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Implementing Interconnected Faculty Development Initiatives for STEM Faculty

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Introduction

We created a Teaching Excellence Network (TEN) at a large, multi-campus R1 institution to support faculty needs for implementing evidence-based pedagogy. Our goal for creating the TEN was two-fold: (1) to establish a centralized academy for pedagogical development initiatives to reduce institutional barriers for faculty, and (2) to provide mechanisms to support faculty for improving their courses using evidence-based pedagogy. The TEN facilitated faculty pedagogical development through a Summer Institute (SI) and Semester Support Groups (SSGs). Centralizing outreach and expanding the offerings available to faculty simplified the discovery and enrollment of pedagogical development activities. Participants in the TEN developed a transformation plan for their course, and artifacts such as syllabi, assignments, and videos to support new pedagogy.

Two theories formed our theoretical framework for constructing the TEN and understanding its outcomes. Structuration Theory [1] supports our program design and understanding of barriers perceived by faculty. Expectancy-Value Theory [2] gives us a way of interpreting the perceived value and cost for faculty implementing best practices.

We describe the programs implemented within the TEN, providing an overview of participant outcomes, while highlighting the experiences and outcomes of one co-author as an illustrative example. We report on preliminary analysis of participants' experiences in the TEN through the lens of our theoretical framework. We argue that the creation and institutionalization of the TEN has been a boon for faculty development and presents a framework that may be useful to other academic institutions also looking to help faculty with pedagogical development.

Literature of professional development

Faculty development programs enhance teaching effectiveness and help educators meet the evolving demands of higher education. These initiatives equip faculty with pedagogical tools and strategies to improve student learning outcomes, but their impact can extend far beyond individual skill-building. When effectively designed and implemented, faculty development programs can also address systemic barriers and foster a culture of institutional change, aligning teaching excellence with organizational priorities [3], [4].

Faculty participating in sustained, longitudinal teaching professional development report significant increases in the use of instructional objectives and active learning techniques [5]. A key feature of successful programs is continuous and iterative learning opportunities, which allow educators to reflect on and refine their teaching practices over time, fostering deep and enduring improvements [6]. Structured, ongoing support ensures that skills acquired in short-term workshops or seminars are effectively applied in practice [7]. The effectiveness and scalability of professional development initiatives is often reduced by systemic constraints such

as lack of time, inadequate institutional resources, and organizational cultures that prioritize research over teaching. Compounding these challenges are views of teaching emphasizing lecture-based instruction and rote memorization, creating resistance to evidence-based practices such as active and collaborative learning [3]. Reward systems and organizational structures often disincentivize pedagogical innovation, and faculty also report limited control over resources and workload as hurdles to sustained change [3], [4]. Brownell and Tanner note that a possibly more significant barrier is how faculty perceive themselves, their surroundings, and their role within their context. A combination of low resource access, and an understanding that within their context research is highly valued (while teaching is not as highly valued) might lead to faculty choosing not to engage deeply with pedagogy [8]. Worse, the low value placed on teaching may demotivate faculty who were initially pedagogically engaged and drive out people with an interest in teaching [8].

Overcoming these barriers requires a shift from individual-focused faculty development to broader educational development. Educational development encompasses the enhancement of individual teaching skills and also the transformation of institutional structures and cultures to sustain teaching excellence. This dual approach aligns personal efforts and organizational policies, addressing the immediate needs of educators and systemic challenges impacting teaching practices [4]. Taylor and Rege Colet propose a conceptual framework that integrates instructional, organizational, and professional development, emphasizing fostering a culture of collaboration and continuous learning within institutions. By aligning faculty development initiatives with institutional missions, organizations can create environments that reduce systemic barriers and support innovative teaching practices.

Theoretical Frameworks

Our theoretical framework is built on Structuration Theory and Expectancy-Value Theory to address the interplay between structural and individual concerns raised in literature. These theories allow us to address both the impacts of structure on faculty agencies and individual faculty motivation. This combination provides an integrated view of institutional and individual impacts on faculty pedagogical change.

