

Designing Inclusive Teaching Workshops with Non-Tenure-Track Faculty in Mind

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Abstract: The research team at California State University, Los Angeles (Cal State LA), is implementing an ongoing NSF-funded research project aiming to change the paradigm of teaching and learning in STEM and its underlying mental models from a factory-like model to a more ecosystem-like model. One aspect of the project is developing Communities of Practice for faculty that help foster this shift in mindset. This paper specifically discusses a more workshop-like delivery of the existing Eco-STEM Faculty Fellows' Community of Practice, condensed into two days, as opposed to throughout a full academic year. This workshop model was developed for lecturers, or non-tenure track (NTT) faculty, who often have less access to resources and opportunities for professional development and less flexibility in their schedules. Some lecturers work part-time on campus and may have full-time employment elsewhere. Lecturers responded enthusiastically and actively contributed to conversations about educational models in these sessions. They showed interest in more professional development opportunities like the Eco-STEM Peer Observation Tool, which they are often not afforded in their roles as lecturers. Lecturers also reiterated the lack of opportunities for community-building such as what they felt was provided by this workshop series. The Lecturers' Community of Practice was overwhelmingly well-received by lecturers, despite the research team's concern around its condensed nature.

The focus of this paper is on the intentional decisions made by the research and facilitation team to provide a professional development experience catered to non-tenure track faculty. In this paper, we also highlight what aspects of the workshop resonated with lecturers, particularly those designed with lecturers in mind, and those unexpectedly helpful for the participants. This paper adds to the conversation on providing more workshops on inclusive teaching for NTT Faculty, who play a critical role in making our programs successful. We include feedback from participants and implications for practice.

Introduction

The overall aim of the Eco-STEM project is to change the narrative from engineering education being like a factory to a narrative more consistent with the analogy of an ecosystem. The change is meant to recognize that each member of the ecosystem (students, faculty, and staff), is coming in with their unique set of assets. Unlike a factory model, an ecosystem model aims to foster these individual assets so that everyone can thrive. The Eco-STEM project is separated into three pillars, the Eco-STEM communities, research, and institutionalization [1]. This paper describes one Community of Practice, the Lecturer Community. Other communities of practice include the Leadership Community of Practice, for department chairs of STEM departments within the university [2], and the Faculty Community of Practice [3], open to any faculty member, but requires a year-long commitment.

After two cohorts of the year-long Faculty Community of Practice, facilitators noticed the need to create a Community for Lecturers, or non-Tenure-Track (NTT) faculty, who did not have the

same scheduling flexibility and training opportunities as their tenure-track (TT) counterparts, but who continue to play an important role in students' education. Figure 1 depicts the large percentage (about two-thirds of all faculty) of NTT faculty at Cal State LA, compared to TT faculty, indicating the ever growing need to provide training opportunities specific to NTT faculty. The cohort of Lecturers included both full-time and part-time faculty. In this paper, we review the literature on NTT faculty and their unique challenges and experiences. We also document the intentional decisions made by the research team to design a Community of Practice for lecturers, and the feedback we received from workshop participants. Finally, we close with recommendations for future development of NTT faculty-specific professional development opportunities.

Year	T/TT	NTT	Total	% NTT
2012	519	574	1093	52.5%
2013	509	613	1122	54.6%
2014	507	765	1272	60.1%
2015	515	899	1414	63.6%
2016	527	1051	1578	66.6%
2017	519	1199	1718	69.8%
2018	512	1203	1715	70.1%
2019	515	1202	1717	70.0%
2020	577	974	1,551	62.8%
2021	553	1,046	1,599	65.4%
2022	584	1,029	1,613	63.8%
2023	576	1058	1634	64.7%

Figure 1. Number of Faculty (Headcount), at Cal State, Los Angeles, in Non-Tenure Track (NTT) and Tenure/Tenure-Track (T/TT) Positions: 2012-2023 [4], [5]

