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Work-in-Progress: Towards Advancing Grassroots Transformative Advocacy Strategies for Work Justice of BIPOC Contingent Faculty

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Marisela Martinez-Cola

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Abstract

In engineering, most contingent faculty positions are held by minoritized groups such as but not limited to Black, Indigenous, People of Color of all intersecting identities (BIPOCx) representing a missed opportunity to broaden participation. Since many of these professionals directly support minoritized students in fundamental undergraduate courses, it is imperative to understand how to professionally develop and mentor these faculty. As part of a National Science Foundation Broadening Participation hub called Raíces Institute for Transformative Advocacy (RITA), the authors seek to facilitate a mentoring hub to train, mentor, and equip BIPOCx contingent faculty to form their own grassroots transformative advocacy plans for attaining promotion and/or equitable working conditions in engineering at their hiring institutions. This paper discusses the strategic planning and designs of RITA during its inception stages and concludes with a discussion on the significance of RITA in supporting this severely undersupported group of professionals in engineering.

Introduction

In academic environments, faculty who identify as Black, Indigenous, People of Color (BIPOC), Women, (Non)apparent Disabled People, and/or Lesbian, Gay, Bisexual, Trans, Queer, and more (LGBTQ+) continue to be minoritized in higher education (Davis, Greer, Sisco, & Collins, 2020; Zambrana et al., 2015). For this work, we will refer to these populations as BIPOCx. Despite an increase in faculty positions, these positions are typically non-permanent and low-paying (American Association of University Professors [AAUP], 2018; Coalition for Academic Workforce [CAW], 2012; National Academies for Science, Engineering, & Medicine [NASEM], 2019). Many of these positions are held by non-tenure track positions, many of which are held by postdoctoral fellows, lecturers, professors of practice, collegiate, and adjunct faculty.

Non-tenure track positions, also known as contingent, can fall into two categories: part-time or full-time. Full-time contingent faculty have "multi-year contracts at institutions that do not offer tenure" (Villanueva Alarcón & Muñoz, 2023, p. 2) whereas part-time faculty positions have the same job responsibilities of a full-time contingent faculty minus the benefits (e.g., health) (ASA Task Force on Contingent Faculty Employment, 2019).

In engineering, contingent faculty are severely understudied and undersupported (Coso-Strong, Kendall, Henderson, & Basalo, 2019; Coso Strong et al., 2022; Fetcher, 2019; Villanueva Alarcón & Muñoz, 2023; Villanueva & Muñoz, 2021). Moreover, minoritized engineering contingent faculty research in STEM is lacking (Berdie, Downey, Muñoz, & Villanueva Alarcón, 2023; Coso-Strong et al., 2022). While it is understood that working conditions for minoritized contingent faculty need to improve for all and barriers like access to resources need to be overcome (AAUP, 2018; Berdie et al., 2023; Coso-Strong et al., 2022), little is known about the role that these faculty can play in advocating for themselves towards work justice while being supported structurally in doing so.

The purpose of this paper is to share how a structural mentoring hub for BIPOCx contingent faculty in engineering was conceived and designed. While the mentoring hub is yet to begin, the authors believe that sharing their conception process, that led to an NSF-funded project, can better support others to create similar types of initiatives at their home institutions. The

mentoring hub, called **R**aíces (or *roots* in Spanish) **I**nstitute for **T**ransformative **A**dvocacy **(RITA**; Figure 1) is anticipated to start later this year.

Figure 1. RITA Mentoring Hub Logo

Vision for RITA

It is known that contingent faculty, especially those that are BIPOCx have an important role in supporting minoritized students in fundamental undergraduate courses (Kezar & Maxey, 2012). Not understanding how to structurally support BIPOCx contingent faculty in fields like engineering represents a missed opportunity to broaden participation (Kirchgasler, 2020; Ladson-Billings, 2006; McGee & Robinson, 2020; Ong et al., 2011). The **vision** of RITA is to create grassroots, transformative advocacy hub to support BIPOCx contingent engineering faculty towards both individual and collective action. Grassroots, from the base word *'root'* or ***raíces***, imply a consideration to individuals' contexts, needs, and experiences. For RITA, ***transformative advocacy*** was defined as the willingness to act on a person's behalf, including themselves (Villanueva et al., 2020), to transform existing structures that oppress and limit broadening of participation and retention efforts. To structurally support individual and collective action, mentoring models derived from NASEM (2019) were used and are described later in the text.

