

Original Research



Vice chairs for education as servant leaders: A convergent mixed-methods study

Kristina Dzara^{1*}, Abid Khan², Lori R. Berkowitz³

¹Department of Biomedical Informatics and Medical Education and Center for Leadership and Innovation in Medical Education, University of Washington School of Medicine, Seattle, WA, USA

²University of Louisville School of Medicine, Louisville, KY, USA

³Harvard Medical School and Massachusetts General Hospital, Boston, MA, USA

Article info

Article History:

Received: September 16, 2022

Accepted: October 26, 2022

epublished: December 28, 2022

Keywords:

Vice Chair for education,
Servant leadership,
Educational leadership,
Educational administration,
Clinical learning
environment

Abstract

Background: Vice Chairs for Education are experienced educators who oversee a wide array of departmental activities. Through the lens of servant leadership, we investigate how Vice Chairs for Education approach the role, support others, and navigate complexities while impacting the clinical learning environment.

Methods: A convergent mixed-methods study was conducted at our academic multi-institutional medical center. Semi-structured interviews were conducted and analyzed thematically from July to October 2019. CVs were collected; metrics were abstracted and analyzed descriptively. Qualitative and quantitative data were aligned, integrated, and verified.

Results: In all, 14 of 16 (87.5%) Vice Chairs for Education responded. These Vice Chairs are MD faculty members from three affiliated hospitals representing 11 specialties. Five themes were identified. These Vice Chairs are trusted departmental leaders who attained the role through experience and engagement. Intentionally inclusive and collaborative, they build and sustain relationships while navigating challenges. They take pride in supporting others and prioritize mentorship. Relying on institutional knowledge, they unite educational efforts by building rapport and encouraging community. In addition to envisioning the development of their departments, Vice Chairs are eager to value them attentively and thoughtfully.

Conclusion: Vice Chairs for Education embody servant leadership principles by supporting others, building community, embracing open communication, maintaining authenticity, modeling fairness, focusing on improvement, and navigating challenges. They know that prioritizing education is not a matter of chance and must be cultivated and even defended at times. Vice Chairs for Education embrace, unify, empower, and protect their trainees, colleagues, departments, and institution. Ultimately, as servant leaders, they demonstrate humility and professionalism.

Introduction

The role of Vice Chair for Education has emerged in various fields, including Radiology,¹⁻³ Internal Medicine,^{4,5} Surgery,^{6,7} Emergency Medicine,⁸ Obstetrics and Gynecology,⁹ Psychiatry,¹⁰ and Pediatrics¹¹ to provide leadership and oversight to departmental educational initiatives in academic medical centers.^{3,4,12} These experienced leaders commonly hold or have held other positions including fellowship, residency, clerkship or course director.^{4,10} Most are physicians. However, some are Ph.D. educators, offering assessment and educational scholarship oversight.^{4,6} Responsibilities include overseeing continuing medical education (CME), faculty

development, undergraduate and graduate medical education (GME), and educational budgets.^{1,3,4,10,12}

Vice Chairs for Education often mentor faculty and trainees or serve as a resource rather than supervisor.^{4,12} This supportive role – for example, to clerkship, program, or fellowship directors – is a direct line to the Department Chair and senior leadership team. Nonetheless, prior literature stemming from individual specialties such as Psychiatry,¹⁰ Radiology,¹ Surgery,⁶ and Emergency Medicine⁸ has been insufficient in understanding how this role supports others while also serving their departments and fostering their own professional growth. Unlike other prominent education leadership roles, there are few, if any,

*Corresponding author: Kristina Dzara, Email: dzara@uw.edu

© 2022 The Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, as long as the original authors and source are cited. No permission is required from the authors or the publishers.

guidelines or universal requirements. Thus, the role scope is likely to be both contextual and variable.

Vice Chairs for Education enable the growth of colleagues and trainees in alignment with the concept of servant leadership.¹³ Servant leadership is based on the idea that leaders should bring out the best in their organizations and colleagues, putting the good of others before their own self-interests. Servant leaders are authentic; they value people and support learning and growth through encouragement, affirmation, mentorship, and nonjudgmental listening.^{14,15} They build community through collaboration and open power sharing. Servant leaders demonstrate receptivity to feedback, take accountability for outcomes, take the initiative, and encourage improvement. Servant leaders support individuals and organizations in becoming more autonomous, increasing trust, satisfaction, and well-being.^{13,14,16,17} While this concept has been previously discussed in leadership and nursing education literature, it has been absent in medicine.¹⁸⁻²²

Through the lens of servant leadership, we utilized a mixed-methods approach to (1) appraise prior experience; (2) illuminate leadership approaches, and (3) identify educational influences among Vice Chairs for Education at our academic medical center. We aim to understand better how Vice Chairs for Education navigate their role and serve as departmental leaders impacting the clinical learning environment.