Literature Review

According to a 2022 American Society of Engineering Education Report, there are about 32,000 Tenure-Track faculty in engineering and technology and about 45,000 full-time NTT teaching personnel in the United States. In addition to these 45,000, there are about 21,000 full-time equivalent, part-time teaching personnel [6]. This data shows that Tenure-Track Faculty make up a maximum of 32.4% of faculty, while NTT faculty make up the majority, at a minimum of 67.6%. These instructors often teach students in foundational classes and play a large role in the STEM student's educational experience. They may be entering the classroom without any training in pedagogy or can be an experienced instructor with a very loose connection to the institution. Either way they are often overlooked and underpaid. These numbers are consistent with the number of TT and NTT faculty at our institution, Cal State LA. At our institution in 2023, 64.7% of faculty were NTT faculty [5]. With NTT faculty making up most faculty, it is important that we create professional development sessions with NTT faculty in mind. One

common finding in the literature is that “part-time faculty have many of the same teaching and grading requirements as full-time faculty but with less institutional support such as offices or university e-mail accounts [7].”

NTT faculty often do not get the same benefits as Tenure-Track faculty. Part-time NTT faculty have even less benefits than full-time NTT, comparatively. Often cited concerns in the literature include the lack of community [8] and professional development opportunities [9], [10]. NTT faculty also feel “lower [in] status” or not as respected compared to their Tenure-Track counterparts [8], [10], [11], [12]. Despite the many incongruencies in TT and NTT positions, in general, NTT faculty find satisfaction and fulfillment in their jobs due to the ability to focus on teaching and working with students [10], [12]. Research has even shown full-time NTT faculty can have higher “organizational commitment” than tenured faculty [10].

Another common difference is the higher rate of women and faculty of color that are in NTT faculty positions compared to those in Tenure-Track positions [13]. This reality points to systemic inequities, given that Tenure-Track Faculty are, on average, paid significantly more than NTT faculty. Given the project’s overarching goal of creating more inclusive environments and helping those in the ecosystem “thrive” and “meet them where they are,” it was an organic step to create this space specifically for NTT faculty, given the tremendous contribution they make to the ecosystem, and their unique needs.

Data and Participants

The data for this paper includes both participant and facilitator reflections in the form of “minute-papers.” Additionally, we have observation notes taken by the research team during the sessions that are not included in this paper. The research and curriculum development team included five people: two full professors, two Assistant professors, and one postdoctoral researcher. There were 12, notably diverse, workshop participants.

Intentional Design Consideration for Non-tenure Track and Part-time Faculty

In creating a workshop specifically for NTT faculty, the research team wanted to lower the barrier for participation and mitigate power dynamics visible in the year-long Community of Practice. The following sections detail these two design decisions.

Lowering Barriers to Participation

The year-long Eco-STEM Community of Practice has always been open to any faculty member interested in participating. But after two years of running these workshops, the research team realized that the time commitment, although compensated for by the equivalent of a “one-course buy-out,” was not necessarily feasible for non-tenure track and part-time faculty due to several constraints. The year-long commitment consists of attending around 10, three-and-a-half-hour synchronous sessions over the Fall and Spring Semester, each taking place during weekday mornings. The year-long Community of Practice also had a project requirement in the Spring semester. These requirements are more difficult for NTT faculty to meet because their teaching

schedules are assigned with less lead time, they have less agency in choosing their schedule, and they are also not guaranteed a teaching appointment each semester. Some NTT faculty also have jobs elsewhere, making this timing extra difficult. The new workshop is condensed into two seven-hour Saturdays, with both breakfast and lunch provided. Although the year-long engagement came with the pay equivalent of one 3-unit course, the workshops still provide a sizeable stipend at \$600. Each of these considerations were intended to lower the barriers to participation. We have now offered two workshops, one in Fall 2023 and another one this Spring 2024. This paper only reports on data from Fall 2023, but we had similar reception from participants for the Spring Workshop.

Mitigating Power Dynamics

Although the year-long Community of Practice was open to all faculty, NTT faculty participated less than TT faculty. Throughout the conversations, it became clear that the issues TT and NTT faculty face are not always the same. The research team saw the value of creating a space for NTT faculty to discuss teaching practices with others who understood the realities of being NTT faculty, whether that was full-time or part-time. The research team hoped that in having a space where none of the participants were tenured or Tenure-Track, participants felt valued and as if they could share more freely. Oftentimes, professional development is designed with TT faculty in mind, and the rest of the faculty are to adapt the content as needed. This is extra work for a group who does not have the flexibility of a fixed salary or is paid less than their TT counterparts. This also points to reality of who is valued more systemically. Despite TT faculty only making up about one-third of all faculty, professional development opportunities are usually designed for them. This reality was another motivating factor for the research team to create this separate space.