Structuration Theory explains that structure shapes agent context and decision-making, and decisions by agents in turn have an impact on those same structures [1]. This cycle of Structuration can reinforce or change structures depending on agents' choices, and structures can have a strong impact on whether agents feel that they have the agency required to change existing structures. Strong Structuration Theory describes this dynamic as a quadripartite cycle comprising: *external structures* as conditions for action; *internal structures* (an agent's knowledge and understandings) as a basis for decision making; moments of active *agency*, in which the agent draws upon their internal structures to make a decision in response to external structures; and the *outcomes* of agency, which may include actions taken and changes to internal and external structures [1]. This perspective highlights faculty agency, emphasizing that even choosing not to act represents a decision shaped by contextual constraints.

Structuration centers faculty as agents even when they do not engage in course transformation, as not acting is also a choice. This emphasizes understanding how faculty use their agency, why they use it that way, and how we might alter their context to support them in using their agency to engage with transformation. Strubbe et al. emphasize treating faculty as agents and moving towards an asset model of faculty [9]. Structuration Theory shifts our focus, moving the deficit from faculty who do not engage in change, to the structure which does not support change. This framing allows us to conceptualize the TEN programs not only as content delivery vessels, but as a structural element that supports faculty needs.

Also critical for understanding faculty as agents is their motivation. Motivation theories give us frameworks for understanding why individuals act upon their agency. This study uses Expectancy-Value Theory (EVT) [2], [10] as a framework for understanding motivation. EVT is a widely established motivation theory [11], and one that has been used in the context of faculty development in multiple studies [12], [13], [14]. It provides flexibility for understanding different factors that contribute to motivation, and has been used with both quantitative ([15], for example) and qualitative ([16], for example) research methods.

The *Expectancy* branch of EVT relates to self-efficacy, a powerful motivational factor that relates to a person's concept and belief about their own competence when engaging in a particular activity or domain (in our case, course transformations). A faculty member with strong self-efficacy for implementing new pedagogies will be more motivated to do so, while a faculty member with weak self-efficacy will be less motivated. The *Value* branch of EVT provides four constructs for understanding the value that implementing pedagogical practices could have to faculty. *Attainment* describes the value that something has with respect to one's identity. *Utility* describes the value that something has with respect to the benefits it could provide. *Interest/Enjoyment* describes the value that something has with respect to the pleasure and engagement one feels when they do it. Finally, *Cost* describes the anti-value that something has in terms of the things that it takes away when one engages in the activity (e.g., time, resources, etc.) [2], [10].

The professional development programming designed within Rutgers, The State University of New Jersey's TEN followed an assets-based approach based on the premise that organizational and structural factors must be systematically addressed to enhance faculty agency and motivation, bolstering prospects of educational improvement at research universities. Within program activities, we highlighted the value that implementing evidence-based pedagogy can have in order to further drive participant motivation to adopt those practices.

The TEN program

Institutional Context

The TEN was envisioned in Fall 2019 when few pedagogy development programs were offered at Rutgers University and there was no central coordination for teaching support. In 2020, faculty needed pedagogical support as they moved to remote teaching during the COVID-19 pandemic,

and various units on campus began creating programs to meet those needs as we first offered the TEN programs in AY 2020-21. One program focused on community building and resource sharing; another on asynchronous online course design, and another combined workshops and seminars on inclusive teaching into a series of digital badges [17].

The TEN had two major components: an intensive, 15-day course transformation summer institute; and semester support groups, bi-weekly small group meetings with a facilitator on select topics. These formats addressed specific institutional and structural barriers and aimed to support faculty agency and motivation. While some instructors participated in both programs, some faculty engaged with only one.

Course Transformation Summer Institute

The Summer Institute (SI) was designed to help faculty understand tools that could support their pedagogical change goals. The SI helped participants develop their course transformation goals and select and master new pedagogical tools to meet those goals. Designed as an intensive, 15-day program that would span 3-4 consecutive weeks during the summer, the SI focused on student cognition, the role of affect, and evidence-based pedagogy and course design. Days were 4 hours long, with each day divided into 3 parts:

1. Asynchronous (1.5 hours) – participants engaged with readings and online modules which introduced concepts of pedagogy and course design.
2. Synchronous (1.5 hours) – An online session with participants and institute organizers focused on applying the knowledge from the asynchronous modules to their classes.
3. Teaching Portfolio – Participants produced components of a teaching portfolio, which they worked on asynchronously or during pod (smaller assigned group) meetings. Pod mentors provided feedback on draft components throughout the SI. The portfolio included: a teaching philosophy statement; a course transformation plan; sample lesson plans; and sample assessments, and a final reflection. We selected these components because they related to a specific course transformation and could be completed during the SI's timeframe.

