Clemson University
SFDC
STEM Faculty Development Collaboratory

Research Category: Cultural and Contextual Considerations

This category relates to the structural or organizational contexts that might influence the development and implementation of holistic STEM FD. In particular, research within this category should examine the barriers that might be present that would hinder participants' engagement or motivation in holistic STEM FD.

This category contains five main themes that related to the landscape surrounding holistic STEM FD. These five themes are as follows: (1) Importance of Context, (2) Institutional Value, (3) External Forces, (4) Who's Responsible, and (5) Addressing Bias. What follows is a description of the meaning units identified under each of the five themes in this category.

Importance of context. Institutions are all different, whether two-year, four-year, teaching intensive, research intensive, and so on. In addition to these types of institutions, the contextual landscape within each institution is different. Added to these differences are the fast-moving trends in research, teaching, and commercialization that faculty must address. Questions related to this theme might determine whether it is important for institutions to have common practices to support FD or if these support structures should vary. In addition, cultures at any level (peer clique, departmental, disciplinary, or institutional) that hold FD as shoring up weak performers can be damaging to holistic STEM FD. Equally damaging is a culture that considers FD a luxury that expends precious time without measurable effects. The specific discipline such as mathematics versus chemistry versus environmental engineering might create particular cultures that support FD. Keeping these issues in mind, one might examine if the broad goals for STEM faculty from the perspective of the individual, the departments, and the institutions are in alignment.

Institutional values. Institutional cultures that support FD might result in enhanced recruitment and retention of diverse faculty. This theme focuses on the potential misalignments between holistic STEM FD and perceived institutional goals. For example, does the culture of FD at a particular institution use a deficit- or asset-based model? Does FD promote conformity? Research might address concerns surrounding the evaluation process for tenure and promotion or examine concerns related to whether institutions value faculty work equitably (e.g. issues related to gender). In addition to examining productivity, one might consider the potential trade-offs at the institutional level that are necessary when institutional funding of FD is considered. If funds are devoted to FD, then something else is not funded. Culture likely affects such decision-making. Further, research questions might address how FD is incentivized or encouraged; what are stakeholder goals for FD; or what could/should we use as incentives to make FD happen. This theme of institutional values also highlights the role of professional faculty development centers on campus. In particular, research might examine if institutions value this approach to FD and, if not, how to make centers more visible, understood, and appreciated by leadership.

External Forces. What we can learn from entities outside of STEM or from entities outside of academia in general? There is already a large body of research present in disciplines such as business or education that perhaps we could use to inform the development of sustainable models within holistic STEM FD. Research questions related to this theme might include: which practices from the business industry are most effective in academia? In addition to learning from

external entities, the theme of external forces also relates to factors that might inhibit or support faculty from engaging in FD. Example external factors could include the role that accreditation can play in FD, financial considerations and how to implement cost effective FD, and disentangling FD from student outcomes and student evaluations.

Who's responsible? This theme centers on two main ideas, who actually does the work of engaging faculty in STEM FD and who is responsible from a financial standpoint. For example, who is responsible for FD when development comes from multiple units at a university (e.g. teaching and learning centers, conferences, special initiatives, faculty development within each college/school)? In addition, how can institutions be motivated to take responsibility for FD rather than setting expectations without providing support? Questions surrounding who should do the work might include, who is and who should be responsible for providing and organizing FD, who conducts assessment related to FD, should we have a regional approach (multiple institutions) to FD? In terms of financial responsibility, research examining who should pay for FD and whether responsibility should fall to the faculty, the individual departments, the colleges, or possibility even grant funders. What are possible motivators (e.g. merit pay and start up packages) for faculty to engage in FD and how might faculty in non-tenure track positions be motivated to engage in FD?

Addressing bias. Gender as well as other biases can be enculturated at various levels from the individual to the institutional. For example, why do women appear to seek FD more frequently than men? How might the delivery of FD appreciate how certain messages may be received by various audiences such as underrepresented groups in STEM? Faculty status such as tenured, tenure-track, lecturers, contingent faculty, adjuncts, and others can be a significant factor in cultural considerations, and also be important to both motivation and identity axes. Various aspects of inclusion by institutional cultures should be examined. For example, how might being labeled as a "trailing" or "accompanying" spouse lead to an unequal start for careers in academia. It is also important to consider the identities of faculty (minority, international, women, LBGTQ) as important factors when evaluating inclusive cultures.