Overall, these two intentional design goals, lowering potential barriers to participation and mitigating issues with power dynamics led to the development of a successful workshop series that was deemed valuable by the participants. The next section details the content of the workshop.

Workshop Design

The workshop for Lecturers took place over two Saturdays, spaced-out at least two weeks apart. The Saturday sessions were full-day sessions from 9am to 4pm. The weeks in between allowed for faculty to use the “Peer Observation Tool [14],” a new teaching feedback tool developed by the Eco-STEM team, focusing on developing a growth-mindset towards teaching. The schedule for each day can be found in Table 1 and Table 2 below.

Table 1: Session 1 Agenda

Time	Agenda Item	Details
9:00am – 9:30am	Check-ins	
9:30am – 9:45am	Welcome Video	
9:55am – 10:30am	Group Agreement Development	

10:30am – 10:40am	BREAK	
10:40am – 11:50am	Activities and Discussion	My Identity in College, Identity Wheel, Engineering Identity [15], Emancipation Video [16]
11:50am – 11:55am	Reflection	Minute Papers
11:55am – 12:55pm	LUNCH	
12:55pm – 1:00pm	Group Agreement Reminder	
1:00pm – 1:45pm	Activities and Discussion	How We Learn Video [17]s and Activity
1:45pm – 1:55pm	BREAK	
1:55pm – 3:05pm	Peer Observation Tool Overview	https://ecostem.calstatela.edu/wiki/index.php/Peer_Observation
3:05pm – 3:50pm	Critically Reflective Dialogue	
3:50pm – 4:00pm	Closing and Reflection	Minute-papers

Table 2: Session 2 Agenda

Time	Agenda Item	Details
9:00am – 9:20am	Check-ins	
9:20am – 9:25am	Agenda and Group Agreement	
9:25am – 9:45am	Reflection on previous session	
9:45am – 10:30am	Activity & Discussions	Student Connections and Deficit Mindsets
10:30am – 10:40am	BREAK	
10:40am – 11:50am	Activity & Discussions	Community Cultural Wealth [18]
11:50am – 12:00pm	Reflection	Minute-papers
12:15pm – 1:15pm	LUNCH BREAK	
1:15pm – 2:35pm	Discussion and Reflection	Peer Observation Tool
2:35pm – 2:45pm	BREAK	
2:45pm – 3:30pm	Critically Reflective Dialogue	
3:30pm – 3:40pm	Tour of Eco-STEM Resource Repository	https://ecostem.calstatela.edu/wiki/index.php/Repository
3:40pm – 3:50pm	Next Steps and Questions	
3:50pm – 4:00pm	Closing & Reflection	Minute-papers, Closing Survey

The workshop consisted of community building activities, active learning, reflection time, and of course, breaks. A key feature of the workshop was the framing of all discussions using Critically Reflective Dialogue, which helped the community deepen their understanding of the topics covered and its impact and the need for critical change within the educational system [19], [20]. Details of the content covered in the workshops can be found in other publications from the project [3]. The next session provides quotes and insights from the participants that illustrate the success of the workshops.

Reactions from Participants

From participant reflections and in-session comments, we see that many of the common issues found in literature were also brought up by participants in our workshops. We had comments about community-building, the desire for more professional development opportunities for NTT faculty, and the need for safe-spaces specifically designed for NTT faculty. The following sections share quotes from participants and expand on these themes.

Need for Community

One overwhelming theme that stood out to the research team was the need for community. Participants shared how much they valued hearing that they were not alone and that other faculty members were also experiencing similar challenges with teaching and with connecting overall. This is consistent with the literature that names the lack of community as a common challenge among lecturers, especially since lecturer's are not always a part of department meetings where many decisions are made, leading to feeling disconnected [8] and often do not have an office space to work at while on campus [7]. In their reflections, we had participants say,

“I am not the only one experiencing difficulties.”

and,

“I am not alone; I appreciate everyone here! I also see the care of our facilitators so thank you for making this change for everyone's improvement.”