A course site on the university's Learning Management System (LMS) was used to provide all content (articles, book chapters, website links, and video resources), host discussion boards, and collect participant assignments. Asynchronous modules were available 3 weeks prior to the start of the SI, so participants could complete some, or all, of the asynchronous work in advance if desired. Synchronous content for session activities was available an hour before the scheduled meeting. The asynchronous and synchronous content included topics on cognition, affect, teaching strategies, and course design principles (Figure 1). The synchronous content was intended to build upon the asynchronous content, and the SI facilitators designed individual and collaborative activities for participants to engage with during the synchronous sessions. Synchronous sessions were conducted via Zoom, which offered breakout rooms to facilitate small group activities.

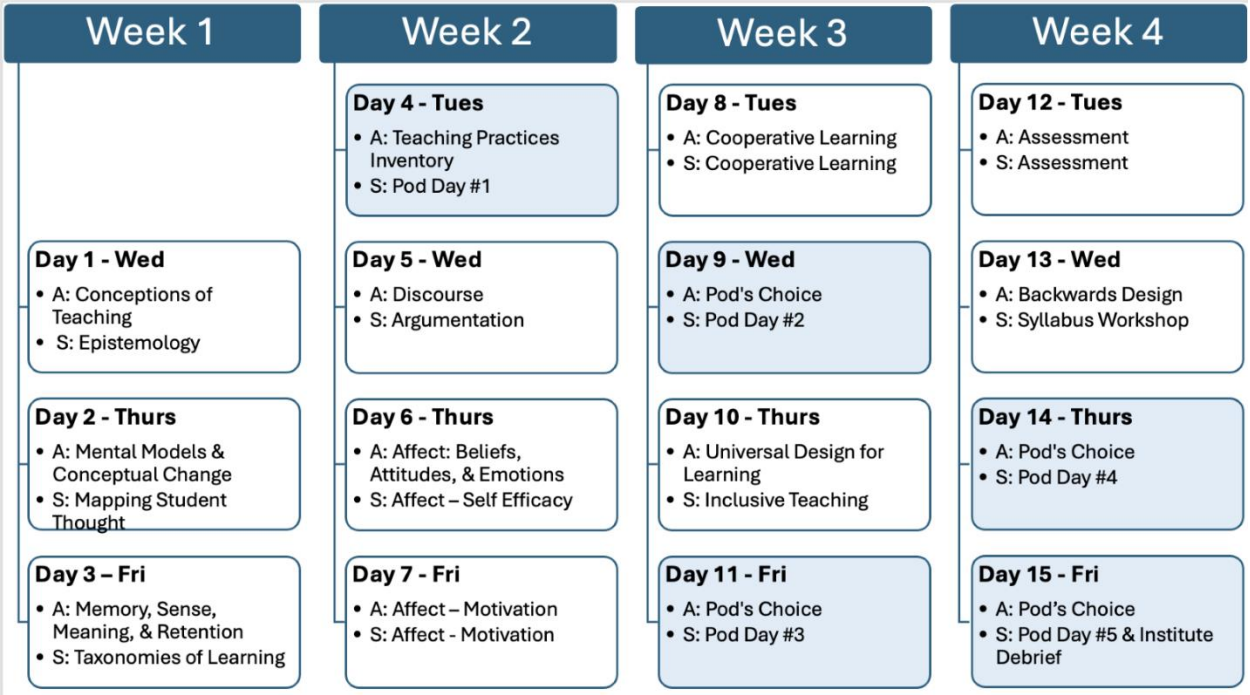

Figure 1. Overview of the Summer Institute structure, including topics for asynchronous (A) and synchronous (S) work, and showing the 5 Pod Days (shaded blue).

