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Inclusion in the Classroom, Lab, and Beyond:

Transferable Skills via an Inclusive Professional Framework for Faculty

By Donald L. Gillian-Daniel, Robin McC. Greenler, Sean T. Bridgen, April A. Dukes, and Lucas B. Hill

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In Short

- Faculty are key to promoting academic success for undergraduate students from groups traditionally underrepresented in science, technology, engineering, and mathematics.
- The Inclusive Professional Framework for Faculty (IPF: Faculty) is a research-grounded framework that identifies three conceptual domains that are foundational to faculty being equitable and inclusive.
- The framework's three domains of identity, intercultural awareness, and relational each provides its own set of awareness, knowledge, and skills, and is transferable across multiple roles of instructor, advisor, research mentor, colleague, and leader.
- The IPF: Faculty can provide campuses an opportunity to integrate existing diversity, equity, and inclusion professional development programming into a framework that can be iteratively explored and practiced and in turn build local institutional capacity to promote change.

What if there were a way for faculty to teach more equitably and inclusively, advise minoritized students more effectively, and mentor all students in research settings *without* the need to learn separate skills for each role? What if, at the same time, faculty could become better colleagues *and* more effective leaders?

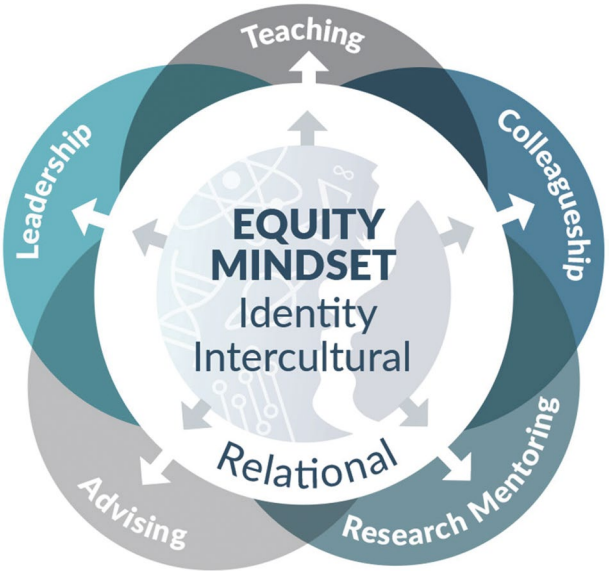
Faculty play a critical role in promoting academic success for undergraduate students from minoritized groups in science, technology, engineering, and mathematics (STEM) disciplines. The strategies faculty employ in their teaching can create a sense of belonging within their discipline and increase self-efficacy beliefs and science identity—all key predictors of students' academic success (Trujillo & Tanner, 2014). Faculty also advise students both formally and informally as they navigate the college experience. These advising relationships are critical points of intervention for students, and particularly for students from underrepresented groups (Baker & Griffin, 2010). In addition, the mentoring relationships faculty develop as their students learn disciplinary skills in research settings can be key to a student's persistence in the discipline as well as in college (Estrada et al., 2018).

Faculty are also expected to engage in scholarship and service through leadership roles in their department, institution, and disciplinary societies. They need to be good colleagues and are key to establishing a positive departmental climate, which is important for the success of students from underrepresented groups, as well as female, minoritized, and international faculty.

The expectation of proficiency in many different faculty roles can be stressful. Untenured college faculty often feel they have unrealistic expectations placed on them, experience inadequate time to meet these expectations, lack feedback and recognition, and are excluded from collegial relationships. Under these conditions, they must also find work/life balance, which often proves difficult. There is a clear need for a more holistic approach to training faculty in inclusive practices that prepare them to succeed, so they can in turn promote their students' success.

The National Science Foundation's (NSF) Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) program seeks to address challenges of broadening participation in STEM at scale. The NSF INCLUDES Aspire Alliance ("Aspire," or "the Alliance") aims to diversify STEM faculty nationally through professional development (PD) focused on building a more equitable STEM faculty coupled with institutional change to promote systemic policies and practices that support student and faculty success.