Theoretical Frameworks behind RITA

Since there is no mentoring hub designed to professional train and support BIPOCx contingent engineering faculty towards both individual and collective action, the authors discussed amongst themselves several frameworks that could potentially consider how systems and structures impact messaging to its faculty as well as impact the assets that they bring. For RITA, three frameworks were selected to guide its design: (1) hidden curriculum (HC; Villanueva et al., 2018; 2020; 2022), comparative critical theories (CCRT; Martinez-Cola, 2020), and asset-based professional development (e.g., ABPD; Murzi, 2020; 2021a; 2021b).

Hidden Curriculum

Early HC research in engineering (Erickson, 2007; Tonso, 2001), focused on the implicit messaging for women without a structural understanding of the phenomenon. It was not until 2017, when Villanueva Alarcón re-introduced hidden curriculum in engineering as a structural framework where interconnected pathways described how people received, reacted to, and responded to HC. A four-factor model was created because of this work, where the relations between hidden curriculum awareness (factor 1), emotions (factor 2), self-efficacy (factor 3), and self-advocacy (factor 4) were explored across ~58 colleges of engineering and 984 engineering faculty and students in the U.S. From the validated instrument (UPHEME; Villanueva et al., 2020), Sellers & Villanueva (2021) analyzed a subset of strategies used by over one hundred and fifty-four BIPOCx individuals in engineering as they coped with the acquired HC. The authors found that advocacies taken by individuals, through self-advocacy (or their willingness to enact

advocacy and speak up about a matter to improve their quality of life; Gelles et al., 2019) resulted in three strategies:

1. **Strategy 1-Avoidance/Inaction:** These strategies were prevalent among individuals who persisted in engineering but did not feel empowered to change their environment or take any action. These individuals had the least self-reported self-efficacy (confidence in their ability) to challenge HC and communicated negative physical/emotional experiences in engineering. *Although only ~4% used this strategy, minoritized groups were twice as likely to use this strategy compared to majority groups.*
2. **Strategy 2- Negotiating Self:** These strategies were used by individuals who did not outwardly challenge HC but opted to change themselves or negotiate their identities. They focused on developing skills, changing their mentality, and increasing their effort in engineering. People who used these strategies self-reported mid-levels of self-efficacy (confidence in their ability) to address HC. *Out of the participants studied, ~62% of groups (regardless of being from majority or minoritized groups) used this strategy.*
3. **Strategy 3- Changing Environment:** These strategies were carried out by individuals that outwardly communicated against the acquired HC, affiliated with other change agents, and/or served as a source of positive change for others. They self-reported the most self-efficacy (confidence in their ability) to tackle HC. *Independent of being from majority or minoritized groups, about ~34% used this strategy.*

For BIPOCx individuals, the consequences to navigating systems in which they are not their authentic selves or where their environment is unchanged can lead to negative consequences to their psychological well-being and persistence (Moore et al., 2003). The normative cultures of disengagement towards change in engineering (e.g., Cech, 2014) continues to constrain BIPOCx engineering faculty. Among the goals of RITA is the need to equip BIPOCx engineering faculty to leverage their working roles and experiences into potential opportunities for positive, transformative advocacy (moving closer to Strategy 3). Learning about these strategies can help individuals push past their normative working environments (Sellers & Villanueva, 2021) and towards more sustainable change. For additional information, refer to work from Villanueva and colleagues (e.g., Villanueva et al., 2018; 2020).

