
A Successful Faculty Development Program for Women and Underrepresented Minority Faculty

Sana Loue¹, Amy G. Hise^{1,2}

¹Case Western Reserve University School of Medicine, Cleveland, Ohio, USA

²Louis Stokes Cleveland VA Medical Center, Cleveland, Ohio, USA

Introduction

Faculty diversity in the academic medical center is critical if we are to successfully recruit and mentor subsequent generations of physicians and researchers, improve patient care and satisfaction (Smedley, Stith, & Nelson, 2003), reduce health care disparities, enhance our ability to address complex problems and sensitively engage with patients, research participants, families, and communities (Smedley, Stith, & Nelson, 2003; Valentine & Collins, 2015). Commitment to faculty diversity requires not only the recruitment of qualified female and underrepresented in medicine (URiM) faculty but, additionally, an investment in their career success, including the provision of adequate mentoring, sponsorship (Beech, Calles-Escandon, Hairston *et al.*, 2013), and a supportive environment (Blackstock, 2020), and the elimination of barriers to promotion.

The nature of learning itself is such that it occurs in a cultural context that comprises many levels of interactions, shared beliefs, values, knowledge, skills, structured relationships, and symbol systems. These interactions and activities are mediated through the use of technical tools, such as computers, and psychological tools, including language and strategies for learning (Vygotsky, 1978). Successful learning, therefore, requires consideration of the learner, the context of learning, the learning process, and the facilitator(s) of that learning. We report here on our development of a novel program comprised of each of these components that was designed to equip female and URiM faculty with the knowledge, skills, and confidence necessary to achieve success along their individually identified career trajectories.

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Approach¹

The program Faculty Reaching for Academic Medical Excellence (FRAME) focuses on faculty development, career advancement skills, and the empowerment of underrepresented junior and mid-career level faculty of the Case Western Reserve University School of Medicine, in Cleveland, Ohio, with the goal of achieving success within academic medicine, including retention, promotion, and academic advancement. For the purposes of this program, “underrepresented” is defined broadly to encompass sex, gender identity, gender presentation, race, ethnicity, religion, primary language, disability, and the extent to which groups lack representation in academic medicine leadership. Applicants must commit to attendance at six of the seven full-day sessions and provide a letter of support for their attendance from their department chair or service chief. The minimal fee for the program can be paid by either the program participant or their department. Program participants receive continuing medical education (CME) credit for their attendance and participation.

The program content and content delivery draw on two theoretical approaches that consider the nature of adult learning: andragogy (Knowles, 1984) and experiential learning (Kolb, 1984). Andragogy rests on four assumptions: that (1) during the process of maturing, individuals move from being dependent to being self-directed; (2) adults accumulate a reservoir of experience that serves as a resource for learning; (3) the readiness of an adult to learn is associated with the developmental tasks of his or her social role; (4) adults experience a change in perspective as they mature, from future application of knowledge to immediacy of application and become more problem-focused than subject-centered. These underlying assumptions give rise to seven basic principles that suggest that adult learners are to be: (1) provided with a safe and comfortable learning environment; (2) involved in the mutual planning of the methods to be used and the content of the curriculum; (3) involved in the assessment of their own needs; (4) encouraged to formulate their own learning objectives; (5) encouraged to identify resources and how best to use them to achieve their goals; (6) supported in their efforts to achieve their learning; and (7) involved in the evaluation of their own learning (Kaufman, 2003).

Kolb’s theory of experiential learning posits that learning occurs as a result of the way in which people perceive and process information. Because individuals learn differently, their diverse learning styles must be considered in formulating the learning experience. Accordingly, learners must be provided with concrete experiences; opportunities to observe and reflect upon, abstract, conceptualize, and generalize those experiences; and test the resulting generalizations in new situations.

We structured each session to consider the context of participants’ learning as well as their diverse styles of learning. Proficiency theory suggests that individuals interact with both the environment and with others in the environment (Knox, 1980). Accordingly, learners must be provided with opportunities to interact with others in their environment, to assess their own past and current performance, and to identify their aspirations.