Figure 1. Aspire's Inclusive Professional Framework for Faculty



The Inclusive Professional Framework for Faculty (IPF: Faculty)

Central to the Alliance's faculty development efforts is Aspire's IPF: Faculty. This research-grounded framework identifies three transferable *conceptual domains* that are foundational to faculty being equitable and inclusive across the multiple student-focused roles of instructor, advisor, and research mentor, as well as institution-focused roles of colleague and leader (see Figure 1).

The conceptual domains at the core of the framework are:

- *Identity*. Developing an awareness of self and student social and cultural identities, the intersectionality of those identities (Crenshaw, 1991), and examining the role identity plays in creating effective learning environments.
- *Intercultural awareness*. An instructor's ability to understand cultural differences in ways that enable them to interact effectively with others from different racial, ethnic, or social identity groups in both domestic and international contexts (King & Baxter Magolda, 2005). This domain encompasses many features of intercultural humility, including the following: (a) awareness of one's own cultural backgrounds, including intersecting social identities; (b) recognizing one's biases and privileges in relation to self and others; (c) committing to learning about others' cultural backgrounds; and (d) addressing disparities in relational power by, in part, learning to recognize power differentials (Bibus & Koh, 2021).
- *Relational*. Building one-on-one connection, trust, and relationship through effective communication and relational skills, which in turn support effective interpersonal interactions.

The U.S. educational system is grounded in the concept of learning transferability (Mestre, 2002)—the idea that knowledge or skills learned in one context, such as the classroom, can be applied to new contexts, such as a new problem or discipline. Similarly, the IPF: Faculty asserts that three conceptual domains, each with their own set of awareness, knowledge, and skills, can be applied to the development of an equity mindset for faculty members. This mindset can guide faculty to develop equitable approaches across the different roles they will encounter throughout their careers.

Aspire's IPF: Faculty in Practice

To illustrate what the IPF: Faculty can look like in practice, we have chosen to narrate a day in the life of "Dr. Smith," an untenured faculty member who uses they/them pronouns. The reader will notice that Dr. Smith takes a mixed programming approach as they address the dimensions of the IPF. While many faculty already take a mixed programming approach to PD, we argue for greater intentionality using the lens of the IPF: Faculty to reinforce the holism of the IPF. We also believe that engaging in PD over time and applying the holistic lens of the IPF: Faculty will result in more equity, inclusion, and student focus.

Table 1 explores how Dr. Smith's actions in the narrative align with Aspire's IPF: Faculty. Five specific faculty roles—teaching, advising, mentoring in a research setting, colleagueship, and leadership—are outlined in relation to the three conceptual domains of the framework. A representative sample of Dr. Smith's actions are included for the reader to consider how they might apply these ideas in their own practice.

A Day in the Life of Dr. Smith Through the Lens of the IPF: Faculty

Dr. Smith begins the semester in their STEM course by walking students through the syllabus. The syllabus is well organized and details topics,

Table 1. Aligning Dr. Smith's Actions With the IPF: Faculty

	Domains		
Faculty Roles	**Identity**	**Intercultural**	**Relational**
Teaching	Consider how you convey who belongs in your discipline	Review whether examples, case studies, and problem sets assume a certain cultural understanding	Learn, use, and correctly pronounce all students' names
Advising	Develop awareness of how one's power and position can impact student experience and seek to minimize impact	Make appointments available at times and via different modalities (e.g., online, in person) to accommodate students who have family or work responsibilities, or commute	Communicate clearly, set expectations, and establish outcomes
Research mentoring	Be mindful of the subtle ways that your privilege (and power) may operate in your mentoring relationships	Recognize that expectations around things like graduate school can differ based on a student's cultural and family background	Communicate clear expectations around roles and responsibilities (self and student)
Colleagueship	Understand intersectionality and how it can impact colleagues' experiences	Understand that certain individuals carry a heavier and invisible burden due to systemic oppression and inequity, and step up	Validate colleagues' experiences by engaging in empathetic and active listening
Leadership	Be aware of how your privilege, power, and positionality may operate in your interactions with others	Model creating and maintaining equitable and inclusive environments	Develop and practice conflict resolution skills and interrupt bias and microaggressions

assignments, assessments, and associated due dates. It also includes a basic needs statement (Goldrick-Rab, 2019) that highlights mental health resources on campus, food bank information, and financial assistance resources. Dr. Smith learned about the idea of including a basic needs statement at a recent online workshop offered by the campus' Center for Teaching and Learning.