The pod mentor helped their pod select optional asynchronous modules based on their pedagogical goals for the 5 pod days. Most pods chose to complete 2-3 optional modules. Participants were free to engage with as many optional modules as they wished, even if those modules were not chosen for their pod discussion. Mentors determined how to use the pod day synchronous meeting time as they became acquainted with their pod members. Mentors usually facilitated a meeting with a campus partner whose expertise aligned with their pod participants' specific pedagogical goals. Campus partners included instructional designers, librarians, instructional technologists, and staff from various educational development-related offices. During pod days, participants were encouraged to work on their course transformations and portfolio components and discuss any challenges they were facing. Mentors often provided individual consulting to participants during pod days.

In addition to introducing evidence-based pedagogy, the SI was designed to directly address several barriers to pedagogical development identified in the literature.

1) To address faculty isolation, the SI was designed with communities of practice in mind, intentionally connecting instructors across disciplines in an intensive study of pedagogical practices over an extended time-period. This structure was intended to encourage instructors to share ideas and learn from one another.
2) To be mindful of faculty time constraints, we wanted to offer the SI when it would least interfere with common vacation times and summer session teaching, while still allowing time to enact transformations prior to the start of the fall semester. Consequently, we

chose to start the Institute after the July 4th holiday. We also observed that by July instructors are typically starting to think about their fall courses.

3) We included a pod format/model within the SI for several reasons:
    a) To ensure that participants had time during the institute to work on their course transformation plans and portfolio components
    b) To ensure that participants received feedback on their ideas and portfolio component drafts from their assigned Pod Mentor.
    c) To ensure participants could connect to campus partners relevant to their pedagogical needs. Assigning pod groups based on intended transformation or course context enabled the Pod Mentors to select relevant campus partners.
4) Instructors received a stipend for their SI participation, initially as a salary, and eventually as a combination of salary and research/professional development funds. Financial compensation was intended to both acknowledge an instructor's time and effort to transform their course (which often exceeds the minimum expectations to teach a course) and offset the need to teach summer courses for additional income.
5) Each participating instructor's department chair and school dean were sent a letter from the Office of the Provost, acknowledging their participation in the SI. Participants were copied on these emails from the Office of the Provost, and they could include this letter in their teaching portfolios and/or reappointment, tenure, and/or promotion packages.

We offered the SI to 4 cohorts, ranging from 6 participants during the pilot to 10-12 thereafter. In total, 38 instructors participated in the SI. They represented 21 departments across 5 schools, with 68% of the participants on the teaching track, 24% of participants on the tenure-track or tenured, and 8% in other non-tenure tracks, staff, or part-time positions.

Semester Support Groups

The TEN also organized semester support groups (SSGs) for faculty. SSGs are a variety of workshops, practicums and communities of practice. These provide faculty with opportunities for pedagogical development outside of the SI, which is too time intensive for some faculty. They also provide continuing support to SI participants for their course transformations and pedagogical development, including feedback from peer observations of their teaching.

Many professional development programs for teachers are workshops on specific techniques and strategies but stop short in facilitating an instructor's implementation of these techniques and strategies [18]. Course transformation requires substantial instructor effort and time. The SSGs offer faculty accountability, and opportunities to learn about low-barrier methods of course transformation and to receive feedback and guidance as they enact their course transformation.

SSGs typically had 60- to 80-minute (bi-)weekly meetings (depending on group structure and goals) during the Fall or Spring semester. The three main formats employed by SSG facilitators were: Faculty Learning Communities [19], Peer Observation Groups [20], and SIMPLE Design Groups [21], [22]. A group typically hosted 3 to 10 faculty participants, usually led by a single facilitator. SSG topics included:

Learning a new skill or concept associated with teaching: Values affirmation interventions; Student motivation and engagement; Assessment design and analysis; Student cognition and metacognition; Using podcasts as a learning and engagement tool.

Supporting faculty in education research study design and scholarship of teaching and learning: Social network analysis as a method for analyzing course community; Preparation, accountability, and support for education research and scholarship of teaching and learning.

Providing or receiving teaching feedback using supplied protocols: Group for independent feedback on teaching; Observation protocols for teaching to improve meaningful changes to active learning.

