written new policies and revised existing policies to make teaching evaluation more robust and equitable.

DeLTA conducts this multilevel change work through collective leadership that distributes the responsibility and recognition for a shared endeavor. A team of faculty collaborate to lead DeLTA. Collective leadership capitalizes on the abilities, complementary strengths, and relationships of these team members, who have diverse backgrounds and positions, and provides resiliency in the face of setbacks, builds community, and contributes to sustainability (Kezar, 2014).

Given the research showing the importance of using multiple change perspectives to promote institutional change (Kezar, 2014), DeLTA also applies multiple change perspectives across its multilevel work. Change perspectives are particular ways of understanding *how* change occurs and are grounded in existing theory and research; they provide framing for efforts to promote change. Specifically, change perspectives help to identify important players and contextual factors in the system, indicate how parts of the system influence one another, and suggest actions to accomplish goals. Change perspectives move us beyond our own implicit and often limited ideas about how change occurs (Connolly & Seymour, 2015).

Projects aiming for second-order, multilevel change must be able to approach their efforts from multiple perspectives. Using more than one change perspective is similar to relying on a full toolbox rather than a single tool. Complex tasks, like achieving change in higher education, require all of the tools in the toolbox. For example, a cultural change perspective is useful for department-level work. This perspective posits that change requires unearthing and reconsidering underlying and often implicit assumptions that undergird practices and thinking in a group. A scientific management perspective is less useful for considering change in academic departments because they are not usually run as top-down organizations. No single change perspective accounts for the work needed in a tiered system, and all perspectives have shortcomings. Using the toolbox of change perspectives better enables us

to make plans, navigate unanticipated situations, and critically reflect on our progress and likely future challenges (Figure 1).

DeLTA uses these change perspectives to guide work on a variety of urgent issues in STEM higher education. DeLTA leadership continuously considers each perspective to decide what actions to take and to monitor progress. For example, DeLTA has applied these change perspectives to transform teaching evaluation at the university and departmental levels.

DELTA TACKLES TEACHING EVALUATION

Changing teaching evaluation is imperative to addressing urgent issues in higher education, including stagnant teaching practices that perpetuate racial and other social inequities and injustices (e.g., Theobald et al., 2020). The University of Georgia, like most institutions, primarily relies on student end-of-course surveys to evaluate teaching. End-of-course surveys do not generally focus on student learning and at best can provide students' perceptions of their learning (e.g., Braga et al., 2014; Uttl et al., 2017). Abundant evidence demonstrates that these surveys can be biased, particularly against female faculty, faculty of color, and faculty who are non-native English speakers (e.g., Fan et al., 2019; Grimes et al., 2017). Moreover, adequately evaluating a complex behavior like teaching must involve multiple measures and stakeholders rather than a single measure from one stakeholder.

Without valid, fair, and comprehensive approaches to evaluating teaching, institutions cannot adequately recognize, reward, or incentivize high-quality teaching. We cannot ethically ask instructors to dedicate themselves to exceptional teaching and continuous improvement if the system in which they work lacks structures to acknowledge the intellectual work of teaching. In the end, student learning and development suffers under current approaches to teaching evaluation, and bias continues to negatively affect marginalized students and faculty.

CHANGING TEACHING EVALUATION AT THE UNIVERSITY AND DEPARTMENT LEVELS

DeLTA is trying to change teaching evaluation policy at multiple levels using different change perspectives. At the university level, DeLTA first

“Change perspectives are particular ways of understanding how change occurs and are grounded in existing theory and research; they provide framing for efforts to promote change.”

revised the university guidelines for contributions to teaching for appointment, promotion, and tenure. This document is used by tenure-track faculty as they prepare a dossier for consideration for promotion and tenure. The revised guidelines, which are now in place, include a new requirement for multiple sources of evidence of teaching effectiveness, as well as increased emphasis on systematic reflection and continuous improvement.

