Enhancing engineering faculty implementation of inclusive pedagogy through an inclusive excellence faculty development program

Dr. Renee M. Desing, University of Washington

Dr. Renee Desing is an Assistant Teaching Professor in the Department of Mechanical Engineering at the University of Washington. Her research interests include diversity, equity, and inclusion in the engineering classrooms and workplaces. Dr. Desing graduated from The Ohio State University with her Ph.D. in Engineering Education, and also holds a B.S. in Industrial Engineering from the Georgia Institute of Technology and a M.S. in Industrial Engineering and Operations Research from the Pennsylvania State University.

Robin Neal Clayton, University of Washington

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Introduction

While the framework of culturally relevant pedagogy was originally developed 30 years ago [1], there has been a growing momentum in recent years to adopt inclusive and equitable teaching practices in higher education [2], [3]. This shift is driven by the increasing diversity of student populations, including those from historically marginalized identities, enrolling in higher education institutions [4]. This trend is particularly significant in fields like engineering, where there is a rising interest in addressing global challenges related to sustainability, social justice, and other societal issues (e.g., [5]). To effectively educate this diverse student body, faculty must adapt their teaching practices and pedagogical approaches to meet the evolving needs of their students and the complex problems they will face as engineers.

Faculty development programs have emerged as a vital means for enhancing teaching effectiveness [6], [7], [8]. These programs provide educators with the tools and knowledge necessary to implement inclusive teaching strategies. Despite their growing popularity, faculty development programs focused on inclusive teaching remain limited in engineering education. Engineering is often perceived as an objective, meritocratic field that prioritizes technical skills over other competencies [9], [10]. However, there is a recognized need to expand engineers' critical thinking and problem-solving skills, as emphasized by the Accreditation Board for Engineering and Technology (ABET) [11]. Inclusive pedagogy can play a crucial role in developing these skills by fostering a learning environment that values diverse perspectives and encourages collaborative problem-solving.

Culturally relevant pedagogy (CRP) highlights the significance of incorporating students' cultural backgrounds into every facet of the learning process [1]. Teacher development programs that promote the use of CRP empower educators to design inclusive curricula and adopt teaching methods that appreciate and celebrate cultural diversity [12]. Notably, in the field of engineering, the adoption of CRP is gaining traction through university-specific faculty development initiatives, which is an encouraging trend [13]. Engineering faculty are demonstrating motivation and commitment to enhance their inclusive teaching skills and integrate inclusive pedagogy in their classrooms [14].

In response to this expanding need, we have developed and launched a faculty development program aimed at addressing the gap in inclusive teaching among engineering faculty. Our program seeks to equip faculty with the skills and knowledge to create more inclusive learning environments, using culturally relevant pedagogy as our guiding framework. In this paper, we evaluate the impact of the first phase of our program, which constitutes a weekly training for our faculty participants. By evaluating the effectiveness of our program, we aim to contribute to the broader discourse on inclusive education in engineering and highlight the importance of such initiatives in fostering a more equitable and effective educational landscape.

Background on the program

To address the gaps regarding the use of culturally relevant pedagogies in engineering education, we designed a faculty development program to train engineering faculty in inclusive teaching practices and pedagogies. Our program has six learning objectives: (1) grow knowledge around specific DEI topics to support the teaching-learning process and students as culturally competent future engineers, (2) build mentorship capacity by connecting faculty with experts in various DEI spaces, (3) embed inclusive and equity in teaching using the Universal Design for Learning (UDL) framework, (4) increase access to DEI-related resources and provide course redesign supports, (5) create organizational change across the College of Engineering to prioritize uncommon voices and create a learning environment where all students feel respected, and (6) foster a cross-disciplinary community of faculty across the College of Engineering acting as change agents for DEI in engineering education.

Our year-long program is conducted in two phases using a cohort-based, community of practice model [15]. The first phase is a series of synchronous, weekly, in-person training sessions, led by an instructor during the spring term of the academic year. These sessions expose faculty to inclusive and equitable pedagogical theory and practices, facilitated by experts in the field. We provide faculty with tailored resources for integrating intercultural competence and inclusive teaching practices for their curriculum, with the goal of creating impactful changes in their courses, their departmental units, and across the College of Engineering. The sessions are also designed to build a collaborative learning community of engineering faculty dedicated to enhancing inclusive excellence across the College.