¹ This work is a development of the abstract published in the *CIVINEDU Conference 2020 Book of Proceedings*.

The initial session focusing on the culture of medicine and individual goals illustrates how this theoretical framework served as a foundation for curriculum development. We began this session, as we did all subsequent sessions, with a brief check-in discussion to allow participants to share their experiences during the previous month. This first session provided participants with an opportunity to share their experiences in academic medicine with the other group members and to reflect on those experiences. Exercises (*concrete experience*) were introduced to facilitate participants' identification of their own values, mission, and definition of personal success and needs (*observation and reflection on experiences; assessment of own needs*). The co-directors ensured a *safe and comfortable learning environment* by establishing with the participants ground rules relating to confidentiality and civility, by freely sharing their own experiences, and by providing a comfortable, enclosed meeting room and healthy meals and snacks throughout the day. This first session, like each subsequent session closed with a segment devoted to self-care, such as meditation, sleep hygiene, nutrition, recognizing signs of burnout and compassion fatigue, and a checkout for participants to share their reactions to the day's events. Table 1 provides the sequence of the various modules, their specific content, and examples of the various program activities that reflect the elements of the underlying framework.

Table 1. FRAME Program Modules and Content

Session	Module	Content	Select Examples of Activities
1	The culture of academic medicine and individual goals	Expectations, challenges, barriers in the academic medical setting; unconscious bias, race relations, URiM and token membership; defining individual values, goals, and success	Develop individual vision and mission statements
2	Building a career trajectory	Mentorship, sponsorship, career development plans, effective time management, work-life balance	Work-life integration time review Wheel of life exercise Identify potential mentors and sponsors and approach those persons Begin drafting individual career development plan
3	Interpersonal relations	Emotional intelligence, building collaborations, effective supervision, negotiating skills, conflict management, recognizing and addressing burnout and compassion fatigue	Identify strengths and challenges of past collaborations Identify requirements for future collaborations

4	Teaching and presentation skills	The science of learning, developing curricula, developing a teaching portfolio	Presentation by individuals to group for feedback
5	Conducting research	Identifying sources of funding, designing research, writing aims and objectives, choosing a research team, grant administration, developing budgets, understanding balance sheets, preparing resubmissions, working with IRBs, DSMBs, SABs, CABs	Draft aims and objectives Identify funding sources for individuals' research
6	Scholarship	Preparing professional manuscripts, types of manuscripts, selecting a journal, strategies for successful writing, authorship ethics	Begin drafting manuscript
7	Promotion and tenure	Institutional processes and policies; preparing a promotion/tenure application	Revise CV Begin development of portfolio for promotion

Bloom's taxonomy posits that learning activities should foster learners' ability to move from lower order thinking skills, such as remembering, understanding and applying concepts, to increasingly more complex cognitive processes, such as analyzing, evaluating, and creating or planning (Anderson *et al.*, 2001). Accordingly, we intentionally scaffolded program content so that participants gradually developed their skills over the seven months of the program. During the first session, for example, we encouraged participants to remember and share their journey to becoming a physician and their experiences in academic medicine. All participants in this cohort were physicians; we anticipate that future cohorts will include non-physician faculty as well. They were then asked to apply their vision and mission to their current situation(s) and to analyze and evaluate the extent to which there was or was not congruence between their vision, mission, and definition of success, and their current circumstances. Their insights provided the basis during a later session for their creation and refinement of individual career development plans.

In addition to these monthly all-day sessions, participants were each provided with two individual coaching sessions from an external career coach. They also received individual guidance from the program director and co-director in developing a career development plan and an individual consultation with the medical school staff person responsible for overseeing the school-level Committee on Academic Promotion and Tenure.

Following each session, we provided participants with a written series of questions to evaluate the level of their knowledge, skill, and/or confidence with respect to a specific skill as it existed before and after each of the sessions. Each series included both items on a 1 to 5 scale to assess their pre- and post-session levels of confidence and skill and open-ended questions related to the impact of the session's discussion and any changes that they would make as a result of what they had learned. The 2019 cohort included nine individuals; we report on data relating to eight. (The ninth individual did not provide consent to use their data.) We used matched pair t-tests to assess the difference between pre-session and post-sessions levels of knowledge and confidence, and examined qualitative responses for themes common across the eight participants.