Several groups continued for multiple semesters due to popularity, with both returning and new participants. Most SSGs utilized the institution's LMS to organize group activities, communicate expectations, disseminate materials, and collect faculty products. Interested TEN participants were offered the opportunity to lead SSGs, with mentorship from the TEN grant team. Where appropriate, SSGs brought in campus partners to help participants utilizing campus resources and integrating products of the SSG into their professional portfolios.

Over 8 semesters, 22 SSGs were offered with 55 instructors participating in one or more groups. While the majority of these participants joined one group (N=28) or two groups (N=10) during this period, 7 participated in three groups and 10 participated in four or more groups (the maximum number of groups for a single participant was 10).

Overall, 79 participants engaged in the TEN programs over 8 semesters (inclusive of 4 summers), and we observed overlap in those who engaged in both SI and SSGs (N=17, 23%). Yet a majority of instructors did not take part in both programming formats: 37 participants (50%) engaged only in SSGs and 20 participants (27%) engaged only in the SI. The two models complemented each other well, and the variations in timeframe and commitment opened opportunities to a broader range of participants than a single format would have allowed.

Data and Methods

Our data set consists of 11 individual interviews with participants about their involvement with the TEN, their experiences with teaching professional development programs broadly, and their experiences in pedagogical transformation. Interviews were semi-structured [23] built on open-ended questions and follow-up questions so that we could attend to participants' emerging ideas. Interviews ranged from 35 to 60 minutes in length, were conducted over Zoom, and recorded, then transcribed by a 3rd party service. Participants were assigned pseudonyms for their last name based on the name of a plant (e.g., "Dr. Oak" intentionally does not imply gender, race, ethnicity, or national origin). To protect the identity of our participants, we will refer to all faculty by they/them.

All coding of the transcripts was completed in Dedoose [24], a qualitative data analysis program for collaborative data coding and management. We used thematic analysis described by Braun

and Clarke [25], [26] to support deductive, theory-based noticing within our data set. Coauthor CH (they/them) read through the transcripts and coded places where they noticed aspects of structure, agency, and motivation as described by Structuration Theory and Expectancy-Value Theory. Doing so they built a codebook, and bank of coded excerpts, writing memos detailing their reasoning and noticing in the data throughout. Three co-authors applied the codes related to Structuration Theory and Expectancy Value Theory to a set of excerpts using Dedoose's "Training" feature. Co-authors compared and discussed codes with CH until consensus was achieved, and the codebook was modified accordingly. This process of refinement was used to produce the codebook that CH used to code 11 interviews. Quotes from interview participants have been lightly edited to remove false starts, "um"s, and filler words; square brackets are used to add context needed for clarity or to indicate part of their response has been skipped or removed (e.g., "[...]").

Impact on the TEN participants

TEN participants consistently shared that they found several aspects of the program particularly impactful. First, the TEN provided an *external structure* to support faculty in their pedagogical development and course transformation. It was important to be able to situate pedagogical materials into their courses and actively work on the transformation during the program. Dr. Larkspur notes that, "Having the Summer Institute kind of helped [me] practice a little bit and think about some of these different ideas and get feedback from other people. And that, I think, changed some of my ideas a little bit because I had to think about how much time I had to do it." Developing their course while actively discussing the instantiation of new pedagogy with program facilitators and participants helped them refine their process and changed their approach. Dr. Blackthorn says, "that was like 15 to 20 hours I was prepping during the Summer Institute class. And then I have my regular—what was my regular workload during the semester. [...] if people take advantage of the Summer Institute and, let's say, like flip the classroom and make all the videos, your workload during the semester is so much better." Dr. Larkspur and Dr. Blackthorn found that this *external structure* had *utility* for them: providing dedicated time for their transformation and reducing their workload during the otherwise busy semester.

Second, the goal of the pod days was to provide participants time to pursue their interests, and to engage with pedagogy specific to their transformation plans. One participant from the pilot cohort (when the pod days were all scheduled for the end of the Institute) learned in their interview that we planned to disperse the pod days for the next cohort. They commented that they "appreciated" this change, that they thought it would be "super helpful" because the pod days would allow time to digest the large amounts of information presented in the program.