Asset-Based Professional Development

RITA positions that BIPOCx contingent engineering faculty have assets that bring *individual* and *collective* power to ignite, catalyze, and sustain structural change around promotion and/or equitable working conditions. Assets, from the literature, recognizes that people carry languages and funds of knowledge that are strengths to their learning and development (Crisp, Doran & Potts, 2020; García, 2017; Gay, 2018; Gonzales & Moll, 2002; Ladson-Billings, 2014; Paris, 2012; Yosso, 2005; Valencia, 2012).

Asset-based practices, in turn, situate the need to include professional development (PD) that center how minoritized groups fully participate in the dominant society yet maintain their cultural differences in all aspects of their lives, communities, and professions (Guerrero & Lachance, 2018). In the context of professional development, Paris & Alim (2014) posit that activities designed to train or mentor educators should not rely "solely on abstract or fixed versions of the culturally situated practices of our communities" (p. 7). Instead, asset-based PD must lie in "survival […] and [...] changing the conditions under which we live and work by opening up new and revitalizing community rooted ways of thinking about education and beyond" (Paris & Alim, 2014, p. 13). As such, PD activities should enable BIPOCx contingent faculty in engineering to

authentically design, develop, and implement intended outcomes. Notably, asset-based practices cannot be disconnected from the realities and multiple worlds that BIPOCx people in engineering face (Mejia et al., 2022). Thus, PD activities should provide room for deep reflection and purposeful iteration and center the voices of those impacted.

Comparative Critical Theories

Derived from legal scholarship, critical theories offer an analytical lens to examine racial and ethnic inequalities experienced by BIPOCx individuals. Over the years, critical theories have branched out to include Latiné/x[1](LatCrit), Asian (AsianCrit), and Tribal (TribalCrit) communities (An, 2016; Aoki & Johnson, 2008; Bender & Valdes, 2011; Brayboy, 2006, 2014; Chang, 1993; Chang & Gotunda, 2007; Contreras Aguirre, Gonzalez, & Banda, 2020; Haney & López, 1997; Kokka, 2018; Miles et al., 2019; Solorzano & Delgado-Bernal 2001; Smith-Doerr & Croissant, 2016; Solorzano & Yosso 2001). These branches, in combination (Martinez-Cola, 2020) fill theoretical spaces that traditional critical theories did not include in its initial iteration. For example, AsianCrit and LatCrit critically examine the role of language and immigration in the racialized experiences of Asian Americans and Latinx people in the United States. For this reason, for RITA, we cannot disconnect the unique socio/historical contexts of BIPOCx contingent faculty in engineering.

Methods behind RITA

In this project, an implementation research methodology (Peters et al., 2013) will be used to better understand what, why, and how of interventions in 'real settings' where context and the affected parties take an active role towards change. This project will use an implementation research methodology (Peters et al., 2013), specifically participatory action research (PAR). PAR is *rooted* in partnerships to facilitate change; it differs from traditional research in that "the researched cease to be objects and become partners in the whole research process" (Baum et al., 2006, p. 854). PAR stands for: "**P**lanning a change; **A**cting and observing the process and consequence of change; and **R**eflecting on these processes and consequences and then replanning, acting, and observing, reflecting, and so on…" (Kemmis & McTaggart, 2000, p. 595, bold and underline added). PAR allows participants' voices to be heard and elevated to ignite, catalyze, and sustain change (Baum et al., 2006). In RITA, this will occur via individual and collective advocacy plans. Using this approach and considering the theoretical frameworks, RITA was designed to include a mentoring structure, intentional professional development activities and meetings as described in the Results section. *If using any of the shared information, we ask that this work is cited due to its novelty in advancing work justice towards BIPOCx contingent faculty in engineering* (Villanueva Alarcón, Murzi, & Martinez-Cola, 2022; Villanueva Alarcón, Murzi, & Martinez-Cola, 2023).