Results

All eight participants were female physicians; four self-identified as minority. Individuals had held a faculty position for an average of 6 years (range 2 to 17 years) at the time of their application and had trained in diverse medical specialties.

We found statistically significant differences between participants' pre- and post-program levels of knowledge and confidence. They reported increases in their knowledge about what is needed for a successful grant application ($p=0.003$) and for success in academic medicine ($p=0.0009$); their understanding of the promotion and tenure process ($p=0.008$) and mentorship and sponsorship ($p=0.001$); and their confidence in their abilities to form collaborations ($p=0.006$), engage in successful negotiations ($p=0.014$), and prepare a successful grant application ($p=0.008$). Table 2 contains representative participant comments that reflect their increased knowledge and confidence as a result of the program.

Table 2. Representative Self-Assessments of FRAME Participants' Learning

Module	Comment
The culture of academic medicine and individual goals	The first session of FRAME helped me to better understand some of the elements of the culture of academic medicine. It was great to see so many of the expectations listed and discussed. I think this is the first time that anyone addressed it in this way. I think I had heard about many of these expectations in a variety of settings, but not all at once and in a succinct list. (Participant 2)
	I would say I learned more about implicit bias during this session and that we all carry around underlying bias that is important to recognize in order to understand our behaviors. (Participant 3)

Building a career trajectory

I was able to really gain insight into my core values and come up with a great mission statement that I really feel describes the way I see myself and how I want others to view me. This helped me to grow most because I was “forced” to really think about this during the session. I am usually not too keen on these types of self-reflective exercises because I do not often see the value. This was the first time that I participated in this type of activity in which I found value. (Participant 2)

Prior to the [date] session, I was not familiar with creating detailed career development plans After the session, I came away with tangible tools for creating discrete short term and long term career goals. (Participant 4)

Interpersonal relations

Managing conflict is another skill that I find hard because I do not like direct confrontations. My approach to conflict – I usually reach out to other colleagues for support and suggestions because I do not like to create an unpleasant aggressive atmosphere with my work colleagues. The discussion about conflict in a research setting did normalize that conflict was almost inevitable sometime during the research collaboration. Sana’s suggestion about clearly defining everyone’s roles prior to beginning the project is helpful to consider as a tool – for navigating the conflicts that may develop in the future. This session helped me consider different strategies for mitigating conflict in the research setting. (Participant 4)

The last session made me rally take inventory of both my personal and professional life. I think I am starting to go through the early stages of burnout. In response t this realization, I am doing more to check in with myself I am hoping that refocusing my energies on things that are important to me will lessen the feelings of burnout and mental exhaustion (Participant 2)

Teaching and presentation skills

I will have a more systemic [sic] approach to teaching and make sure to get feedback during teaching. Feedback will help the student as much as it will help me to organize. (Participant 1)

The session on different types of learners was really eye-opening. I really didn’t think about whether my struggling resident was a reduced learner or a dispersed learner. If I am able to figure that out, then I can be much more effective in helping them to learn. (Participant 5)

Mentorship and sponsorship

Prior to the session, I had never heard of the concept of a sponsor. After talking and reading about mentors and sponsors, and with applying it to my own personal situation, I can better understand how important sponsors become in career development and how their guidance in terms of opening up opportunities for the “sponsee” can catapult the sponsee’s career and also advance the reputation of the sponsor. I also appreciated the talk about mentorship and delving into mentorship in a deeper level. As I reflect on sponsorship, mentorship and my career plan, my level of confidence in identifying an appropriate mentor/sponsor is much improved. (Participant 4)

I ... knew people had mentors and that they could be helpful but didn’t fully understand the process for finding a mentor. Seemed like it was something you happened to find or stumble into and I just never found anyone. Now, knowing it is more of an active process makes me feel much more positive that I can find a few mentors I feel much more confident in my ability to identify possible mentors (Participant 5)