DeLTA then collaborated in the development of a new comprehensive university policy on teaching evaluation (Table 1). This policy, which is still under consideration by governing committees, lays out expectations for the use of student evaluations, peer evaluation, and self-reflection for all university units. It specifies that peer evaluators must be trained and that peer observations must be systematic, with criteria and instruments agreed on by the faculty. The policy and accompanying guides for departments should help to reduce bias in teaching evaluation and facilitate appropriate interpretation of data. These policy changes move the university toward evaluating teaching in an equitable way and

would raise expectations for teaching evaluation across the institution.

DeLTA's work at the university level draws on both *scientific management* and a *political* perspectives (Table 1). From the former perspective, promoting change at the university level is a priority because instructors work within a system that recognizes and rewards certain behaviors and accomplishments, and thus influences individuals' motivations. Also taking a *political* perspective, DeLTA recognizes that changing policies to better align with the core commitments is not appealing to everyone, and that challenging the status quo may threaten some who are well served by the status quo. For example, faculty who currently receive favorable end-of-course evaluations from students may worry that adding peer evaluation and other forms of evidence about teaching effectiveness will result in a loss of autonomy. Thus, DeLTA must be prepared to address such concerns.

DeLTA has achieved policy changes relatively quickly. However, this success may mask what is actually achieved with policies. Policies communicate expectations and lay the groundwork for supporting desired behaviors, but changing policy does not necessarily change behaviors. In fact, a clearly flawed assumption in scientific management perspectives is that faculty are rational decision makers who will change their behavior to align with rewards (Kezar, 2014). In reality, faculty and departments may have strongly held beliefs and values that are misaligned with new policies. Furthermore, a scientific management perspective assumes a highly hierarchical organizational structure in which one or a few leaders have broad authority, when in reality universities are loosely organized with distributed authority (Kezar, 2014). Individuals and departments may undermine new

TABLE 1. EXAMPLES OF HOW CHANGE PERSPECTIVES GUIDE UNIVERSITY-LEVEL WORK

Change Perspective	DeLTA's Work
Scientific management	In response to the University of Georgia President's Task Force on Student Learning and Success (2017), an ad hoc committee drafted a comprehensive proposal for a new teaching evaluation approach, but the drafted proposal languished. DeLTA volunteered to assist the committee chair in turning the proposal into a robust policy statement and is shepherding it through multiple committees.
Political	DeLTA anticipated that policies requiring people to change their behavior would be met with some opposition and that people would raise valid concerns. Multiple members of DeLTA leadership attended meetings to listen for and understand the source of opposition and inertia. DeLTA recognized concerns and responded directly and respectfully. DeLTA negotiated to revise policy drafts, while maintaining the core tenets of new policies.

policies by completing the minimal work needed to fulfill expectations without meaningfully changing their behaviors—ticking off the boxes.

Nonetheless, policies can encourage and justify initiatives spearheaded by individuals and departments toward the core commitments. Much like bolts in a rock face, policies provide an anchor for a motivated climber to make progress. Policies, on their own, do not pull or push people up the rock face, but they can provide a grip for those already on their way up and make the ascent seem feasible for those on the ground looking up.

To be effective, policies on teaching evaluation need to be internalized and practiced at the department level. As mentioned before, at the department level, DeLTA organizes a Leadership Action Team of 13 department heads, working with them to make changes that affect departmental practices related to undergraduate teaching, including teaching evaluation, recognition and reward, hiring, and instructor support.

Meetings of the Leadership Action Team focus on interaction among department heads and are oriented toward action. DeLTA leaders provide short presentations to remind department heads of project goals and their importance in framing their work. Then, department heads spend time discussing targeted questions in small groups, each facilitated by a DeLTA faculty facilitator. Discussions challenge department heads to reflect on the existing practices in their departments and assumptions underlying those practices, set goals for changing teaching evaluation practices in their departments, make plans for the next step they will take, and report on their progress. DeLTA provides tailored resources and facilitation for within-department discussions as requested and responds carefully to the needs and concerns of department heads.