Results

The considerations, in the form of results, discussed below are the considerations that led to the design of RITA. While not all specifics are included, since future publications will cover

[1] The terms Latiné/x, while not recognized by the Royal Academy of Spanish, "Spain's authorizing institution whose mission is to audit and adapt the entire Spanish language" (Villanueva Alarcón et al., 2022, p. 2), are used to first "challenge historical terminologies that demoralize and oppress our communities" (Villanueva Alarcón et al., 2022, p. 3), to provide a culturally and historically relevant Spanish gender-neutral demonym, and to resist against "colonial-, imperial-, and gendered-derived terminologies within the Spanish language" (Villanueva Alarcón et al., 2022, p. 3) that are normally not recognized and continues to oppress even in language (both written and spoken).

this, the items helped to structure a unique model by which future professional development programs and hubs could be adapted from the model we are sharing below.

Top-down versus grassroots foci for RITA

The authors deemed that while a top-down approach could be important for administrative buy-in, there were several considerations that deterred us from that decision. First, it was important that we considered for the BIPOCx contingent faculty the following factors were considered: (a) authenticity and trust-building; (b) protection of participants from potential repercussions to their work and livelihood; and (c) sustainability and effectiveness of grassroot initiatives. For 'a', authenticity and trust-building, BIPOCx contingent faculty in engineering are highly marginalized and severely understudied and supported. Placing these contingent faculty in any position where inherent power differentials to senior-level faculty and/or administrators will compromise the goals and vision for the project. Thus, we needed to deviate from "traditional" approaches of including senior-level faculty or administrators in the project team composition, cognizant of the potential cooling effects on mentor/mentee relationships as well as the authenticity of products generated (e.g., enriched stories, advocacy plans). For 'b', protection of participants, we pre-emptively wish to avoid any scenarios where BIPOCx contingent faculties' advocacy plans were viewed by a senior-faculty or administrator, as negative, risking future repercussions (e.g., loss of employment or compromised working conditions). For 'c', sustainability and effectiveness of grassroots initiatives, we deemed that no sustaining or transformative change can happen without the support and acknowledgement of the affected parties. In considering recent national and international events, much change has occurred at the grassroots (e.g., pandemic causing move to remote emergency instruction; Black Lives Matter; #MeToo movement) that has led to system-wide awareness, ignition of changes, and calls for transformative actions. The common denominator of recent nationwide discussions and actions has been the strategic sharing of authentic stories, experiences, and the mobilization of resources from the affected parties to decision-makers. Further, systemic/top-down change are not long-lasting if it is not measurably, meaningfully informed, and sustained by those directly impacted.

Mentoring structure of RITA

To support the faculty in the development of their individual and collective advocacy plans, a mentoring structure will involve a triad structure (NASEM, 2021) where both outsider and insiders to the home institution of the mentee will be considered. Match will be based on social identity pairing (Baker & Griffin, 2010; NASEM, 2019; Pfund, 2016) based on deep-level characteristics (Garringer et al., 2015; NASEM, 2019) such as attitudes, priorities, interests, values, etc. (NASEM, 2019). Literature suggests that while surface-level mentoring relationships (e.g., demographics) may bring a level of interpersonal comfort, it is deep-level mentoring relationships that influence professional and academic outcomes the most (Brunsma et al., 2017; Ortiz-Walters & Gilson, 2005; Harrison et al., 1998; NASEM, 2019). When mentors and mentees are clear about expectations, their strengths and weaknesses, trust builds and relationships become more positive and authentic (Blake-Beard et al., 2011; Ensher et al., 2001).

RITA Professional Development Events

Every year, RITA will organize 2-day events for both professional development and cross-mentoring across the sites for the triads. Each PI will coordinate with their respective hosting

campus office/organization to ensure that situated handouts, resources, and facilitation according to the theoretical frameworks outlined previously. These PD will primarily be hosted in the summers but are expected to trickle throughout the academic year. All BIPOCx contingent faculty in engineering are expected to work first *individually* but use their mentoring meetings for brainstorming, resource-finding, and ideation of their advocacy plans. Mentoring triads are expected to meet at least twice a semester and the RITA project team will serve as an additional training/facilitation resource to the mentors/mentees, as needed. Throughout, the mentees will be asked to document their advocacy plans through the learner logbooks, templates, and provided deliverables. To attend to *collective plans* groups of mentees will be paired according to their existing roles of influence at their hiring institutions. These groups will devise an implementation plan that will be document and collected towards the latter years of the project.