Conducting research

I think as a grant writer I had my share of colleagues who did nothing for me and left me alone which made me feel frustrated. I felt that I was always deserted until the money came and even after that not receiving any respect. Now after the session I learned that I am not alone and I need to pick people very carefully. Also, starting early and doing some search about the opportunity helps. Now, I am more proactive in screening the grant opportunities and contacting the grant administrators. (Participant 1)

I really didn’t see myself doing nay research that would require grant writing before FRAME. Now, however, there are a few projects within our department that I am going to get involved in and I feel that I can contribute to the writing of the grant proposal for one of them. (Participant 5)

Scholarship

I ... think outlining the roles and expectations of a research partnership is important and should be done at the beginning, along with the goals and timelines. The session helped me realize that not every project is worth pursuing and sometimes we need to “cut our losses”. (Participant 8)

Promotion and tenure	I am certainly re-evaluating the tasks that I do as a part of my position As I have been taking on more leadership positions within my department, I am starting to learn that there are some tasks that I could hand off to someone else in order to focus on tasks that can help me move towards promotion. (Participant 3)
	I have a MUCH better grasp and understanding not only of the process of promotion, but also what are the key factors that are taken into consideration. I also have a greater understanding of the importance of networking, building my professional portfolio and the importance of being intentional with career choices. (Participant 6)

Four themes emerged from participants' written reflections: (1) the absence of mentoring and sponsorship; (2) the imposition of a "tax" in the form of administrative responsibilities that surpassed expectations of their counterparts; (3) difficulty managing conflict situations; (4) a lack of guidance about the requirements and processes for promotion and tenure. The relative lack of mentorship and sponsorship afforded to women and minority physicians and the inequitable imposition of administrative tasks have been well-documented (Beech, Calles-Escandon, Hairston *et al.*, 2013; Palepu, Carr, Friedman *et al.*, 1998; Rodríguez, Campbell, & Pololi, 2015). The reported lack of guidance with respect to promotion and tenure is consistent with the lack of adequate mentoring and sponsorship, which in the best case scenario would provide the individual with the information necessary to contemplate promotion, an evaluation of the individual's needs, and the presentation of opportunities to further their progress along their career trajectory.

Discussion

Our findings underscore the need for academic medical centers to develop specific programs that support the career development and success of their URiM and women faculty. Strengths of our approach include its reliance on a theoretical framework to shape the program curriculum and delivery; explicit and continuing discussion relating to the culture of academic medicine, including the inherent biases, discrimination, and strategies for navigating through that culture; and the provision of individual consultations. Our findings are limited by the small size of the cohort, the delivery of the program in one academic medical center, the absence of PhD-only faculty and the lack of longitudinal follow-up to assess the longer-term impact of the program on participants' academic careers.

Next steps include longitudinal follow-up with the program participants for a minimum of three years to assess their career progression, continuous program improvement in order to respond to the diverse needs of individual participants in the context of their changing environments, and program evaluation with future cohorts.

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Sana Loue, J.D., Ph.D., M.P.H., M.S.S.A., M.A., LISW-S, CST-T, AVT is a professor in the Department of Bioethics, Case Western Reserve University School of Medicine, Cleveland, Ohio, with secondary appointments in the Departments of Psychiatry and in Global Health, as well as in social work. Her professional training is in law, epidemiology, medical anthropology, secondary education, social work, theology, and public health. She has authored more than 100 peer reviewed manuscripts and has authored or edited more than 30 books. Dr. Loue's current research focuses on vulnerability in research, humanism in medical education, and mental illness outcomes.

Amy G. Hise, M.D., M.P.H. is a physician at the Louis Stokes Cleveland VA Medical Center and an associate professor, Department of Pathology, Case Western Reserve University School of Medicine, Cleveland, Ohio. Her research focuses on innate immunity to infectious pathogens including viral, bacterial, parasitic and fungal organisms. She has local and national leadership roles in the areas of women in academia and diversity and inclusion in science and medicine.
