Department Chairs as Change Agents: A Virtual Cross-Institutional Professional Development Model for Chairs

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Abstract

Department chairs are crucial in impacting departmental climate, conveying expectations, and providing merit assessments. Therefore, they have the most influence in retaining highly qualified faculty. Most department chairs come from the faculty ranks and lack formal training in key management, communication, and administrative skills, including performance reviews, resource allocation and budgeting, legal and compliance issues, promotion and tenure determinations, conflict resolution, and the inclusive management of people with diverse identities. Recognizing the critical role of department chairs and the evident gap in their training, we developed a series of chair workshops to provide ongoing professional development for department chairs across multiple semesters. These workshops were designed as part of a multi-university collaboration funded by the National Science Foundation to create more inclusive environments in science, technology, engineering, and mathematics (STEM) units. However, the offerings were expanded to include all units on all campuses. This paper outlines our approach to developing these professional development workshops and describes the workshop designs and how we incorporated participant feedback. Additionally, we offer suggestions for others designing and implementing chair professional development workshops together with areas for future advancements in chair professional development.

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Introduction

Within higher education institutions, the home department is where faculty spend most of their time interacting with colleagues and gaining information about institutional priorities. The department chair[1], as their direct supervisor, assigns their teaching load, appoints them to committees, and evaluates their performance. The department chair is commonly selected from the faculty through a selection process that often relies on criteria only tangentially related to the skill sets needed for effective mid-level management (Acker, 2012; Gallimore, 2019). Arguably, department chairs have one of the most challenging administrative roles in higher education, primarily because they straddle the divide between administration and faculty and are caught between two sectors of higher education–managerial and academic–that operate differently (Bolden et al., 2008; Gmelch et al., 2017). Most chairs simultaneously identify with roles of faculty and administrator (Freeman et al., 2020; Gmelch et al., 2017), often making it challenging to determine which "hat" they are wearing - or should be wearing - in each context.

The role of the department chair is also becoming increasingly more complex. A comparative study of department chairs shows that departments have often grown by combining multiple disciplines, requiring chairs to understand and respond to faculty's disparate norms and needs from various disciplines (Flaherty, 2016; Gmelch et al., 2017). Furthermore, the range of duties for department chairs has expanded tremendously over time (Kruse, 2022; Pinto, 2020). In 1987, the typical duties of a department chair included creating a schedule of classes, advising students, hiring adjuncts, evaluating faculty members, reviewing the curriculum, and reporting to the dean. In 2013, the typical responsibilities for a department chair had grown to include managing alum relations, fundraising, grant management, dealing with enrollment issues (recruiting and retention), handling budgets, and serving on college and university committees. In essence, department chairs nowadays shoulder significant departmental, institutional, and individual responsibilities, often without additional support or resources.

Department Chairs as Agents of Departmental Culture Change

Department chairs can serve as gatekeepers or boundary spanners and affect the university system at multiple levels (Kilduff & Brass, 2010; Long et al., 2013; Schwinghammer et al., 2012). They are critical leaders in establishing and maintaining departmental climates, given that faculty, staff, and students primarily experience climate in their most immediate, everyday, and interactive environments, typically within a department (Thornton et al., 2018). A positive department climate can significantly impact job satisfaction, resulting in increased faculty, staff, and student

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[1] Department chairs serve under different names depending on their location and the culture of their universities (Bryman, 2007; Thornton et al., 2018). For this paper, the title *department chair* connotes the departmental leader who serves as a type of middle manager between the department and upper administration (Freeman et al., 2020) and as a bridge between several stakeholders, including students, faculty, staff, other departments, and central administrators (Kruse et al., 2020).

retention and overall productivity (Callister, 2006; Campbell & O'Meara, 2014; Jayakumar et al., 2009; Johnsrud & Rosser, 2002; Sheridan et al., 2017). Department stakeholders, particularly faculty, staff, and graduate students, will often choose to stay or leave organizations based on whether they feel safe, valued, and equitably treated in their departments (Bystydzienski et al., 2017; Keyton, 2014; Minnotte & Pedersen, 2021).

Culture can be difficult to change as it involves practices that may not be explicitly acknowledged or discussed but may carry significant entrenched biases. Departmental climates are suffused with norms and assumptions that people bring into the organization based on their own lived experiences and the cultural norms of their communities, which can include implicit biases and stereotypes about race, gender, sexuality, and other identities (Keyton, 2014). Cultural norms have often been developed in highly exclusive ways based on specific groups. In higher education, there is a focus on ensuring that cultural norms are inclusive of all individuals. Some may view these changes in departmental culture as "making accommodations" to include women, people of color, and other historically excluded and marginalized groups (Bystydzienski et al., 2017; Riffle et al., 2013). The word "accommodation" means "providing what is needed or desired for convenience" or "a reconciliation of differences", implying that women, people of color, and others need special conveniences or reconciliation rather than recognizing the many ways that these groups have historically been explicitly and implicitly marginalized and excluded. Their career paths may also be viewed as "nontraditional" because they differ from longstanding and pervasive cultural norms, with the underlying assumption that such individuals will be less productive or qualified, regardless of evidence to the contrary. When departments develop and implement policies and paths intended to support more inclusive academic success, faculty may be reluctant to use them because the "traditional path" is automatically considered to be more valid and respected without explicit consideration of intended outcomes or the historical context of "traditional" pathways (Bystydzienski et al., 2017). Rather than viewing changes in policy or practice through a lens of "accommodation," we suggest a focus on *creating environments that are inclusive of the needs of all faculty, whether they are women, people of color, men raising small children, individuals caring for elderly parents or any other group that has been historically marginalized or excluded based on their identity*, enabling *all* faculty to excel. Recognizing that a "traditional" path does not ensure the attainment of the mission of higher education - educating students, developing and disseminating knowledge - requires a cultural shift among higher education leaders and departmental faculty. Furthermore, because family care-giving responsibilities still fall disproportionately to women, such perceptions further reify assumptions that men are powerful, and women are subordinate and less suited to leadership and highly valued positions, which contributes to further inequity through job design, job assessment, and informal workplace culture (Acker, 2012; Bates & Holt, 2021).