During phase two, cohort members actively apply the training in phase one by redesigning one of their courses. Each faculty incorporates the principles, strategies, and practices learned to the context of one of their courses, and then during the academic year directly following phase one, faculty teach the redesigned version of their course, directly practicing their new knowledge and skills is a real-world teaching context. Throughout this phase, faculty receive ongoing support through both the instructor of the program as well as peer collaboration through the cohort. We ensure that all cohort members have the tools and resources needed to successfully integrate inclusive teaching practices into their course.

We launched our first cohort in spring 2024, successfully completing phase one. Currently, our cohort participants are in phase two, actively redesigning and implementing their courses. This paper addresses phase one of the first cohort.

Conceptual Framework: Culturally Relevant Pedagogy

To shape both our program and research design, we employ culturally relevant pedagogies as our guiding framework. Culturally Relevant Pedagogy (CRP) is an educational theory developed by Gloria Ladson-Billings that emphasizes the importance of including students' cultural references in all aspects of learning [1]. This framework is anchored in three fundamental elements: academic success, cultural competence, and critical consciousness. Each element is essential in

creating an inclusive and equitable learning environment, especially in disciplines like engineering where diversity and representation have traditionally been limited.

Academic success in the context of CRP goes beyond traditional measures of achievement. It involves ensuring that all students, regardless of their cultural backgrounds, can achieve high academic standards. Instructors using CRP strategies focus on setting and maintaining high expectations for all students, creating a classroom atmosphere that encourages risk-taking and values each student's contributions, and designing lessons that are relevant to students' lives and experiences, which makes learning more meaningful and engaging [1]. In engineering education, this principle addresses the need to support students in mastering complex technical content while also fostering their confidence and sense of belonging in the field.

The cultural competence principle involves helping students to appreciate and celebrate their own cultural backgrounds while also understanding and respecting others. This element of the CRP includes encouraging students to explore and affirm their cultural identities, integrating diverse cultural perspectives into the curriculum to reflect the backgrounds of all students, and teaching students to navigate and appreciate cultural differences, fostering a more inclusive and harmonious classroom environment [1]. In engineering, this might involve integrating diverse perspectives in problem-solving scenarios and acknowledging the contributions of engineers from various cultural backgrounds to provide role models for the students.

The third principle, critical consciousness, is about empowering students to recognize and challenge societal inequalities. This component of CRP encourages students to use critical thinking to question and analyze the status quo, understand and address issues of power, privilege, and oppression in society, and engage in actions that promote equity and justice within their communities. In the context of engineering education, this means preparing students to consider the broader impacts of their work on society and their role as engineers in promoting social justice.

Culturally Relevant Pedagogy is a powerful framework for creating an inclusive and equitable educational environment. By focusing on academic success, cultural competence, and critical consciousness, educators can help all students thrive academically while also developing a deep appreciation for their own and others' cultural identities. This approach not only enhances student learning but also prepares them to be thoughtful, engaged citizens in a diverse world.

Purpose

The purpose of this paper is to assess the impact of phase one of our faculty development program, particularly its impact on engineering faculty's understanding and implementation of inclusive and equitable pedagogies. We focus on how participants plan to incorporate the strategies, tools, and concepts learned during the training in phase one into their teaching practices. By examining the changes in faculty members' pedagogical approaches, we aim to understand the effectiveness of the program in fostering inclusive teaching. Our research

question is: *how does an inclusive excellence faculty development program impact engineering faculty's understanding and implementation of inclusive and equitable pedagogies?*

Methods

Recruitment

To recruit participants, we initiated a comprehensive advertising campaign targeting faculty across the College of Engineering, specifically those teaching in the upcoming academic year. The selection process was rigorous, evaluating applicants based on criteria aligned with the program's goals and their motivations for participating. Thirteen faculty members were selected for the first cohort, all of whom consented to participate in the research studying the program through an approved Institutional Review Board (IRB) process.

Data Collection and Analysis

Data collection involved conducting semi-structured interviews with each participant both before and after the training in phase one. The pre-interviews explored participants' reasons for joining the program, their goals for participation, their current implementation of inclusive teaching practices (or lack thereof), and their understanding of inclusive and equitable pedagogies. Post-training interviews revisited these topics, focusing on what participants learned during their training, how their understanding of inclusive and equitable pedagogies has changed, and how they are considering incorporating what they learned in the training into their teaching. Each interview lasted 30-45 minutes.