Third, part of planning the TEN as a structure to support faculty course transformation efforts was considering what faculty would take away from the programs, including incentives. As discussed in the program description, paying the participants a stipend for the participation in the course was designed to recognize the time invested in course transformation. Some participants acknowledged the value of a stipend, but did not feel that it was necessary to be compensated for their professional development efforts. Dr. Larkspur commented on possible reasons to attend a

professional development program and explained, “I would probably see salary as the least important of those.” They go on to comment that because they are on a 10-month appointment, they get paid additional salary if they teach in the summer. Dr. Larkspur added, “If I wasn't teaching in summer session, then a salary would be a deciding factor for any work like that that I would be doing over the summer.” Interestingly, Dr. Milfoil not only felt that the stipend was important, they also felt that it is important that it comes in the form of salary (and not research funds). Dr. Milfoil explained, “I would really like to be considered for [the SI in future cohorts] because, unlike [other program] that says, you know, ‘Okay. We put this money to your research account—by the way, you're a teaching faculty, so you figure out a way how to use that money,’ versus [your TEN program is] saying, ‘Here you go. We value your time. We acknowledge that you are committing your time, and we know your time [is] worth money.’” For Dr. Milfoil, the stipend offset some of the *cost* of participation. Yet still, some other participants felt that professional development was simply an extension of their teaching responsibilities and that compensation wasn’t important, which demonstrated *attainment value*.

Incentives could also be acknowledgement of completion. For some participants, having a formal acknowledgement in the form of a certificate or letter was a valuable contribution to a professional portfolio. Dr. Milfoil placed particular emphasis on valuing faculty time invested in teaching. They said, “if you add up all the time commitments all these instructors have for the whole semester, probably it's [going to] be hundreds of hours, right? [That’s a lot], even, like, a simple e-certificate, you know? When I applied for promotion, I included that. It doesn't cost anyone anything, but it's something that-- you know, again, tangible, verifiable.” Dr. Milfoil explained how providing certificates or letters does not require funding, but for participants it can mean the difference between their work being acknowledged or overlooked by their department, which demonstrated *utility*. Dr. Larkspur also commented that they were learning about the importance of having a professional development record. They described, “I'm learning that those types of things are very important, and I don't think I appreciated it before. [...] It’s very helpful to have gone through this very structured process of the Summer Institute because I might have done lesson plans on my own, but it would not have been as detailed, and I probably wouldn't have done a detailed transformation plan [to put in my portfolio].” Dr. Larkspur felt that the work they had put in during the SI had *utility* for their future promotion. In their case, the fact that the TEN placed an emphasis on documenting transformation efforts supported their development in building their portfolio, as opposed to simply receiving a certificate of completion without the explicit encouragement to include it in participants’ teaching portfolios.

Fourth, the SSGs were designed to provide ongoing support and extended engagement. Dr. Meadowsweet explained, “I find a bi-weekly meeting with someone that can just walk me through this would be ideal, where I could say, ‘Okay. Over the past two weeks, these are the issues I've encountered. What's your advice?’” Ongoing support while working through a pedagogical change is important for overcoming obstacles and working through changing ideas. Furthermore, it is important to have a network of people to work through obstacles during course transformation. Dr. Blackthorn highlighted that their “two most important” benefits of a professional devleopment program were “regular sustained meetings with other teaching-focused

people, and developing community with colleagues." They further said that they did not have many opportunities to discuss teaching transformation with colleagues in their department. Having connections to a long-term group focused on pedagogy was very beneficial. Dr. Burdock hit upon this same idea when they explained that "the [SSG] that I participated in, I really liked it because it put me in contact with people from other departments, which I think I'm lacking the most."

The TEN was built to provide an external structure that supports participants in transforming their courses. It also provided an opportunity to motivate pedagogical engagement through incentives and career development opportunities for faculty. Participants consistently remarked upon the value of connections with pedagogically motivated colleagues and opportunities for career development. Having dedicated time and space for course transformation, where they have access to expert and peer feedback, was highly valued by the TEN participants.