Everyone within a department contributes to shaping its culture, but those in departmental leadership positions play a crucial role in establishing, rewarding, reinforcing, and sustaining a positive departmental climate. Department chairs play a particularly significant role in fostering a department's favorable or hostile climate. They can set expectations regarding culture and climate, promoting a culture of col-

laboration and inclusion and an appreciation of diversity. Department chairs make decisions about recruitment, hiring, budget/resource allocations, teaching loads, service loads, policies, and procedures (Kruse, 2022; Taggart, 2015). Their leadership style, vision, and values can significantly impact the department's morale, productivity, and satisfaction, and their actions create positive or negative impacts (Berdrow, 2010; Boies et al., 2015). Studies have shown that chairs who engage in effective leadership practices (e.g., setting clear goals and transparent expectations, fostering a spirit of collaboration and community, promoting open communication, and demonstrating fairness and transparency, including in workload assignments and resource allocations) positively impact department climate (Campbell et al., 2007; Maranto & Griffin, 2011; O'Meara et al., 2022), leading to increased faculty satisfaction, retention and productivity (Malati et al., 2012; Baluyos et al., 2019).

In an effort to provide department chairs with increased training opportunities to help shift the perspective from "making accommodations" to creating environments that support the needs of all faculty, we conducted cross-institutional collaborative department chair training. This paper describes these trainings and summarizes program outcomes based on the survey results from these department chair professional development workshops. We begin by discussing typical chair development programs.

Chair Professional Development (or the Lack Thereof)

Department chair training is essential due to chairs' unique ability to affect departmental culture. Chairs can be crucial in promoting diversity, equity, and inclusion in their department by proactively addressing the unique challenges women and faculty of color face (Gardner & Ward, 2018; Patridge et al., 2014; Riffle et al., 2013). This is particularly important for chairs of science, technology, engineering, and mathematics (STEM) departments, where White men often dominate, and there is a history of academic systems underrepresenting and marginalizing women and people of color (Fry et al., 2021; Martinez & Christnacht, 2021; Minnotte & Pedersen, 2021). Even department chairs with the best of intentions can have adverse effects on their department, the university, and individual faculty performance if: (a) they are unaware of historic behavior patterns, entrenched inequities in workload or resource allocation, department cultures, policies and practices that create exclusion and bias; (b) they do not understand how their own decisions and attitudes impact department culture; or (c) they are ill-equipped to manage personnel conflict effectively and equitably (Schwinghammer et al., 2012; Minnotte & Pedersen, 2021). Professional development can provide department chairs with the tools they need to implement existing university policies that promote a sense of belonging and to navigate challenging interpersonal conflicts to resolve the underlying issue(s) effectively.

Ideally, professional development empowers department chairs with the resources to become leaders who model inclusive behaviors and appropriately challenge existing cultural norms. Despite their crucial role in establishing departmental culture (among other vital responsibilities), department chairs often receive little training for their myriad responsibilities. Self-taught chairs have reported relying on books and

periodicals to conduct individual research about their role and how to effectively lead, manage, and organize (Schwinghammer et al., 2012). Self-guided manuals designed to help department chairs understand all aspects of their leadership role also exist (Buller, 2012; CHE, 2022; Dettmar, 2022; Gmelch & Miskin, 2004). Chair training may involve mentoring by deans or more experienced chairs. The most common type of training for chairs consists of professional development and leadership training/workshops offered by their institution (e.g., Iowa State University, 2023; University of Massachusetts Amherst, 2023; University of Virginia, 2023; North Dakota State University, 2023) and via conferences offered by disciplinary professional organizations (e.g., American Geosciences Institute, 2019) or national organizations such as the American Association of Colleges and Universities, the Council of Independent Colleges, the American Council on Education, the Council of Colleges of Arts and Sciences, the National Center for Principled Leadership and Research Ethics, and various entities within the higher education industry (e.g., Academic Impressions, the Chair Academy). These professional development activities range from intensive onboarding programs to periodic seminars or workshops.

A University Council for Educational Administration (UCEA) survey suggested that two-thirds of new chairs received no training after their appointment (Gmelch et al., 2017). Of the 33% who did receive training, 40% reported only one to four hours of training, with the majority (72%) completing ten or fewer hours (Gmelch et al., 2017). The most common topics in department chair training included resource allocation and budgeting, legal and compliance issues, promotion and tenure, advancing diversity, and conflict management (Flaherty, 2006). While these topics are essential, receiving ten or fewer hours of training in these critical areas is grossly inadequate. Research suggests that it takes approximately 10,000 h to become an expert (Gladwell, 2011), and most chairs begin to feel competent only after serving for one to three years (Gmelch et al., 2017). Gmelch et al. (2017) surveyed chairs to ask what training they needed. Chairs indicated a need for training in many areas, including faculty evaluation, maintaining a healthy work climate, preparing and managing budgets, developing strategic plans, managing staff and equipment, conflict resolution, time management, institutional procedures, and dealing with unforeseen emergencies ranging from the massive disruption of the COVID-19 shutdown to the emotional devastation resulting from the death of a student, staff or faculty member in the unit (Kruse et al., 2020; Gigliotti, 2021). The survey highlights critical areas where chairs expressed a need for training, ranging from faculty evaluation to conflict resolution. Notably, some areas, such as maintaining a healthy work climate and conflict resolution, directly relate to creating inclusive cultures. However, even those areas not explicitly linked to inclusivity, such as faculty evaluation and institutional procedures, almost certainly contribute to fostering an inclusive environment (Gmelch et al., 2017).

Inclusion refers to creating environments, both in social and organizational contexts, that embrace and value diversity. Inclusion fosters a sense of belonging, respect, and equity among individuals with diverse backgrounds, characteristics, and perspectives. In inclusive environments, everyone is recognized for their unique qualities, and efforts are made to ensure that all individuals, regardless of their differences, have equal opportunities to participate, contribute, and suc-

ceed (Fagan et al., 2022). Inclusion goes beyond mere tolerance or acceptance; it actively seeks to dismantle barriers, promote diversity, and cultivate a culture where everyone feels valued, equitably treated, and empowered to reach their full potential. Examples of ways chairs can actively foster inclusion include developing skills in faculty evaluation that are essential to ensuring equity in the promotion and tenure process, equitable workload distribution, and annual performance evaluations that determine salary increments, future assignments, and resource allocations. Similarly, becoming more skilled with institutional procedures can help promote transparency and equity in applying university and departmental policies (O'Meara et al., 2022). Effective and regular professional development should empower department chairs, enhancing their capability to successfully create and maintain a culture of inclusiveness for all faculty.