Materials and Methods

Using a convergent mixed-methods approach, we gathered qualitative data through semi-structured interviews and quantitative data through metrics abstractions from the CVs of current Vice Chairs for Education at our institution. These complementary data provide different yet meaningful information to understand how they conceptualize the role and support departmental educational missions. The Mass General Brigham Human Research Program considered the project exempt from human studies research oversight.

Setting and participants

All Vice Chairs for Education in our large multi-institution academic medical center (N=16) in Boston, MA, were invited to participate via email in a 30-minute semi-structured interview and asked to provide their current CV.

Data collection

The research team developed an interview guide to appraise prior training and experience, understand current responsibilities, illuminate leadership approaches, and identify educational influences and role meanings. The guide was pre-tested with a faculty physician leader and revised during early interviews to ensure that information was gathered as intended.

Fourteen Vice Chairs for Education representing three

hospitals and 11 specialties agreed to participate (87.5% response rate) (Table 1). Semi-structured, in-person, audio-recorded interviews were conducted from July to September 2019 by K.D., a trained qualitative researcher. Interviews ranged from 20 to 35 minutes, averaging 27 minutes. No incentives were provided. Following

Table 1. Vice Chair for education demographic information

	Number of Vice Chairs (%)
Academic Rank	
Professor	5 (35.7%)
Associate Professor	7 (50%)
Assistant Professor	2 (14.3%)
Instructor	0 (0%)
Years Faculty	
1–10 years	3 (21.4%)
11–20 years	2 (14.3%)
21–30 years	4 (28.6%)
31–40 years	4 (28.6%)
41–50 years	1 (7.1%)
Gender	
Male	11 (78.6%)
Specialty	
Anesthesiology	1 (7.1%)
General Surgery	1 (7.1%)
Internal Medicine	2 (14.3%)
Neurology	1 (7.1%)
Neurosurgery	1 (7.1%)
Obstetrics and Gynecology	1 (7.1%)
Ophthalmology	1 (7.1%)
Pathology	2 (14.3%)
Pediatrics	1 (7.1%)
Psychiatry	1 (7.1%)
Radiology	2 (14.3%)
Ever received teaching award	
National	12 (85.7%)
Local	13 (92.9%)
Additional education roles held	
Prior Clerkship Director or Associate Program Director	3
Current Clerkship Director or Associate Program Director	1
Prior Residency Program Director or Associate Program Director	9
Current Residency Program Director or Associate Program Director	5
Prior Fellowship Director or Associate Fellowship Director	5
Current Fellowship Director or Associate Fellowship Director	2
Prior Course Director or Associate Course Director	7
Current Course Director or Associate Course Director	5
Prior Site Director or Associate Site Director	2
Current Site Director or Associate Site Director	0

transcription, K.D. checked the quality of all interviews. All participants provided CVs. K.D. and A.K. independently reviewed the first two CVs to determine relevant metrics for abstraction. After discussion and calibration, A.K. abstracted the data into an Excel database, which K.D. reviewed for accuracy.

Data analysis

Qualitative data were thematically analyzed following the five stages of the qualitative research framework.²³ Dedoose (QSR International Inc, Burlington, MA) was used to facilitate data management. K.D. and A.K. began analysis after the first five interviews. First, each coder independently reviewed the first two transcripts to create a preliminary code list. They developed an initial codebook based on a deep reading of the first five interviews, comparing codes and refining definitions. The codebook was entered into Dedoose and applied to all transcripts. No new codes were created for the final three transcripts, indicating that the existing codes could sufficiently answer the research question. Inter-rater reliability between coders was established using two transcripts with a 0.87 kappa, indicating good to excellent inter-rater reliability. Quantitative data were analyzed via descriptive statistics in SPSS (IBM; Version 24) and are presented as count (%).

We considered how qualitative codes and quantitative metrics aligned, combined data into themes, and identified illustrative quotes to provide a meaningful statement about how Vice Chairs for Education navigate their role and serve as leaders. Emerging results were discussed with L.B., who verified the findings. All authors considered how their education researcher (K.D.), health professions student (A.K.), and clinician educator (L.B.) roles may have influenced interpretation. A participant member provided a critical read of the manuscript and feedback for the final version.

Results

Our analysis revealed five themes: (1) Attaining the Role Through Educational Experience and Engagement; (2) Encouraging Collaboration and Teamwork; (3) Supporting and Mentoring Educators as They Grow as Leaders; (4) Uniting Educational Efforts and Building Community; and (5) Envisioning Future Growth. [Table 1](#) displays demographic information.