Conversation spaces such as the one provided by these workshops help NTT faculty locate and assess common challenges that come with their tenuous positions. One participant mentioned how she felt after a class she was slated to teach was cancelled due to low enrollment, a common occurrence that impacts NTT faculty more severely than those in TT positions. She said,

“...but it feels like that. Even if my class gets cancelled due to [low] enrollment, I still wonder if it was me and my teaching that wasn't good enough.”

Another participant mentioned that this sharing of stories was valuable for getting to know each other. She said,

“We get to know each other. I [feel] like we share more, and we know each other more. Sharing stories is valuable to us.”

This comment resonates with literature findings that suggest that NTT faculty often feel isolated [7].

More Professional Development

Another common theme participants discussed throughout the sessions was wanting to become better educators. Comments on becoming better educators related to a faculty member

acknowledging they could use professional development for improving their teaching, but there was also an emphasis on this professional development helping them as the educator, become better for the sake of the students. We had participants say,

“I want to learn how to help them [students]. I want to be effective, help and guide them, to succeed.”

With a similar sentiment, we had another participant say,

“I see my colleagues say, ‘we learned this way, so my students have to learn this way,’ but I say no, I want them to NOT be underwater, and I don’t want my students to experience it.”

Overall, NTT faculty appreciated professional development not just for self-improvement, but also to find new ways to help their students be more successful. When we surveyed our participants about previous involvement in professional development of their teaching at our institution, all 10 who responded had previously participated in other professional development opportunities, pointing to the reality that NTT faculty value and want these opportunities.

Safe Space

Finally, one unique topic that came up was the appreciation of the “safe space” created uniquely for NTT faculty. Although the research team’s focus was on creating an inclusive space for participants, we were surprised to see how much this space was truly needed. One research team member started her career in academia as a lecturer and was reminded of her early experiences when hearing the participants talk about their experiences. For example, one participant discussed her appreciation for the community of practice because of the learning opportunity it provided, but she also mentioned not “needing to prove who I am” among other lecturers. She said,

“I understood that communication with other lecturers is very important because I heard and learned a lot of new things. I learned that I don’t need to prove who I am.”

Another participant echoed a similar sentiment,

“The main key word here is we are lecturers. WE work hard to keep our classes. So here we understand each other. Tenure-track faculty may not understand it. We are doing our best, but not recognized that way.”

Both of these quotes are consistent with the literature that shows that NTT faculty often feel like they have “lower status” than TT faculty [8]. The research team was able to see the importance of having professional development spaces just for NTT faculty due to the realities of power

dynamics. As the sessions continued, other participants shared similar sentiments about the need for a safe space. One participant said,

“If you are consistently in a place, you do not feel safe, how can you learn/work/improve? Same way for lecturers. Safe environment encourages us to make more effort to improve, and in the end, benefits our students.”

And another stated “If you feel less important, everything goes down.” In creating spaces to talk about what causes feelings of exclusion for students, teaching faculty were also able to see how inclusive spaces were also necessary for them, when acknowledging the power differential between tenure track and non-tenure track faculty. One participant explicitly mentioned how feeling safe or not is often due to job security. She said,

“We are not in a safe environment. We feel that we will lose our jobs. We are stressed so we make more mistakes. We get into negative conversations, so we cannot grow.”

By this logic, creating safe spaces would help improve performance, as people would feel free to be more of their full selves.

Discussion

In addition to the experiences of the NTT faculty participants described above, the research team was deeply impacted by being a part of these workshops. At one point during the afternoon of the first Saturday session, the participants became very emotional as they discussed the vulnerability they felt as lecturers in the evaluation process. This reaction to the new evaluation tool we presented was unexpected and the research team recognized that the current structure of the tool and process had to be reconsidered for lecturers facing different power dynamics. The conversations allowed the facilitators to listen and learn the perspective of this marginalized group of instructors.