Borrowing from Professional Development in K-12 Education

Higher education institutions are complex systems. Brankovic and Cantwell (2022) recently summarized an extensive body of literature, noting that scholarship on change in higher education institutions encompasses various theoretical frameworks for investigating factors that influence successful change initiatives, including leadership strategies and organizational culture. However, there is little rigorous research on the training and development of academic chairs (Gmelch & Buller, 2015; Schwinghammer et al., 2012). This problem is not unique to higher education. Scholars in educational leadership emphasize the necessity for empirically valid means of implementing professional development across various educational settings, including K-12 education (Wayne et al., 2008). Leaders in K-12 education typically participate in structured leadership training, typically earning certifications (i.e., principal and superintendent certification), but higher education has no parallel training system (Evans et al., 2020). While there are distinct differences between higher education and K-12 education, fundamental leadership and professional growth principles transcend institutional boundaries. Given the parallels between K-12 and higher-education environments, we propose that professional development models originating from and implemented in K-12 offer valuable insights and strategies that can be adapted to the higher education context, addressing department chairs' unique challenges. Our approach seeks to complement existing models of effective leadership in higher education (e.g., Bryman, 2007; Gardner & Ward, 2018; O'Meara et al., 2022; Schwinghammer et al., 2012) and offer a fresh perspective and new strategies for chair professional development by incorporating elements from K-12 education models.

Many educational researchers (e.g., Darling-Hammond, 1995; Stigler & Hiebert, 1999; Lieberman, 1996; Little, 1993; Sparks & Loucks-Hoursley, 1990) note that professional development provided to teachers only sometimes results in practical improvements. However, studies have identified key factors contributing to effective professional development for teachers. For example, Borko et al. (2010) proposed several contemporary approaches to high-quality teacher professional development. These included (but were not limited to):

- Focusing on building capacity to better understand subject matter rather than specific techniques or materials.
- Using a variety of professional development formats that include practice-related efforts rather than relying solely on courses and seminars.
- Having longer duration (i.e., more ongoing) training than short duration (one-shot) training.
- Constructing training agendas collaboratively with the trainees rather than solely by leadership.
- Providing immediately relevant training to practice and building a generalized knowledge base rather than requiring the trainee to translate new knowledge into practice.

Borko and colleagues (2010) further note that high-quality professional development involves modeling the strategies trainees are expected to employ, engaging trainees in active learning, and building a professional learning community. Establishing learning communities allows professionals to reflect on their learning and analyze the strategies' effectiveness. According to Borko and colleagues (2010), these strategies are "particularly important in times of reform, when [professionals] frequently are being asked to [lead] in ways that are substantially different from how they were taught" (p. 550). The most effective approaches to professional development gleaned from those studying effective professional development strategies in K-12 education may also be helpful in a higher education context, especially in the approach to professional development for department chairs. Given the rapidly changing context in which department chairs are being asked to lead and the ongoing reforms occurring in higher education today, there is a pressing need for professional development for department chairs that relies on demonstrably effective strategies.

A Multi-University Chair Professional Development Program

To create cultures that foster inclusion at the departmental level, a group of leaders at four U.S. midwestern universities, funded by the National Science Foundation, came together to create a series of department chair professional development activities. Before the funded project, one of the institutions had established a year-long series of monthly meetings for department chairs that addressed practical and institution-specific issues and policies, such as annual faculty reviews, promotion and tenure, and managing budgets. The original plan for the grant-funded project was to adapt the content of these informational meetings and frame professional development activities through a DEI lens focused on the inclusion of *all individuals* (but initially targeted at the inclusion of women and faculty of color in STEM fields). We also hoped to create a package of materials that could be immediately put into practice and distributed to the other partner institutions, who could then adapt them to their specific policies and cultures.

In March 2020, the COVID-19 pandemic limited in-person programming opportunities at each participating institution. These limitations persisted into 2021 and required the development team to rethink the original plan. The first significant decision was to change the delivery modality from in-person at each institution to vir-

tual. This decision led to another opportunity because suddenly, a new possibility opened up: the chairs from all four institutions could participate simultaneously in workshops, allowing for cross-institutional knowledge-sharing. This change required us to shift from a workshop series anchored on institution-specific policies and processes to a series of activities focused on broader leadership principles and general issues faced by women faculty and faculty of color in STEM fields. Instead of a year-long program with monthly workshops, we developed a series of workshops offered approximately once a semester. Notably, the partnership allowed the implementation of a suite of related cross-institutional activities and activities focused on enhancing the success of STEM faculty women of color and women with family caregiving responsibilities at the four institutions. Over three years, chair professional development workshops were developed and offered periodically, together with virtual cross-institutional events focused on inclusivity in STEM disciplines (e.g., lecturers, panel discussions, film showings). We also launched cross-institutional mentoring communities and formed groups of male allies and advocates at three campuses (Anicha et al., 2018, 2022).

In designing the cross-institutional department chair workshops, we adapted several evidence-based strategies for professional development frequently used in the K-12 system. Specifically, borrowing from the professional development literature in K-12 education, we designed workshops that modeled the specific strategies we hoped participating department chairs would implement. This was done by using the training to show clear examples of the strategies that chairs could emulate at their institutions. We engaged department chairs in active learning by creating specific activities that required active responses from participants during the training, and, unlike the professional development offered by many institutions, professional organizations, and higher education companies, by building a professional learning community that brought together department chairs from multiple universities, creating forums for them to discuss and share their ideas. This paper describes the participants, the training and workshops we developed, and assessment data summarizing how the participating department chairs received the workshops.

Development Team

Four U.S. midwestern research universities collaboratively participated in the ADVANCE Midwest Partnership - Joining Forces - project. Although the project was aimed primarily at chairs and administrators in STEM units, to be inclusive, project activities were advertised widely on each campus, and events were open to chairs and administrators in both STEM and non-STEM (e.g., humanities, professional schools, education, health and human services, arts) disciplines. A leadership team, composed of key individuals from each participating institution, met regularly to plan and coordinate various project activities, including the workshops. This team comprised associate/vice provosts, deans, associate deans, and current/former chairs from each university. Most leadership team members were from STEM fields, such as engineering, geosciences, and psychology.