The interview transcripts were analyzed in three stages to assess the participants' growth in their understanding of inclusive pedagogies before and after the training, and to determine the alignment of their understanding with the Culturally Relevant Pedagogy (CRP) framework. In the first stage, descriptive coding [16] was employed to summarize excerpts related to participants' current teaching practices and definitions of inclusive pedagogies in both their pre- and post-interviews. Each descriptive code was then categorized under one of the three elements of the CRP framework (i.e., academic success, cultural competence, and critical consciousness) by the framework's definitions. In the second stage, longitudinal coding was applied to compare the pre- and post-interview data for each participant for each of the three elements of the CRP framework. This comparison aimed to identify areas of strength, significant growth, and opportunity for future improvement and development. Finally, a cross-participant comparison was conducted for each element of the CRP framework to assess the overall impact of the phase one training on participants' understanding of inclusive pedagogies and their plans for incorporating inclusive teaching practices in their future courses. This comprehensive analysis provided insights into the impact of the training on participants' development of their inclusive teaching.

Limitations

We recognize that participants were recruited through a voluntary application process, which may have attracted faculty who are already more inclined towards inclusive teaching practices and seeking professional development opportunities. Further, our program occurs at a university where diversity, equity, and inclusion (DEI) efforts are still supported and embraced by leadership, given the current landscape of DEI in higher education nationally. Thus, the transferability of our results to institutions facing challenges in implementing DEI programs may be limited.

Results

Overall, from the beginning to the end of the training in phase one of the program, the faculty participants showed consistent strength in the cultural competence element of CRP, with 12 of the 13 demonstrating this strength (see Table 1). The CRP element that showed the most improvement as a result of the phase one training was academic success, with 8 of the 13 demonstrating growth, while 4 showed improvement in critical consciousness. However, the element that has the greatest opportunity for future growth amongst the participants is their application of critical consciousness in their teaching, as indicated by 9 of the 13 participants. Table 1 summarizes the areas of strength, improvement, and opportunity for growth by participant.

Table 1: CRP Areas of Strength, Improvement, and Growth Opportunity During Phase One

Pseudonym	Strength	Most Improved	Growth Opportunity
Diana	Cultural Competence	Critical Consciousness	Academic Success
Dominic	Academic Success	Cultural Competence	Critical Consciousness
Henry	Cultural Competence	Critical Consciousness	Academic Success
Jacob	Cultural Competence	Academic Success	Critical Consciousness
Monica	Cultural Competence	Academic Success	Critical Consciousness
Natasha	Cultural Competence	Academic Success	Critical Consciousness
Samuel	Cultural Competence	Critical Consciousness	Academic Success
Sean	Cultural Competence	Academic Success	Critical Consciousness
Susan	Cultural Competence	Academic Success	Critical Consciousness
Ted	Cultural Competence	Academic Success	Critical Consciousness
Victoria	Cultural Competence	Academic Success	Critical Consciousness
Vince	Cultural Competence	Academic Success	Critical Consciousness
Yvonne	Cultural Competence	Critical Consciousness	Academic Success

To protect the identities of the participants, pseudonyms are used and individual demographic information for each participant is withheld. Collectively, however, the cohort included 7 men and 6 women, 5 White and 7 racial/ethnic minorities, 6 teaching track and 7 tenured/tenure-track, and 10 assistant professor rank and 3 associate/full professor rank. The cohort also represented 7 of the 10 engineering departments in our College of Engineering.

Academic Success

During the pre-interview, all participants emphasized the importance of equipping students with the skills needed to succeed academically and professionally. Common strategies that they were already utilizing in their teaching (as indicated in their pre-interviews) included making course materials accessible, using flexible assessment methods, and integrating real-world applications into the curriculum. While all participants aimed to support student success, their specific methods varied. For example, Diana focused on teaching students relationship-building and grit to achieve their professional career goals, while Natasha emphasized accessibility of course materials and communication through multiple channels to ensure students' success in the course:

> *How my students will get a foothold in the industry is through purpose. And so really awakening that within them and helping them have the grit that it takes to make these careers happen. (Diana)*

> *I make everything on Google Docs and Google Slides. And I try to share the materials in multiple ways. You know I have a Slack channel to post things. I have Canvas and do the announcements. I've had my TA turn our syllabus into modules to help the students follow along week to week. (Natasha)*