In having had this experience, the research team wants to make several recommendations and encourage other universities to provide professional development spaces for their NTT faculty. Because one of the larger goals of the Eco-STEM project is to make systemic change by institutionalizing the processes we are developing, one recommendation is to create professional development for NTT faculty with institutional support. This means creating programming in Teaching and Learning centers specifically designed for NTT faculty. This also means creating spaces throughout the academic year for NTT faculty to gather and build community. NTT faculty already feel undervalued, and rightfully so. At a minimum, one way to show how much value they bring to our institutions is by providing them with professional support. This includes compensation for their time spent on these professional development activities that fall outside of their teaching responsibilities. At our university, we are looking to institutionalize this workshop series beyond the grant funding term. This includes working with our Office of Diversity, Equity, and Inclusion, given that the workshops are related to inclusive teaching.

In addition to institutionalizing professional development for NTT faculty, we also recommend that more spaces be made for NTT faculty to question systemic issues and advocate for concrete, structural changes.

Conclusion

In conclusion, this Evidenced-Based Practice Paper shares our research teams' recommendations after developing and implementing a workshop-style professional development opportunity for Non-Tenure-Track Faculty. The team was encouraged to share this practice after receiving overwhelmingly positive feedback from the participants. We have included the topics covered in this two-day workshop and citations to relevant materials and resources.

In reporting common issues found in the literature experienced by Non-Tenure-Track faculty, we see how our own team had initially reproduced these issues. We developed a Community of Practice open to any faculty member but inadvertently designed it with Tenure-Track Faculty in mind. When we redesigned the workshop and offered it specifically with NTT faculty in mind, both by *lowering barriers to participation* and *mitigating power dynamics*, many participants reacted very positively to the experience. As a result, participants expressed their Need for Community, and how this workshop provided some opportunity for connecting; their desire for More Professional Development, to become better educators for their students; and finally, their appreciation for the Safe Space provided by the workshop and facilitators, to express concerns specific to NTT faculty.

We recommend universities act on decades of findings pointing to the active undervaluing of Non-Tenure-Track faculty, who are critical to our communities' success. We must institutionalize professional development specifically for our NTT faculty, including appropriate compensation and considerations of their schedules, whether that is because of outside employment commitments or last-minute scheduling changes. We cannot put the burden of creating these spaces on the NTT faculty themselves, as they are already overworked, yet they want to provide their students with the best learning experience possible. Universities must do better to support this marginalized group of faculty members, without whom universities could not operate.

References

- [1] S. Heubach *et al.*, "Eco-STEM: Transforming STEM Education using an Asset-based Ecosystem Model," presented at the 2022 ASEE Annual Conference & Exposition, Aug. 2022. Accessed: Sep. 14, 2023. [Online]. Available: <https://peer.asee.org/eco-stem-transforming-stem-education-using-an-asset-based-ecosystem-model>
- [2] C. R. Nazar, L. L. Thompson, C. L. Bowen, and G. B. Menezes, "Work in Progress: Developing a Leadership Community of Practice Toward a Healthy Educational Ecosystem," presented at the 2023 ASEE Annual Conference & Exposition, Jun. 2023. Accessed: Sep. 14, 2023. [Online]. Available: <https://peer.asee.org/work-in-progress-developing-a-leadership-community-of-practice-toward-a-healthy-educational-ecosystem>