Furthermore, the development team and facilitators underwent training, developed skills, and were prepared to facilitate discussions on inclusion and equity in STEM,

as emphasized by Gonzales et al. (2021). Subsets of this leadership team formed planning committees, which organized and planned each workshop and other associated activities.

Workshop Topics and Design

Eight 90-minute workshops were offered once a semester over three years, beginning in Fall 2020 and ending in Fall 2023. Two separate workshops were provided in Spring 2023 (Table 1). The same workshop was typically offered two or three times on different days and at different times within a one to two-week interval in a particular semester. This was done to accommodate the busy schedules of the extensive target audience, including chairs, directors, associate deans, and other administrators spanning different time zones. Associate/vice provosts and deans sent workshop announcements to department chairs, center directors, associate deans, and other senior faculty with administrative responsibilities. These announcements included a brief note encouraging participation at their respective universities. The workshop announcements provided the workshop title, learning outcomes, date(s) and time(s) of the workshop offering, and a brief description of the workshop topic. Information about guest presenters, when appropriate, and a link to a registration form were also provided. Participants could register by clicking the link and completing an online form that asked them to provide their name, title/role, department, institution, and preferred workshop time. A sample announcement is shown in Fig. 1.

One of the four institutions hosted the workshops on Webex or Zoom video conferencing. Registered participants received a password-protected link to join the meeting via email when they registered and just before the event.

Before the workshop, participants were given electronic access to selected materials, such as short videos and one or two brief articles relevant to the workshop topic. These materials were designed to be brief and easily digestible, aiming to prepare participants for the planned discussions. Each workshop began with a member of the leadership team spending about 10 min welcoming participants to the workshop, reviewing the learning objectives, and providing a summary of the pre-workshop readings. Following the introduction, a senior administrator from one of the participating institutions or a guest from another university presented a short lecture. During this lecture, the speaker *modeled* strategies for the workshop topic that participants could implement in their departments. Additionally, the speaker introduced the case study to be discussed by participants in breakout groups. Breakout groups were carefully formed to include four to eight participants from each participating university, fostering diverse perspectives. The case study was shared through a file uploaded to the chat. These scenarios, typically written by leadership team members, described a challenging situation related to the workshop topic. The scenarios were written based on a conglomeration of various actual events that occurred at more than one of the institutions, using fictitious names and changing details so that confidentiality was ensured and the scenarios did not closely resemble any actual event. A sample scenario can be found in Fig. 2. The scenario included a series of questions related to the topic to guide discussion. Participants were allowed to review the scenario and discussion questions upon entering breakout rooms. Next, a member of the project

Table 1 Workshop titles and learning outcomes by semester offered

Semester	Workshop Title/Topic	Learning Outcomes
Fall 2020	Speaking Up: How bystanders can change the conversation about social bias	· State a variety of potential bystander reactions to observed social biases · Describe contexts that can help or hinder decisions to speak up · Verbally rehearse potential bystander reactions
Spring 2021	Evaluating Faculty in a Time of Change	· Describe critical roles for timely, constructive feedback to faculty · Develop strategies and resources to assist in effective performance evaluation · State the differential impacts of life events, especially COVID-19, on faculty productivity now and over the long term · Create policies for COVID-19 impact statements faculty can use in tenure/promotion portfolios
Fall 2021	Come together: Building an equitable department where faculty want to work and stay	· Explain how transparency in department decision-making, policies, and practices results in a department culture that is equitable and inclusive · State clear and frequent communication strategies regarding departmental expectations and practices · State strategies for intentional inclusion in departmental meetings, activities, committees, and assignments
Spring 2022	Flexible faculty policies	· Identify and interpret university policies that can flex to accommodate diverse faculty · Describe and proactively use strategies to make explicit university policies that provide flexibility for faculty
Fall 2022	Changing the conversation in the academic workplace	· Identify examples of incivility and bias · Describe strategies for responding to incivility and bias when it is observed · Describe strategies for creating environments free of incivility and bias
Spring 2023	(1) Changing culture from the top: Department chairs make a big difference (2) Equitable Workloads	· Describe research on faculty evaluation and equitable standard metrics · Identify hidden biases in service participation, teaching evaluations, and research metrics · Develop tools for equitable evaluations · Describe why workload inequities are a problem in academic units · Describe workload policies and practices that enhance equity in workload assignments and metrics
Fall 2023	Bias in external review letters: Recommendations for P&T committees	· Learn strategies for enhancing inclusivity and equity and practical recommendations for navigating the P&T process · Obtain guidance for external reviewers on providing constructive and unbiased evaluations · Support internal reviewers in recognizing and mitigating potential biases

leadership team facilitated a focused discussion of the scenario and related questions among breakout room participants.

The discussion questions prompted participants to consider and discuss policies and procedures at their home institution that they might implement in response to the scenario or to practice what they might say or do in response to the posed situation. Breakout group participants used software such as Google Jamboards to contribute ideas for discussion, observations, or other comments. These comments were anonymous but visible to all members of the small breakout group. Discussion of the sce-

Gain the knowledge and skills to manage incivility and bias in the academic workplace.

Virtual Event
Speaking Up: How Department Leaders Can Change the Conversation in the Academic Workplace

Have you ever asked yourself "Why didn't I say something?" when a friend or colleague said or did something that was biased or uncivil at work? You're not alone. Deciding whether and how to respond to these moments is complicated. Yet navigating these situations effectively is crucial for academic leaders—including department chairs—who are responsible for creating a respectful climate and culture for everyone in their units.

Limited to just 50 attendees, this dynamic and interactive workshop will teach you what motivates individuals to speak up, the challenges people face when doing so, and strategies for responding that invite self-reflection and constructive dialogue. Attendees will then be invited to apply these strategies directly to resolving everyday incidents of incivility and bias that frequently occur among faculty and staff in the academic workplace.

The discussion will focus on academic leaders' role in changing the conversation to promote inclusive and respectful workplaces. A team of experienced co-facilitators and professional actors will support active discussion and learning to reinforce using these skills beyond the workshop.