Dr. Smith now also spends the first day of class focusing on community-building with and among students by having them introduce themselves, their pronouns, and their experiences in STEM. As students introduce themselves, Dr. Smith takes notes on how to correctly pronounce each student's name. They normalize the challenging nature of the content by acknowledging their own early struggles in the discipline. Dr. Smith had participated in a recent online Center for Teaching and Learning workshop where the facilitator had participants complete a social and cultural identity profile. The group discussed how using one's own social and cultural identities was a strategy for building a student's sense of belongingness in the discipline. Dr. Smith translated this into a number of different first day of class community-building activities.

All of this takes far more time than simply walking students through the syllabus, assignments, assessments, and due dates, and encouraging them to stay on top of the work and jumping into the content, as they used to do. However, Dr. Smith has found that building community and taking time to convey to students that they are welcome, they belong, and they can be successful and then providing them with access to resources to support success helps all students engage positively with the course. They have also found that this approach sets a tone that leads to more conversations with students, richer in-class discussions, and better and more timely feedback when things are not going well with an individual or the class. Dr. Smith even translated the idea of using one's own social and cultural identities to build a student's sense of belongingness from a teaching context to other introductory situations, like meeting an advisee for the first time or the initial meeting with a potential research mentee.

Before each class thereafter, Dr. Smith arrives early and greets students entering the room. They open many lectures by highlighting a contemporary researcher in the field, typically focusing on scientists with diverse identities. They also provide a variety of examples and problem sets with relevance to different cultural identities and backgrounds.

Dr. Smith has provided opportunities for the class to talk about group dynamics and introduced discussion guidelines for their work together. While students are meeting to work in small groups, Dr. Smith moves around the classroom, engages each group, and stays alert to possible conflicts that might arise. Today, they have left time to review the homework, and Dr. Smith ends class with reminders about the low-stakes quiz, the upcoming midterm exam, and the ungraded practice problem sets, as well as available review sessions. Dr. Smith has spent time thinking about how course assessments can promote and value different ways of learning and designed them accordingly.

After class, Dr. Smith meets with advisees. Because they never had formal training, they reached out to their colleagues in academic advising for support. Based on these conversations, Dr. Smith incorporated a strengths-based approach into their advising practice that prioritizes time to develop a trusting relationship with advisees. The Advising Office also pointed Dr. Smith to the National Academic Advising Association's faculty advising community (https://nacada.ksu.edu/Community/Advising-Communities/Faculty-Advising.aspx), and Dr. Smith learned more about developmental advising by participating in a virtual journal club that provided relevant readings (e.g., Baker & Griffin, 2010).

Dr. Smith has spent time considering the power and positional difference between themselves and their students and how to reduce possible feelings of intimidation inherent in the faculty/student relationship. For example, their office is arranged to provide a comfortable space for talking, and Dr. Smith has chosen to display images that reinforce the diversity of the scholars within their discipline.

As students enter their office, Dr. Smith exchanges pleasantries and has a short conversation to build rapport. Being careful to avoid their own assumptions or biases, Dr. Smith asks students what they want to accomplish during the session in addition to general questions about their semester, progression toward a degree, and future plans. Students know to budget time for these meetings. Dr. Smith's "trick" is to spend most of the time actively listening and empowering students to take steps to address their own challenges. Before students leave, Dr. Smith summarizes what was accomplished during the session and makes plans for follow-up. Dr. Smith records relevant information from the meeting in the campus note-taking system so they can more effectively engage students during future appointments.

Prior to consulting with colleagues in academic advising, Dr. Smith used to just exchange pleasantries when students arrived and then get right to business by looking over the student's grades and course schedule for the upcoming semester. They had "perfected" these conversations and were able to keep them to under 15 minutes each. Dr. Smith has noticed that since they began using a less prescriptive approach to academic advising, students have been more deeply engaged in conversations about their educational experiences, which has reinforced Dr. Smith's use of this advising approach.