In the post-interview, all participants continued to emphasize the importance of providing students with the skills and knowledge needed to succeed academically and professionally. However, they were able to more specifically articulate strategies they would like to adopt in their course as a result of what they learned in the program. For example, they discussed incorporating active learning, Universal Design for Learning (UDL) principles, and diverse assessment methods to cater to different learning styles. These strategies help create more engaging and supportive learning environments. Many participants have developed concrete plans to increase student engagement and investment in their learning, including setting clear expectations, providing detailed rubrics, and creating structured office hours. For example, Natasha clearly articulated her goals for creating a rubric for each of her assignments to provide clarity on her expectations for her students, while being flexible in allowing students to demonstrate their learning in multiple ways. Ted emphasized wanting to institute structured office hours to reduce barriers and reach more students that need support. And Susan offered multiple assignment submission types for her students:

> *I want to, for this new class, actually create assignment rubrics and make it really clear the point scales and what action students have to do. Default to get the full points versus, you know, partial credit, and so on, and really lay that out. I plan to work on that this summer to make a rubric for every single assignment. And to communicate that if there's issues with how that's structured, about alternative pathways or methods to make sure that there's not only one way to assess if they successfully learn the information or not. (Natasha)*

I think, number one, one of the concepts that I'm going to work on, and it was sort of a revelation to me was, I'm going to work on developing a more structured office hour setting. Then the idea is that I want to have some sort of, you know, create some goals for office hours for the students. So, for week to week, you know, maybe even like, checking in at certain points with regards to projects. So, making it more accessible for the students and useful. Because I think I'm making myself available a lot of time for office hours, and then you get some people that take advantage of it. And you know it's usually the same students that always take advantage of it, and it's the students that could probably benefit the most that don't. And I think a lot of that is reducing the barriers...And so creating it so that it's like as part of a, you know, the assignment structure, or you know, team structures in the design courses. (Ted)

I had an assignment for a different class… I opened it up this time, and I said, 'You can submit a PowerPoint. You can submit a Word document, or you can submit a video.' And I actually got all 3 formats… So, I've already started using [new strategies]. (Susan)

Through the program, participants have gained confidence in their ability to implement these new strategies effectively, leading to significant growth in their teaching practices to support students' academic success.

Cultural Competence

Prior to the program, most participants were already actively considering how to incorporate diverse perspectives and examples into their teaching, and to foster a sense of belonging among all students. Many faculty in the cohort explained that improving their cultural competence in their teaching was one of their main reasons for participating in the faculty fellowship program. The strategies they expressed interest in implementing to create an inclusive environment varied, from using inclusive language and respecting students' pronouns to integrating interdisciplinary perspectives and real-world contexts in their lessons. Some participants draw on their personal experiences as minorities in engineering, enhancing their sensitivity to the challenges faced by underrepresented groups and informing their inclusive practices. For example, Natasha's (who identifies as a gender and racial minority) goal is to learn how to preemptively prepare for addressing various students' intersectional identities, particularly if they are different from her own, and Jacob (who does not identify as a gender or racial minority) wants to learn how to include more women in his courses:

I think that [the faculty fellowship program] will definitely make me more aware of the different experiences that students are going through based on their kind of intersectional identity. There are certain things that I may not have, you know. If I didn't have a student from a certain background, I may not know what type of resources they need, or how I can better accommodate their needs, especially if they themselves don't reach out or speak up. So I can, I think preemptively, I can make sure that the way I'm presenting the material, the way I'm leading the class, it's not just reinforcing kind of my own strength. (Natasha)

Actually, one reason [for participating in the program] is because of my classes. When I started here, I started teaching courses in electronics and circuit design, which is our area. And the thing that is very obvious is that it's kind of a male-dominated area. And because my class out of 22, I just had 4 female students. And even though there is a lot of interest nowadays because of the CHIPS and Science Act, the area is growing but, I mean, it's still male-dominated. (Jacob)

After the training, participants continued to recognize the need to create an inclusive classroom environment and have now identified specific strategies for doing so. Faculty are seeing the importance of their role in not only teaching technical skills to engineers, but also empowering their students to take ownership of their learning, showing the context and application of the skills they are learning, and emphasizing the importance of other, non-technical skills, such as team dynamics. Many discussed how they incorporate diverse perspectives, real-world examples from diverse media, and integrate interdisciplinary perspectives to foster cultural competence among students. For instance, Victoria wants her classroom environment to feel like a partnership between her and the students, and Monica wants to include real-world examples that highlight the impact of engineering on marginalized communities, while Vince feels he knows how to better explicitly teach teamwork skills to ensure all students could participate fully and are prepared for their future careers:

I'm really hoping that they become more invested themselves in their learning experience, like I want it to be more like a partnership where I am facilitating, be like a facilitator, and for them to feel like they really own the topic. (Victoria)