Evaluating RITA

An outcome evaluation will be used to answer questions regarding the implementation of the project and the deliverables produced throughout RITA. Outcome evaluation questions (OEQs) questions such as: OEQ1- To what extent were the project outcomes, to be carried out both individually and collectively, feasible to the institution that the RITA mentee works in?; OEQ24: To what extent were the advocacy plans, both individual and collective, implemented as it was intended by the RITA groups?; OEQ3: To what degree were the individual and advocacy plans sustained or institutionalized in the setting intended by the RITA cohorts; QE4: To what extent was 'transformative advocacy' communicated or implemented by the RITA cohorts?; QE5: How were the RITA materials, activities, and proposed events supportive of RITA mentees' execution of their advocacy plans? Answers to these questions will be discussed in follow-up publications as the mentoring hub takes place.

Discussion

The significance of creating a mentoring hub like RITA is multiple. With a severely limited representation of BIPOCx in fields like engineering (e.g., AAUP, 2018), assuming that contingent positions are dispensable (e.g., Kezar, 2021a; 2012b) is not an option. Systemic and structural actions must "rethink the institutional policies and practices that prevent them [contingent faculty] from having full faculty citizenship" (Kezar, 2012b, p. 6). Also, results stemming from RITA can meaningfully benefit the overall broadening participation national agenda while simultaneously addressing the promotion and/or equity of working conditions in engineering and STEM education, in general. By demonstrating ways and strategies to dismantle the negative effects of HC among BIPOCx contingent faculty and leveraging them as transformative advocates whose choices and contributions can ignite, catalyze, and sustain advocacy, we anticipate this project will decisively and resolutely contribute to a positive change trajectory for these efforts. This is important for academic institutions because it has a direct impact on faculty retention and recruitment, but more importantly, on an institution's ability to improve equity, diversity, and inclusion in STEM. Moreover, understanding the ways that different types of universities differ and have similar strategies can result in potentially transferable findings that can be disseminated and sustained nationwide.

Finally, by attending to and supporting the needs of BIPOCx contingent faculty in engineering, positive implications for teaching, training, and learning in engineering can surface. Since this population are seen as direct influencers of minoritized students' learning and motivation (Kezar & Maxey, 2012), supporting and leveraging their assets professionally can

mitigate the high numbers of attrition (AAUP, 2018) experienced in higher education and particularly, in engineering. The innovativeness of this mentoring hub and the population it serves, which is severely under-studied and under-supported (Coso-Strong et al., 2019; Villanueva & Muñoz, 2021), can spark new evidence-based mentoring approaches to intentionally "account for how differing conditions and contexts of mentorship may differentially affect individuals with diverse sociocultural identities." (NASEM, 2019, p. 192).

In this work-in-progress, the authors decided to openly share their rationale and thinking behind a mentoring hub like RITA with the intent that others will gain inspiration in centering more people-centered professional development and mentoring hubs. We understand that while we are not delving into the details of specific activities and outcomes generated, that these will be addressed as the project progresses. For now, the author hope that the formation of RITA will serve as a basis for other similar models that can progress work justice for BIPOCx contingent faculty in engineering.

Limitations

While most of this work is still in its infancy stages and RITA is yet to begin, the authors deemed it important to expose the brainstorming and thinking behind this unique mentoring hub to inspire others to do the same for their home institutions.

A limitation of this work is that not all the specifics are added to this paper as data collection and analysis is yet to occur. Since research is dynamic and may result in many iterations, the authors did not consider it to be the appropriate time to share said details. However, future publications will discuss data collection and analysis in more detail.

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