- [3] N. Warter-Perez, C. Bowen, J. Mijares, D. Galvan, L. Thompson, and G. Menezes, “Work In Progress: Developing a Faculty Community of Practice to Support a Healthy Educational Ecosystem,” presented at the 2022 ASEE Annual Conference & Exposition, Aug. 2022. Accessed: Sep. 14, 2023. [Online]. Available: <https://peer.asee.org/work-in-progress-developing-a-faculty-community-of-practice-to-support-a-healthy-educational-ecosystem>
- [4] “PIMS Manual | CSU.” Accessed: Feb. 08, 2024. [Online]. Available: <https://www.calstate.edu:443/csu-system/administration/systemwide-human-resources/personnel-payroll-information-management-system>
- [5] “CSU Employee Profile | CSU.” Accessed: Feb. 08, 2024. [Online]. Available: <https://www.calstate.edu:443/csu-system/faculty-staff/employee-profile>
- [6] “Profiles of Engineering and Engineering Technology, 2022,” American Society for Engineering Education, 2023. Accessed: Feb. 08, 2024. [Online]. Available: <https://ira.asee.org/wp-content/uploads/2023/12/Engineering-and-Engineering-Technology-by-the-Numbers-2022-1.pdf>
- [7] C. Meixner, S. E. Kruck, and L. T. Madden, “Inclusion of Part-Time Faculty for the Benefit of Faculty and Students,” *Coll. Teach.*, vol. 58, no. 4, pp. 141–147, 2010.
- [8] L. D. Hahn and C. Heeren, “Building Community for Teaching Faculty,” presented at the 2016 ASEE Annual Conference & Exposition, Jun. 2016. Accessed: Feb. 05, 2024. [Online]. Available: <https://peer.asee.org/building-community-for-teaching-faculty>
- [9] J. P. Gosink and R. A. Streveler, “Bringing Adjunct Engineering Faculty into the Learning Community,” *J. Eng. Educ.*, vol. 89, no. 1, pp. 47–51, 2000, doi: 10.1002/j.2168-9830.2000.tb00493.x.
- [10] M. Ott and J. Cisneros, “Understanding the changing faculty workforce in higher education: A comparison of non-tenure track and tenure line experiences,” *Educ. Policy Anal. Arch.*, vol. 23, pp. 90–90, Sep. 2015, doi: 10.14507/epaa.v23.1934.
- [11] D. Haviland, N. F. Alleman, and C. Cliburn Allen, “‘Separate but Not Quite Equal’: Collegiality Experiences of Full-Time Non-Tenure-Track Faculty Members: Journal of Higher Education,” *J. High. Educ.*, vol. 88, no. 4, pp. 505–528, Jul. 2017, doi: 10.1080/00221546.2016.1272321.
- [12] I. Bergom and J. Waltman, “Satisfaction and discontent: voices of non-tenure-track faculty,” *Campus Women*, vol. 37, no. 3, p. NA-NA, Dec. 2009.
- [13] “COE - Characteristics of Postsecondary Faculty.” Accessed: Feb. 08, 2024. [Online]. Available: <https://nces.ed.gov/programs/coe/indicator/csc/postsecondary-faculty>
- [14] C. L. Bowen, S. Heubach, and J. J. Dong, “Eco-STEM Tools: Changing the Culture of Teaching and Learning in STEM,” in *2022 IEEE Frontiers in Education Conference (FIE)*, Oct. 2022, pp. 1–5. doi: 10.1109/FIE56618.2022.9962426.
- [15] A. Godwin, “The Development of a Measure of Engineering Identity,” in *2016 ASEE Annual Conference & Exposition Proceedings*, New Orleans, Louisiana: ASEE Conferences, Jun. 2016, p. 26122. doi: 10.18260/p.26122.
- [16] *An emancipatory teaching practice in a technical course*, (Jun. 23, 2020). Accessed: Feb. 08, 2024. [Online Video]. Available: <https://www.youtube.com/watch?v=FYPidpLIMxM>
- [17] *How We Learn*, (Oct. 24, 2016). Accessed: Feb. 08, 2024. [Online Video]. Available: <https://www.youtube.com/watch?v=wlaG99awCD8>
- [18] T. J. Yosso *, “Whose culture has capital? A critical race theory discussion of community cultural wealth,” *Race Ethn. Educ.*, vol. 8, no. 1, pp. 69–91, Mar. 2005, doi: 10.1080/1361332052000341006.
- [19] R. Burton, L. Schlemer, and L. Vanasupa, “Transformational Innovation: Reflections on How to Foster it in Engineering Education Systems”.

[20] L. T. Schlemer, L. de Greef, and T. S. Harding, "Stories of Change: Faculty in Reflective Dialogues," presented at the 2017 ASEE Annual Conference & Exposition, Jun. 2017. Accessed: Feb. 08, 2024. [Online]. Available: <https://peer.asee.org/stories-of-change-faculty-in-reflective-dialogues>