Join us Tuesday, October 4, 2022
10 a.m. - 1 p.m. or 3 - 6 p.m. EST
9 a.m. - noon or 2 - 5 p.m. CST

RSVP: https://bit.ly/3U4eHT1

Fig. 1 Example of an announcement

narios typically took approximately 15 min, after which all participants reconvened in the main room and were encouraged to share insights from their respective breakout room discussions with the larger group. The larger group discussions typically lasted roughly 15 min, after which the workshop facilitator shared a new scenario for discussion. Typically, this second scenario provided more detailed information about the case or presented it from a different perspective. For example, the first scenario may have presented a challenging situation from the chair's perspective, and the second scenario would focus on the same case but from the faculty member's perspective, typically adding new information participants did not have in the initial scenario and discussion. Participants were then returned to their breakout rooms with peers to discuss how the new information provided in the second scenario might change how they would respond to the posed scenario. This second breakout room discussion typically lasted for about 15 min, after which the participants returned to the primary virtual room for another 15-minute session with the large group. These structured activities were designed to promote *active participation*, build *learning communities*, and provide opportunities for administrators to continue discussion through follow-up in-person meetings at their home institutions or units.

Part 1

Biochemistry Department Chair Michael Washington (he, him) looked in dismay at the annual report of Linda Smith (she, they), an Assistant Professor in her fourth year at Leading Research University, wondering how things had gone so badly amiss. Linda had been a rising star when his unit had recruited her, and the department had provided a competitive start up package. She had secured a nationally competitive grant in her second year, and she was one of only a handful of instructors who earned consistently strong student evaluations in large-enrollment introductory courses. Still, collaborations with other research groups hadn't formed organically. Her isolation from other faculty had been noticeable almost immediately upon her arrival. Students, especially those in the newly formed oSTEM (out in Science Technology Engineering and Math) chapter for LGBTQIA+ students, loved her. She was one of only two tenured female faculty members in the department, the other being a soon-to-retire full Professor. The COVID pandemic exacerbated this and created a myriad of new challenges. Linda had been shouldering most of the day-to-day parenting of their school-age children, since her partner was working longer hours as a health professional. Her research looked solid, but the pace of publication was slow, and she wasn't getting many invitations to speak at major conferences or other institutions.

Michael and Linda had met earlier in the day. Linda was clearly exhausted and discouraged. She told Michael that she had met with the promotion and tenure committee, and the members provided conflicting advice. One faculty mentor had advised that she ask the department for a reduction in her teaching responsibilities, but another had said, "You don't want to do that. Teaching is one of the strengths of your case. Also, someone else would have to cover for you, and it's hard to know whether that will impact a faculty tenure vote." One committee member had suggested that she request a tenure extension, but another had advised caution, noting that it was best not to take the risk of being between grants when her tenure was being decided. The committee had spent some time talking about how unpredictable the tenure process can be. By the time she met with Michael, Linda had concluded, "It feels like there are no good answers."

Fig. 2 Example of a scenario for breakout group discussion

Table 2 Number of participants attending each workshop across institutions

	Fall 2020	Spring 2021	Fall 2021	Spring 2022	Fall 2022	Spring 2023 (1)	Spring 2023 (2)	Fall 2023	Total
Univ. 1	32	40	20	18	13	20	26	24	193
Univ. 2	34	20	8	3	13	9	12	12	111
Univ. 3	31	21	13	14	23	18	20	8	148
Univ. 4	52	22	20	13	17	14	28	18	184
Other	0	0	0	0	11	1	12	21	45
Total	**149**	**103**	**61**	**48**	**77**	**62**	**98**	**83**	**681**

Note Data is based on pre-registration forms because information on actual attendees was not recorded. Typically, those who registered did participate in the workshops, with only a small number of no-shows

Participants Demographics

The number of participants attending each workshop from each university is summarized in Table 2. In total, there were 681 attendees at the eight workshops. Not all were unique attendees, as many individuals attended multiple workshops. Atten-

dance varied across universities and workshops, ranging from 48 to 149 attendees, with an average of 85 attendees per workshop. Participation ranged from 13 to 32 (Mean = 24) attendees from University 1, 3 to 34 (Mean = 14) attendees from University 2, 8 to 31 attendees from University 3 (Mean = 18), and 13 to 52 (Mean = 23) attendees from University 4. Notably, invitations to the last four workshops were also extended to administrators at other research institutions considering joining the project consortium. A total of 45 individuals from these institutions attended the last four workshops. The estimated gender split of the almost 700 participants was roughly even, and the majority (62%) were from non-STEM disciplines.

Evaluation of Workshops

Methods

We evaluated participants' perceptions of the value of the workshops in enhancing their practices as an administrator through an anonymous Qualtrics survey. The survey link was provided in the Zoom chat and in an email sent to each attendee immediately following each workshop session. One generic survey was used for the first four workshops and a different one for the remaining four workshops to address the content of the workshops more specifically. The first survey consisted of seven statements about gender bias and gender equity in higher education, which the participants were asked to rate on a 7-point Likert scale, with 1 indicating "strongly disagree" and 7 indicating "strongly agree." Participants were also asked if the event inspired them to take any action to promote gender equity in their home departments/universities, with an invitation to specify their planned action. Two additional questions sought participants' feedback on the online delivery mode and solicited suggestions for future programming. The survey ended with optional demographic questions encompassing the participant's department/field, racial/ethnic identity, and a list of other personal identities, such as family caregiving responsibilities, disabilities, religious minority, belonging to the LGBTQA+ community, being born outside the USA, and others that could be entered in open fields.

Additionally, in December 2021, two evaluators interviewed 18 department chairs who had volunteered to participate in the more in-depth evaluation following the third workshop. The interviews lasted 30–40 min and followed an IRB-approved protocol.

The two fundamental intended outcomes of the professional development program were: (1) to provide content to increase department chairs' awareness of challenges faced by women faculty and faculty of color, with a focus on those with family caregiving responsibilities, and equipping them with resources to address inequities, and (2) facilitating this process through a cross-institutional virtual format. The following summarizes the feedback received, focusing on these two crucial aspects.

Awareness of Challenges Faced by Women and Underrepresented Faculty

Data from four of the seven questions included in the first set of surveys are displayed in Table 3. Except for the survey following the first workshop, response rates to the evaluation surveys were somewhat low. Thus, we did not perform a quantitative statistical analysis of the responses but evaluated the trends and qualitatively described the results in general terms and cumulatively. However, the responses to survey questions were reasonably consistent across workshop offerings.