Something else I would add is to make sure that there's more representation and diversity in the maybe, for example, how the problems are worded. I forget who talked about this. But someone mentioned like, instead of writing a generic problem that, you know, like purity parameter, solve the equation to try to relate that to like a real issue, a real problem and helping students, again, to kind of understand how what they're learning about can either help or hurt real people, real communities that are, you know, dealing with these various engineering contexts or issues. (Monica)

One thing that I've always struggled with is that I don't like the process of 'Hey, this is an exercise. It needs to be done in teams. You guys find team members or introduce each other. Introduce yourself to each other and then kind of come up with some networking event, small networking event, but find your partners and then start working on it.' After kind of going through all the discussions, all the tools, and then the learnings that we've seen throughout this fellowship program, I think I have a good idea of how to approach it. I think it needs to be a course element on how to work in teams. I think that part of the lecture, especially the hands-on, lab-oriented courses should all have this…But having some learning elements in the course that teaches our students how to work in teams. Because I feel like the technical aspects of it, the concepts that we're teaching them in the electrical and computer engineering, those are great. They need all that when they're going to their job. But that's not everything. They need the soft skills, how to work with

teams, how to interact with other people, how to kind of make sure that your voice is heard. And also you're hearing other people's voices as well. Those are crucial steps and learning skills that they need to have with them, going out to industry. (Vince)

At the end of the phase one training of the program, our faculty participants have shown a continued commitment to enhancing cultural competence in their pedagogy to create inclusive environments that respect and value diverse backgrounds and perspectives. This dedication highlights their growing strength, from already considering how to infuse cultural competence to identifying specific tools and strategies that they plan on implementing in future course designs.

Critical Consciousness

While participants have shown awareness of broader social and political issues, integrating these concepts deeply into their engineering curriculum remains a challenge. Similar to cultural competence, learning how to incorporate critical consciousness in their own pedagogy is one of the faculty's goals of participation. However, their goals with respect to critical consciousness were less explicitly articulated than the other two aspects of CRP, such that the depth of participants' engagement with sociopolitical issues varied. The specific societal issues addressed also differed, with some participants focusing on healthcare inequities, environmental justice, or the impact of external events on students. Some are already brushing the surface on how to address structural racism and systemic inequities, with the goal of deepening and expanding this integration in their courses. For example, Natasha wants to learn through the program how to expand her class from focusing on environmental sustainability to more broadly environmental justice, saying:

> *I thought participating in this program would also be a really good way to more strategically develop the curriculum and make sure we're focused, not just on sustainability topics like environmental social sustainability, but also things like environmental justice. (Natasha)*

Others were more focused on bridging the gap between technical work and individual identities. For example, Sean is consciously teaching gender-inclusive language to his biomedical engineering students with the goal that his students begin to think more inclusively about the engineering problems they are solving while simultaneously creating an inclusive learning environment, thereby bridging the technical work with a specific social identity.

> *When we're talking about biomedical problems, we try to use the most inclusive language possible. So tons and tons of our students are interested in global health problems and women's health problems...And so one of the things that we try and get them to do is like, well you know, someone who is capable of getting pregnant isn't always someone who presents with a female gender expression. And so we try to get them to do things like, well, for when you write your needs statement, don't say 'women need this.' Say 'people capable of getting pregnant,' or 'people who are pregnant' and just like those little tweaks. I feel like, I hope, that I sort of subtly and implicitly channel to the students that*

they should be thinking in a more inclusive way about their work. And in turn I hope that that makes the class a more welcoming inclusive environment. (Sean)

After the phase one training, participants more clearly articulated their commitment to addressing broader societal issues related to equity, with specific plans to integrate discussions of social justice, systemic inequities, and real-world applications into their courses, highlighting emerging growth in the critical consciousness element of the CRP. For example, Yvonne is creating a project to specifically address health inequities while also connecting that to broader structural issues around race and gender, Dominic is expanding his students' peer review assignments to teach them to critically reflect on inclusivity and equity by including include direct questions, and Diana is planning on introducing debates for students to explore various viewpoints with respect to certain systemic issues.