Participant Example

Coauthor, GLZ (he/him), provides a concrete example of what participation in the TEN was like. He is an alumnus of the SI and SSGs, participating first in an SI cohort. He later joined four SSGs: two about independent feedback on teaching, one on engaging students through interactive lecture videos, and one about the scholarship of teaching and learning. He teaches a course on Management Information Systems (MIS), where students learn to transform and combine raw data into visual information for sound managerial decision-making. His MIS course is designed to counteract the steady decline in data literacy among K-12 students since 2011 [27], as well as prepare students to satisfy the "demand for data literacy in America's workforce [28]." In the fall semester prior to joining the SI, he began transforming the course from a traditional lecture-based, database-focused course into an active-learning, data warehouse-centered course using real-world data delivered in a flipped classroom [29]. Though he is no longer at Rutgers University, he continues to teach his transformed MIS course at Stony Brook University.

MIS is a software-intensive class, in which students highly benefit from in-class support to actively use the software technologies for processing data. The SI and SSGs helped GLZ transform his class into a flipped classroom in the fall semester after joining the SI, implement interactive PlayPosit [30] videos in the subsequent spring semester, and employ in-class Learning Assistants [31] during the following academic year funded by the TEN grant. The course transformation afforded higher-order student learning up to the *Creating* level under Bloom's taxonomy of educational objectives [32]. Course projects involving real-world data allowed students to generate new information and insights in different domains, such as healthcare, transportation, and real estate. For the three semesters after he participated in the SI, for example, students extended the analyses in published real estate articles on housing unaffordability by combining multiple datasets from the Realtor.com, Freddie Mac, Census Bureau, Bureau of Labor Statistics, and their individually curated datasets to provide their personal recommendations for the most cost-effective and overall best places to live in the US with respect to their own chosen careers.

GLZ greatly appreciates the TEN support and resources, which afforded the implementation of pedagogical techniques in his courses to achieve higher-order learning among his students. The SI encouraged GLZ to focus and dedicate time towards flipping his classroom, and the SSGs provided GLZ the environment to learn, and receive feedback, from peers focused on pedagogy.

Implications

The TEN participants' experiences in both the SI and SSGs suggested that these programs provide ease of access to pedagogical development that did not exist prior to their creation. At the same time, participants demonstrated motivation to implement best practices and reported that participating in TEN programs increased their perceived value of doing so. It is important to consider structures and motivations when designing professional development programs and opportunities. Structures can impede or facilitate participation. Professional development programs can also help address structures that are already present at the university, removing or helping faculty circumvent traditional barriers to participation. Faculty motivational factors, on the other hand, can be leveraged through program design, keeping in mind that faculty are not monolithic: different incentives and compensation might be more or less motivating to one faculty member compared to another. It can be useful, therefore, to design programs with multiple incentives or consider a suite of programs with complimentary incentives.

The majority of the TEN participants were teaching-track faculty. While this may have been expected, one area we would like to address in the future is increased participation by tenured/tenure-track faculty. As tenure-track faculty are being asked to teach more courses at our institution, investing in pedagogical development on an institutional scale will be required to encourage and ensure their participation. Faculty development programs hold immense potential to enhance teaching effectiveness and foster pedagogical innovation. However, their future success depends on bridging individual and institutional approaches. By aligning faculty development initiatives with organizational priorities, providing robust support systems, and fostering a culture of collaboration, higher education institutions can empower educators and support sustained improvements in teaching and learning. Integrating personal development with systemic reform ensures that both educators and institutions are equipped to meet the dynamic challenges of modern higher education, ultimately benefiting students and advancing the mission of teaching excellence.

The TEN has been institutionalized via the creation of a Center for Teaching and Learning (CTL) [33]. This means that the initiatives started through grant funding can continue beyond the availability of that funding. This is important, as the need for pedagogical development is not a temporary condition, but rather an ongoing need that evolves with the changes and challenges that faculty experience over their years of teaching. The content and approach of SSGs and the SI will also evolve to better address future faculty needs. Before the TEN was initiated, our campus did not have a traditional CTL. Some components traditionally included in CTLs existed in various units (e.g., coordinating student evaluations, instructional designers, educational technologists) and there was little formal communication about these units on a broad scale. Fortunately, our institution recently launched a CTL on our campus: Rutgers' Institute for

Teaching, Innovation, and Inclusive Pedagogy (TIIP). TIIP will be able to institutionalize programs and components of the TEN in their suite of programming and support services. Provost- and Chancellor-level support for the CTL initiative demonstrated a commitment to supporting instructors' work involved in teaching, transforming courses, and learning about evidence-based practices.

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