Most survey respondents agreed that the training improved their understanding of challenges experienced by underrepresented women faculty, increased their awareness of the actions they could take, and bolstered their motivation to promote gender equity. They also indicated that they would recommend these workshops to colleagues.

In response to open-ended questions regarding actions participants would take to make changes in their departments after the first four workshops, several participants indicated a commitment to work on equal pay and workloads among men and women faculty and to implement pandemic impact statements as part of tenure and promotion portfolios for their faculty: "*Spend more time in annual reviews exploring all ways the faculty member may have been impacted to better document the effect of the pandemic, and make sure that this is documented for P&T purposes.*"

Some participants indicated they would take steps to increase transparency regarding workload assignments in their departments: "*We were already planning to do a workload analysis in the department. This workshop made me feel an urgency to get that task done, and made me see how important transparency is to a department (although it can be scary to think about sharing some information).*" Others noted they would incorporate information about issues faced by women faculty into train-

Table 3 Percent of survey respondents answering somewhat agree (6 on likert scale) and strongly agree (7 on likert scale) on surveys for first four workshop offerings

	Workshop Offering			
	Fall 2020	Spring 2021	Fall 2021	Spring 2022
Percent of Attendees Responding to Survey	61%	26%	17%	14%
Survey Statements				
This training improved my understanding of the challenges experienced by underrepresented women faculty.	84%	69%	80%	79%
This training increased my awareness of actions I can take to promote gender equity in my department.	87%	85%	79%	79%
This training increased my motivation to take actions to promote gender equity	86%	73%	67%	86%
I am likely to recommend this program to other department chairs.	*n/a*	65%	79%	93%

Note The cells marked *n/a* indicate that data are unavailable for these statements because they were inadvertently not included in these surveys

ing for their faculty and staff and that they planned to ensure faculty awareness of existing work-life balance policies.

Survey responses and participant feedback were used to refine and improve the modality and delivery of the workshops through an iterative, continuous improvement process. Following the initial four workshops, the survey was modified to focus more specifically on the topics addressed by the workshops and used a five-point Likert scale. Participants were asked to compare their confidence level with specific actions before and after the workshop (Figs. 3, 4 and 5). The survey included a question asking if they had attended one or more prior workshops. The majority had attended previous workshops. The response rate remained low, between 29 and 43%.

The mean level of confidence across all responses increased from before the workshop to after, with Workshop 5 (focused on bias and incivility) being particularly effective at formulating strategies to intentionally include women in departmental affairs, to recognize patterns, and effectively address issues of incivility, especially those related to race/ethnicity, and to identify the connections between (un)addressed issues of incivility and the long-term retention/success of diverse faculty. Workshop 7 (equitable workload distribution) most significantly increased participants' confidence in recognizing patterns and effectively addressing inequitable workload distributions and their connection to long-term retention and success of diverse faculty. The feedback from Workshop 8 (bias in external review letters for promotion and tenure) showed notable increases in confidence levels from before to after the workshop in all actions included in the survey.

Open-ended questions in the survey asked participants what they were hoping to learn and what they learned at the workshop that they did not already know. Participants expressed a desire to learn how to speak up when incivility occurs and to become better at handling uncomfortable situations: *"[That] it is normal and not shameful to have implicit (rabbit brain) bias, and that we can change those responses. To call people in - not out by assuming that they want to be good people and showing them some grace."*. They also wished to learn how to holistically evaluate teaching and change culture from the top. They commented that they needed to learn how bias impacted the evaluation of women and faculty of color and how department climate impacted their progress and retention. They appreciated learning to develop and apply clear criteria for equitable workload assessment: *"[Learned about] The subtle, yet meaningful ways in which a chair can ensure more equitable processes for tenure and review."*

Following the last workshop, they remarked on the importance of providing external reviewers with detailed information on the criteria and expectations for promotion and tenure and how commonly used wording can inject bias into the process.

The interviews conducted in 2021 showed early confirmation of the learning in the first workshops and steps taken following the workshops. For example:

"The training helped me to develop awareness of the ways that I could be addressing those [barriers to equality] I claim to work against."
I think that what resonated most from the perspective of the workshop is the importance of making sure that time is taken to explore perspectives, firsthand perspectives from all sides of questions when there might be issues of inequal-
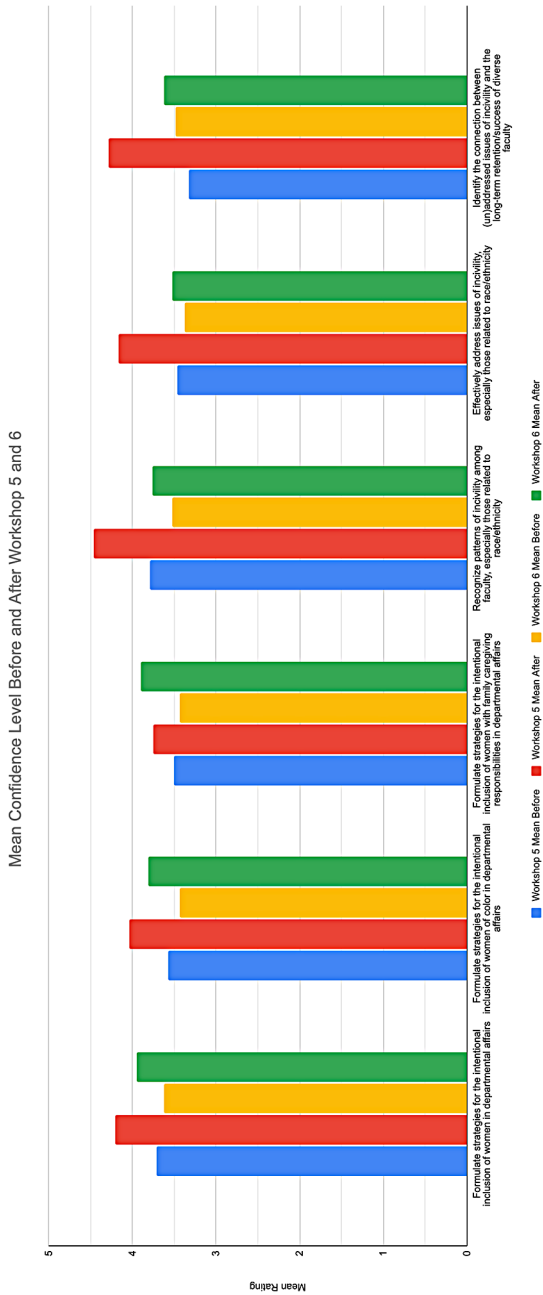
Fig. 3 Mean Level of Confidence (from 1 very low to 5 very high) Expressed by Participants to Workshops 5 and 6 in six actions/activities before and after the workshop. Workshop 5: *N*=24, response rate 31%; 75% had attended a previous workshop; Workshop 6: *N*=27, response rate 43%; 78% had attended a previous workshop

ity. [The workshop] did inform some of the current conflicts that I'm working through in terms of trying to get perspectives of not just one or two individuals, but trying to get perspectives on certain situations from multiple faculty members.