> *I want to basically take the first half of the course around orthopedic biomechanics and the second half around cardiovascular biomechanics… Both of these are good topics for me to address, to address health inequities, and to teach students about the difference between biological differences and social, you know, differences due to social factors. So, yeah, the difference between like biological sex differences and racial and ethnic differences that relate to structural racism. (Yvonne)*

> *I do want the students in their peer reviews to have a more… I want to have more direct questions on equity, inclusivity for them to consider… I want them to explicitly think of the inclusivity as part of those questions, even deeper. (Dominic)*

> *The other thing that I would love to introduce is debate. Two people come in and debate issues and show contrasting views. Maybe even disagreement around technology issues. (Diana)*

As a result of the faculty fellowship training, the participants are beginning to find effective ways to balance inclusivity with academic rigor and address systemic issues within their teaching practices. However, participants need to continue developing their critical consciousness by engaging more deeply with sociopolitical issues and teaching their students to do the same. This involves creating structured opportunities for students to engage with these topics and integrating explicit discussions of their impact on engineering and society. Continued focus on critical consciousness will help participants create more inclusive and equitable learning environments.

Discussion

The Inclusive Excellence Faculty Fellowship Program has led to significant advancements in participants' approaches to inclusivity and equity. Initially, participants recognized the need for inclusive practices, but through the program, they began implementing specific strategies. This transition from awareness to action is consistent the findings of Ladson-Billings [1], who argues that culturally relevant pedagogy requires both understanding and application. Participants also reported increased confidence in their ability to implement inclusive teaching practices, supported by the knowledge and resources gained from the program. This boost in confidence is

in line with Bandura's theory of self-efficacy, which highlights the role of mastery experiences in building self-assurance [17].

One of the most exciting findings from the program is the emerging growth in participants' implementation of critical consciousness. Participants are starting to move from a general awareness of issues to developing specific, actionable strategies to address these challenges in their teaching. This growth aligns with Freire's [18] concept of critical pedagogy, which emphasizes the development of critical awareness and action to address social injustices, and the work of Gay [12] who highlights the importance of culturally responsive teaching practices that are both reflective and action-oriented. The transition from theoretical understanding to practical application is also evident, with participants implementing strategies such as Universal Design for Learning (UDL), active learning exercises, and diverse assessment methods. These practices are supported by research as effective means to enhance inclusivity [12], [19].

The focus on creating supportive and inclusive learning environments has the potential to significantly enhance student engagement and well-being. Participants' efforts to offer flexible policies and create welcoming classroom atmospheres are particularly noteworthy. This approach is well-documented in the literature, with Tinto [20] emphasizing the role of supportive environments in student retention and success, and Strayhorn [21] discussing the importance of belonging and its impact on student outcomes. This approach helps students understand the broader implications of their work and develop a deeper critical consciousness.

Conclusion and Next Steps

The phase one training of our faculty fellowship program has yielded significant outcomes in various areas, demonstrating its effectiveness in fostering cultural competence, academic success, and critical consciousness among participants. Academic success showed the most improvement, with participants adopting new practices that focus on student engagement and gaining confidence in their teaching abilities. This growth is indicative of the program's impact on enhancing teaching effectiveness and student outcomes. Cultural competence arose as the consistently strongest element, driven by participants' commitment to inclusivity, practical strategies, and utilization of personal experiences. Their commitment has translated into tangible actions that enhance the inclusivity of their teaching practices. Critical consciousness was identified as the element with the most opportunity for future improvement. Participants faced challenges in integrating critical consciousness into their teaching, highlighting the need for deeper engagement and ongoing development to fully realize the potential of inclusive teaching practices.

Our results showcase the potential for transformative impact of inclusive teaching programs on faculty, highlighting their journey from awareness to action. The training program has led to enhanced pedagogical practices, equipping participants with the knowledge and skills to implement inclusive and equitable pedagogies effectively. Participants have also developed increased awareness and reflection, recognizing their roles in fostering inclusivity and engaging in self-reflection to improve their teaching practices. The potential for these changes to

contribute to broader societal goals of DEI in STEM fields is a significant aspect of the program's impact.

The next phase of our research involves the longitudinal collection of data on our participants as they redesign and implement their courses in the upcoming academic year, during phase two of the fellowship program. This ongoing data collection, currently underway for our first cohort in the 2024-2025 academic year, will provide valuable insights into the sustained impact of our program. We will closely monitor the participants' continued growth as they put their plans and goals into action. By analyzing their progress and the outcomes of their redesigned courses, we aim to fully assess the long-term effectiveness of our one-year faculty fellowship program. This longitudinal approach will allow us to capture the evolution of participants' teaching practices and their broader impact on student engagement, academic success, and institutional inclusivity. This ongoing research will contribute to the broader discourse on engineering faculty development and inclusive teaching, ultimately supporting the advancement of equity and diversity in academic institutions.

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