As shown in Table 2, DeLTA's work at the department level draws on two perspectives. First, DeLTA leads department-level efforts from the *social cognition perspective*, which measures change by shifts in mindset, the use of new language, and the attachment of new meanings to old language. Social cognition indicates that change occurs only if collective thinking changes, not just the thinking of a few individuals.

The status quo for many STEM departments involves a laissez-faire approach to teaching evaluation that is the opposite of deep, systematic thought. Thus, changes in departmental practices will involve department members refining their knowledge of key ideas and developing more sophisticated and organized ways of thinking about the core commitments. For example, department heads typically see teaching evaluation as student end-of-course evaluations. They have not considered the different sources of evidence that could bring insight to the question of how effective a faculty member's teaching is, nor have they considered what makes teaching evaluation practices robust and equitable. DeLTA works with department heads to deepen their knowledge in this area.

Second, DeLTA leads departments through the *cultural perspective* (Table 2). Departmental changes will naturally happen over time. Yet the trajectory of these changes and their alignment with DeLTA's core commitments will depend on the extent to which departmental leaders' underlying values and beliefs support the core commitments. Many department heads hold unexamined assumptions about teaching and learning that run counter to the core commitments. For example, department heads commonly believe that they should not interfere with faculty teaching. In the spirit of academic freedom, they often assume that all ways of teaching

TABLE 2. EXAMPLES OF HOW CHANGE PERSPECTIVES GUIDE DEPARTMENT-LEVEL WORK

Change Perspective	DeLTA's Work
Social cognition	DeLTA provided a framework for deepening discourse about teaching evaluation. The three-voice framework (Teaching Quality Framework Initiative) helps department heads learn of different types of evidence that could be collected to evaluate teaching and the affordances and limitations of each type. These voices include students, trained peers, and self-reflection. This framing provides common language to discuss teaching evaluation and helps department heads focus on specific ways to expand and refine their departments' practices.
Cultural	DeLTA continuously asked department heads in Leadership Action Team meetings to articulate how things work in their department, what they feel like their department is ready for, and how DeLTA can help their departments take the next step forward in improving teaching evaluation.

devised by content experts are equally valid. DeLTA works with department heads to uncover and examine assumptions like this and help them shift the departmental culture of teaching evaluation.

The rate of departmental change within DeLTA varies based on department heads' responsiveness and their perceptions of the needs and receptiveness of their departments. DeLTA encourages accountability by asking Leadership Action Team members to present short reports of their progress and document their plans at each meeting. Some DeLTA departments are moving rapidly to craft and implement new policies and practices, while others have yet to act. This is unsurprising. Department heads differ in their level of comfort with change, their tolerance of the status quo, and their leadership style. Moreover, department heads each face different affordances and constraints. These factors interact with departmental culture to produce different rates of change.

The reality is that changing individuals' thinking is slow, even when individuals are fully engaged in doing so. Although DeLTA aims for teaching evaluation to become more central, it often comprises a relatively small portion of the overall work of departments. Another reality of changing thinking and culture is that conflict is inevitable. Old ways of thinking die hard due to their deep-seated connection with individuals' experiences, and learning new concepts or new meanings to old concepts forces acknowledgment that old ways of thinking were incomplete

or insufficient. And, as culture changes, people will disagree about the newly forming values, beliefs, and assumptions. As these conflicts arise, departments decide how to move forward, and some department members may end up feeling as though they have "lost."

In conclusion, change in STEM education is needed to maximize student learning and trust of science, dismantle systemic biases, and provide equitable and just education. This change does not come easily, but we are recently reminded that it is urgent. DeLTA answers the call to work across levels using multiple perspectives on change and shows how careful application of change perspectives can facilitate the slow, critical work of change in STEM teaching. ☐

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