In the afternoon, Dr. Smith works in the research lab. As an untenured professor, they have spent time building a diverse research group. Dr. Smith wants to give all of their students tools to navigate conversations with their families about pursuing higher education, especially since cultural beliefs around academic "expectations" like graduate school can differ for some students and their families. When they were a new faculty member, Dr. Smith's departmental chair recommended that they attend *Entering Mentoring*—an evidence-based, interactive curriculum that is "designed to help mentors develop skills for engaging in productive, culturally responsive, research mentoring relationships." The program was offered by a trained facilitator on Dr. Smith's campus and used materials from the Center for the Improvement of Mentored Experiences in Research.

In addition, Dr. Smith spends time learning about each mentee's passions. As the research scope of the lab permits, they work with students to bring their personal interests into the projects they undertake; this has taken the lab's research in new and exciting directions. From the *Entering Mentoring* training, Dr. Smith has drawn the idea of using a mentor/mentee compact to articulate expectations for all members of the research group.

Dr. Smith is replacing a departing senior with a new sophomore undergraduate in their lab. They have given the new student a compact that allows the two to agree on expectations for them both in this mentoring relationship. They have also discussed ways to make the student's time in the research group successful and aligned with their career goals. Lab meetings are facilitated by students on a rotating basis. Today, the departing student discusses her recent trip to a national

meeting. The group is celebrating the departing student's accomplishments as well as welcoming the new student to the group.

In bringing new students into the group, Dr. Smith is careful not to, as they had in the past, leave it to older students to "show them the ropes." In that system, the culture, norms, and climate of the laboratory were set by the yearly changing rotation of the oldest students in the lab. This led to dramatic shifts in the lab environment and problems with favoritism and exclusion. Now Dr. Smith explicitly creates and reinforces group norms for the lab culture and dedicates lab meeting time to check in with the group about how the lab is functioning. They make it clear that, in addition to the research, the climate and culture are part of the success of this enterprise.

By late afternoon Dr. Smith is headed to a faculty meeting. The department chair talks over Dr. Smith's colleague. In a polite and practiced way, Dr. Smith makes sure to reinforce what was said by the colleague who was talked over, and they remind the group about their conversational guidelines. Following a workshop last year that was offered by the campus' Human Resources Office, Dr. Smith brought the idea of agreed-on guidelines into the faculty meeting space. The group was receptive, and others, in addition to Dr. Smith, regularly remind the group about these norms. Prior to attending these trainings, Dr. Smith, being untenured themselves, would have chosen to remain quiet and to "fly under the radar," thus contributing to a climate that was not responsive or supportive of all departmental members.

One of Dr. Smith's departmental responsibilities is leading the graduate recruiting committee, and they wrap up their day by planning an upcoming meeting. Dr. Smith outlines the agenda and possible roles that will encourage participants to team up together and assume leadership in the project. They send this information out in an email prior to the meeting to allow participants time to consider their own interests and availability.

Aiming to model an equitable and inclusive environment, Dr. Smith uses the shared agenda to ensure that decisions the group has made are transparent. They learned this by attending the campus' summer Leadership Institute—a dialog-based PD opportunity designed to help participants expand their personal leadership capacities. They used to create a detailed agenda and assign roles to everyone on the committee, making these "executive decisions" in the interests of efficiency. They found that since adjusting their approach, there is less attrition from the committee, and decisions less frequently need to be rehashed. They are particularly conscious to ensure that perspectives of those with minoritized identities in the department are included in decision making, and they talk with the group about the importance of centering diverse voices in the decision-making process.

Building IPF: Faculty-"Aligned" Institutions: Promoting Faculty and Student Success

We recognize that a first reaction might be push-back that doing all of the things Dr. Smith is doing will take more time than a faculty member has in any given day and that focusing on these "soft skills" and relationships will leave no time for research, when research productivity is the primary metric for evaluation of faculty work. Faculty might also worry that effectively taking a developmental approach to advising and mentoring might lead to advising and mentoring more students who have deeper personal needs than students whom their colleagues mentor.

We would argue that faculty are already engaging in all of these activities, and that it is *how* they choose to engage, and not *whether* they engage, that is key. Choosing to use the IPF: Faculty to frame engagement in PD, and using the framework to develop an equity mindset, as well as the interpersonal relational skills to put it into action, is an investment in your and your students' future. The up front investment of time will produce returns for you and them. And, similar to revising a course, changing a little bit at a time will, in the end, after a few years, result in a better student learning experience. So too here—engaging in PD over time and applying the holistic lens of the IPF: Faculty will result in more equity, inclusion, and student focus.