Workshop Format

In the comments section of the survey, some participants provided feedback on the format of the workshops. A few preferred in-person workshops, as they felt the online format slowed things down and covered less content. However, most participants indicated a preference for the online workshop format. Many of these participants commented that they enjoyed the cross-institutional interactions in the online breakout groups. Others noted that the online format was efficient and effective. Some even noted that the cross-institutional nature of the breakout groups and online format felt "safer" than in-person discussions. These comments were consistent across workshops, and participants appeared to favor the online format more strongly over the in-person format as the workshops progressed.

This preference for the online workshop format was confirmed by the interviews conducted in December 2021, when chairs also identified the case studies and resources provided as the most helpful aspects of the three workshops offered at that time. For example:

I think the biggest takeaway for me was that it was good to have a conversation with other leaders just to kind of hear their thoughts about how they would approach the scenarios that were part of the conversation, I think the scenarios themselves were the biggest area where it felt like you could really take the information and apply it. And I guess the most useful part of the exercise to me were those scenarios, and hearing how other people would approach the situations was useful. And I also felt like it confirmed kind of the way that I would have handled them if they were real scenarios. That kind of boosted my confidence a little bit that I wouldn't have been way off base in the way I would approach them.

Discussion

Department chairs play a vital role in shaping departmental climate, setting expectations for faculty success, providing clarity in merit assessment, and retaining highly qualified faculty. However, they often need more consistent, quality professional development as they transition from their faculty role to administrator. This lack of training potentially impacts department climate, faculty and staff retention, and overall productivity and effectiveness.

Gmelch et al. (2017) showed that department chairs need training and resources regarding many aspects of their position, including faculty evaluation, maintaining
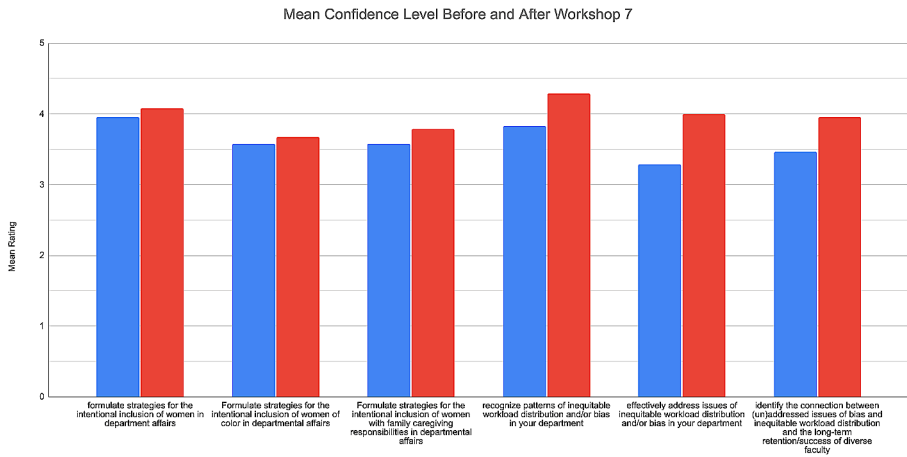
Mean Confidence Level Before and After Workshop 7

Fig. 4 Mean Level of Confidence (from 1 very low to 5 very high) Expressed by Participants to Workshops 7 in six actions/activities before (blue) and after (red) the workshop. $N=24$; response rate 24%; 63% had attended prior workshop(s)
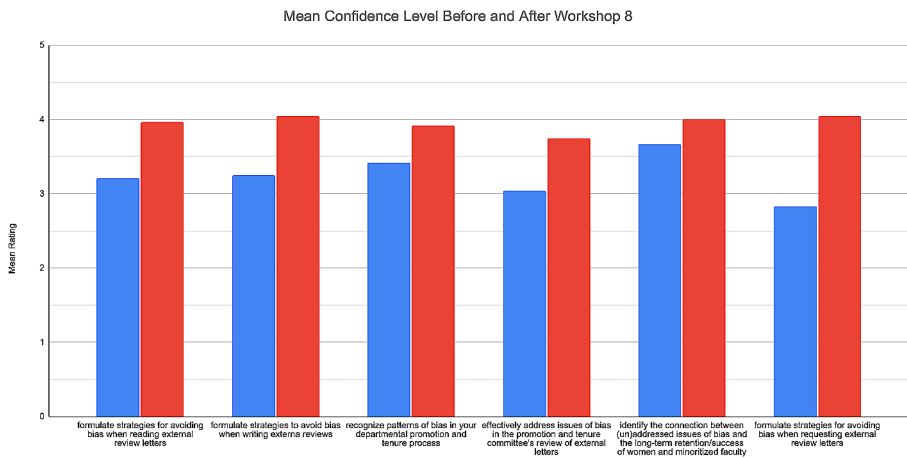
Mean Confidence Level Before and After Workshop 8

Fig. 5 Mean Level of Confidence (from 1 very low to 5 very high) Expressed by Participants to Workshop 8 in six actions/activities before (blue) and after (red) the workshop. $N=24$; response rate 29%; 33% had attended prior workshop(s)

a healthy work climate, conflict resolution, and time management. The topics of the workshops we offered between fall 2020 and fall 2023 were influenced by these, together with the unique situations created by the COVID-19 pandemic, and intentionally included topics that transcended institution-specific policies. These included: bystander intervention, faculty evaluation, building an equitable department, flexible faculty policies, responding to bias and incivility, department chairs as change agents, equitable workload distributions, and inclusive practices in external review for promotion and tenure.