This may lead you to reprioritize your time, and to spend time in ways you have not done before. It may even lead to attracting a larger share of students to your office. However, by doing what you already do, and by doing it *better*, you will be setting more students up for success.

How will you know that you are doing things better? Consider these metrics of change and success: (a) Are the demographics in your lab or courses changing? (b) Are students who graduate from your lab more successfully landing jobs? (c) Is

the department attracting more or more diverse undergraduates as majors, or doing a better job retaining them through to graduation?

The fact that focusing on equity and inclusion is often not rewarded in institutional structures such as tenure and promotion needs to be addressed. We need to seek change at the individual—as well as systemic and structural—levels if we are to repair the broken systems and structures that are historically *and currently* not supporting our students from minoritized groups. Faculty PD should be as growth-focused as other occupational training. Current strategies in preparing faculty often focus on siloed skills for different roles, new technology, and current trends in educational research.

To some faculty, these opportunities may even seem like an endless array of new shiny badges needing to be updated every time a new technology or educational trend appears. In contrast, the IPF: Faculty highlights a set of inclusive, literature-based, equitable practices that support all of the roles in which faculty are asked to excel. Imagine how much more effective faculty PD could be when focused on building sets of flexible, core skills that are then applied in various roles. Streamlining essential training allows a shift to a deeper mastery of foundational, inclusive skills.

The example of Dr. Smith highlights a few specific PD opportunities. Much of the high-quality PD programming that exists focuses on the development of inclusive practices within specific contexts. These contexts might be role-based (e.g., as teacher or advisor), audience-based (e.g., with colleagues or mentees), or career based (e.g., for future faculty, administrators).

In contrast, using the IPF: Faculty as an organizing lens provides campuses an opportunity to integrate seemingly disparate diversity, equity, and inclusion (DEI) PD programming into a framework of foundational and transferrable skills that can be iteratively explored and practiced. By mapping these valuable PD opportunities to the IPF, a faculty member may be able to see how a deeper understanding of *identity*, as described in an inclusive teaching workshop, overlaps with discussion of *identity-based advising* techniques. Or they may see how a deeper *cultural understanding* that allows one to more effectively mentor students in a research setting connects with developing *cultural sensitivity* and creating a more inclusive departmental climate. In this way, the goal is to tie together DEI-based PD to help individuals develop skills and practices that can be applied to building more equitable and inclusive practices in all career contexts.

We invite the reader to review Table 1 again and cover up the column of faculty roles, and consider how the specific skills and actions listed might apply to different roles or even more broadly. Centers for Teaching and Learning (Diamond, 2004), faculty development professionals (Fletcher & Patrick, 1998), and faculty (MacDonald, 2019) all play key roles in promoting institutional change. Leveraging this, Aspire has created an immersive Summer Institute (ASI; https://go.wisc.edu/32bans) for faculty and faculty developer teams. Built on the IPF: Faculty, the ASI focuses on individual practice for purposeful transferability of awareness, knowledge, and skills, as well as broader institutional PD.

Through a longitudinal survey 6 months after the 2020 ASI, participants spoke to the types of change they were inspired to make. For example:

> I've found myself recommending that programs encourage adoption of the practices shared in the institute. I also find myself sharing the idea of the competencies that span all roles in meetings and PD events.

> I have brought the skill and knowledge from the ASI to my work on our university's Diversity and Inclusion Action Plan[ning] Committee.

By using the IPF: Faculty as a way to connect seemingly disparate types of PD, institutions can provide faculty with transferable skills that are grounded in equity and inclusion and in turn build their local institutional capacity to promote change. For example, the framework can be used to help faculty see the value of attending a PD session through the Office for Undergraduate Advising because it can have applicability to their teaching. Similarly, learning done through the campus' leadership institute can have broader applicability in the space of colleagueship and promoting a positive departmental climate.

Using the IPF: Faculty, PD can also be created *de novo* to help faculty identify transferable skills that build equitable practices across their roles and responsibilities. Faculty at these IPF: Faculty–"aligned" institutions will be more empowered to create the types of institutional cultures that support and promote the success of all faculty and the academic success of all students, particularly students from groups historically underrepresented in STEM.

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