The unique aspect of the professional development series described in this paper is the cross-institutional, virtual delivery mode, a format that presents both opportunities and challenges. Borrowing the theoretical approach from K-12 teacher professional development, we modeled the strategies department chairs are expected to implement in these workshops. These strategies included introducing chairs to research on the issue to be addressed, using case study discussions in breakout groups, and building a professional learning community that collectively defined best practices to address the target issue in each workshop. The frequency (one to two per semester), timing (two to three offerings on different days and different times), and duration (90 min) of offerings worked well based on the positive feedback from participants. Testimonies from participants in the first workshops who were interviewed encouraged us to pursue the interactive approach:

> *I'd say more of those small breakout groups, because sitting in a webinar and going through some PowerPoint slides and stuff, it's just like students these days, you get like, glazed over, you know, after 10 min. In our department is more application hands on, you know, active learning is where it's at. So more of that more active learning participation type stuff [in the workshop].*

While the intended audience for the original project was STEM department chairs, the virtual format allowed us to open participation to all interested chairs, impacting the entire university community and allowing for the cross-pollination of ideas across disciplines. The cross-institutional format allowed chairs from similar departments to interact in breakout groups that, when possible, were formed with chairs from related disciplines (e.g., physical sciences, humanities, engineering, life sciences) but different institutions. These groupings allowed chairs to consider the unique expectations for workload, scholarship, teaching, tenure and promotion, and collaborative work in their disciplines and the role of institutional policies and practices. For example, chairs rarely have the opportunity to engage and discuss with chairs from similar departments because each department is often the only department of its kind at the institution. Survey comments substantiated this finding; for example, following Workshop 2, a chair commented: *"This was a very thoughtful session. I really appreciate the opportunity to interact with chairs of different departments at other universities"*. Similar feedback came from one of the chairs interviewed in 2021:

> *I think it's just a really good idea to be doing this. I think, as we talked about on campus, many times, chairs come into their role not always with skills to be people managers. And I think these programs are really needed in the academy across the country that help chairs become real leaders of their programs and help to achieve these goals that this program is putting forth.*

When we initiated the cross-institutional approach, some concerns were articulated that the differences in policies across campuses (e.g., unionized vs. non-unionized) might make it challenging for chairs to engage in a productive discussion of potential strategies to mitigate bias and develop more inclusive practices. Concerns about policy differences across campuses proved to be largely unfounded. Participants

reported that discussing and comparing policies and practices with chairs from other institutions was useful.

The virtual format offered a mechanism for cross-institutional sessions that would not have been otherwise possible. As with any type of virtual programming, it is tempting for participants only partly to engage while working simultaneously on other tasks. Anecdotally, based on the breakout group and whole group conversations, most chairs were fully engaged in the workshop and contributed to the discussions because of our active learning strategies. Feedback from the survey supports this observation.

The virtual and ongoing nature of the program was crucial as it facilitated the formation of a professional learning community for department chairs, providing an effective forum for collaboration and participation. Comments submitted by participants included: "*This format was very effective, and allows for greater participation because people who can't travel due to any restrictions (including family obligations) can participate*"; "*For inter-institutional participation, online is much more efficient and enables broader participation*" (Workshop 3). Developing strategies to foster a "professional learning community" is critical during times of reform, when professionals are frequently required to lead in ways that differ significantly from how they were taught (Borko et al., 2010).

While the workshop model we developed and tested between 2020 and 2023 was tailored for research-intensive institutions, it can be adapted for other types and sizes of institutions. Similarities in the department chair's role and tasks helped create the professional learning communities that originated from the workshop series. Department chairs at different types of institutions might have somewhat different roles and priorities. However, the model presented in this paper can be readily adapted to other types of institutions (e.g., primarily teaching institutions, community colleges) or sizes (smaller, medium, or larger institutions). Some of our developed material is available online (https://tinyurl.com/ampdcpd). This workshop series was developed and implemented through a National Science Foundation grant. While some invited presenters received an honorarium, the development team volunteered their time. The institutions provided resources like data storage, marketing and communication support, and video-conferencing software. Resource limitations might affect the transferability of this approach to institutions with different resource capacities.

Limitations

The findings of this study are based on the set of midwestern research institutions where this workshop series was implemented, which may limit the generalizability to a broader context. Variations in institutional structures and cultures may affect the applicability of our findings to other settings.

While participation at each workshop was high and the total number of participants was close to 700, department chairs volunteered to participate. They thus may have different characteristics and motivations than those who did not participate. The efficacy of the training workshops might be lessened by compulsory participation. Feedback collected from participants may be subject to social desirability bias, resulting in responses that align with perceived expectations (Fisher, 1993; Krumpal,

2013). In addition, our surveys only investigate chair perceptions of the impact of the workshops over the short term; the study of the long-term effects of professional development on department chairs' performance and department climates will require further investigation that is beyond the scope of our project.

The low response rate to our surveys, while reasonably typical for workshop evaluations, further limits the generalizability of our findings. It also raises concerns about potential non-response bias, where our findings do not represent the perspectives of non-responding participants.

Finally, this workshop series was only offered once. In addition to the pandemic, external changes in policies, leadership, and institutional priorities during the three years of the professional development activities may have influenced the outcomes. Also, the evolution of the academic landscape, particularly in the United States, regarding initiatives like this one that are designed to increase diversity, equity, and inclusion, continues to impact all academic leaders, including department chairs, as well as their departments.

Conclusion

This study underscores the pivotal role that department chairs play in shaping departmental climate. The challenges department chairs face in personnel management, communication, and resource administration highlight the need for targeted professional development. The development and implementation of a series of seven workshops, funded as part of a collaborative effort funded by the National Science Foundation, offered between fall 2020 and fall 2023 to close to 700 department chairs and administrators from research-intensive institutions, mostly located in the US Midwest, showcase a promising approach to address some of the challenges faced by chairs in a continually evolving academic landscape. These workshops serve as models for fostering inclusive environments across diverse academic disciplines. Participants' feedback validates the workshop series' efficacy and sheds light on their impact. The cross-institutional virtual approach, grounded in collaborative and active learning professional development practices, was well received by participants. They reported increased awareness of gender bias issues and motivation to promote and implement practices fostering gender equity. This paper contributes valuable insights and practical suggestions for designing and implementing professional development initiatives tailored to the unique needs of department chairs, emphasizing the importance of ongoing support and training.

Declarations

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