Attaining the role through educational experience and engagement

The Vice Chairs for Education had all held at least one major local educational role, including fellowship (n=7; 50%) residency (n=14; 100%), or clerkship (n=4; 28.6%) director or associate director during their career. More than half (n=8; 57.1%) were in one of those roles currently. Most also had current or prior experience directing a UME (undergraduate medical education), GME, or CME level course (n=12; 85.7%). Position attainment varied;

for some departmental veterans, it was a natural and sometimes pioneering progression of roles over time, as exemplified by one participant:

"It just evolved from the co-chair of the Teaching and Training Council, and then to the Associate Chief of [discipline], and then to the Vice Chair [for Education]." (#3)

Some asked for the role to transition from a fellowship, residency, or clerkship director position. Others championed the role as needed in the department, but not necessarily for themselves:

"We had some issues between fellowships and residency; we had no Vice Chair for Education. I told my chair, 'We really need a Vice Chair for Education,' and I gave him a few names of people. They were not at [our institution] or in our department, they were around the country. I said, 'These would be good people.'" (#9)

Chairs were also active in the process. Some directly offered the role to participants, sometimes as part of departmental restructuring:

"I've always liked to teach. I've been involved in teaching all along. I won a number of teaching awards. [The chair] felt that we had done some good things together with an associate program director, and the structure and coordination of the residency program. She thought I was the right person." (#10)

They obtained the role because they were trusted department leaders, known for their education passion:

"People know I'm the 'education guy.' That is an understanding that we have reached in the department over many years." (#13)

They recognized that they must learn and grow to be competent. Many sought advice from professional allies at their institution or professional societies:

"There is a Vice Chairs [for Education] group that meets, kind of like a support group or something, and I think it's interesting as you're doing this, because you probably would find that they discuss a lot of these things, whether or not there's much support for the role, what the role really is, what they do." (#5).

Encouraging collaboration and teamwork

Vice Chairs for Education strongly emphasized the importance of working, listening to and in some cases embracing others' ideas. Most had won at least one national (n=12; 85.7%) or local (n=13; 92.9%) teaching award, evidence that they are held in esteem by trainees and colleagues. The importance of collaboration was learned over time and intentionally embraced:

"It helps work cooperatively with people to be inclusive, to make sure that people's ideas are heard and acknowledged, and it also helps work in groups, you know, collaboratively. That style works a lot better than the top-down." (#10)

There was a clear emphasis on building and sustaining relationships. This helped them empower others:

“It’s a totally collaborative role because, either—you might be running some of it but you are definitely not running all of it. You are really depending on other people all the time to do it, and some people want to feel empowered.” (#5)

This collaborative emphasis extended to navigating complex educational challenges with integrity. They focused on modeling fairness along with equitable solutions for all:

“I think [what] people forget is fairness, because you have a lot of trainees and they are not going to come to you if they don’t think that you can think of a fair solution.” (#14)

They emphasized being invested in understanding and improving the departmental education landscape. They could see beyond immediate challenges and focus on more remarkable improvement opportunities:

“What are the optimal ways to train residents? So I work with the program director for the residency program pretty closely and try to develop a combination of didactics and practical experience that is kind of best practice, from our perspective, anyway.” (#7)

Supporting and mentoring educators as they grow as leaders

Vice Chairs for Education advised other education colleagues in large part based on their prior experience and recognized credibility:

“Because I was a program director, I answer questions or brainstorm how to solve problems and advocate for resources needed to address different problems or initiatives.” (#1)

Their approach focused on guiding and mentoring rather than a directive, top-down approach. They supported less experienced educators in implementing their own ideas and initiatives:

“...They don’t need skills in an organization. It’s to foster and mentor and promote efficiency that reduces their daily work. The idea is their ideas and their own particular domains are much better than mine.” (#11)

They recognized their supportive role. However, as persons of influence they persuaded when necessary and, sometimes, intervened formally and accepted partial responsibility for less-than-ideal outcomes to protect junior educational leaders:

“She certainly doesn’t want me to tell her what to do, but she wants me to have her back when things get rough. There were examples where something went wrong or something like that, and she was getting blamed where all of a sudden it was very important that I was there and that I was helping out and I was taking some of the responsibility for it.” (#6)

They did not endeavor to receive credit or attribution. They often served as silent champions and supporters so that others could be successful:

“I think quietly helping people do their job better is a great role of a Vice Chair.” (#6)

They aspired to encourage junior colleagues’ interest in education and their own growth as educators. They recognized that helping others find their passion for education would bring them career satisfaction. There was an expected trickle-down effect in that by embracing their professional identity, they would ultimately become better educators:

“Some of the faculty development for me is in both personal and professional satisfaction and their effectiveness as teachers and educators.” (#2)

One Vice Chair for Education succinctly summarized the role, emphasizing how they supported others:

“The Vice-Chair is a resource available to career educators and career program leaders so that they can be successful.” (#8)

Uniting educational efforts and building community

Vice Chairs for Education were engaged within a larger educator community inside and outside their institution. All participants had been faculty members at their institutions between 6 and 44 years (mean = 24.2 years). Most (n=12) were also part of a professional education society, with some (n=9; 64.3%) holding a chair or leadership position. They viewed the educational system broadly and considered how broad goals could be achieved through a united education vision:

“The role is meant to coordinate teaching activities that our academic department does for students, residents, fellows, and faculty development, and there may be ancillary people in their department that also need teaching and increase that, also through our [institutional medical education group]. That has been a major focus, so it’s really a person who thinks about how to bring those and coordinate together.” (#4)

This focus extended to developing large-scale continuing professional development activities emphasizing uniting colleagues rather than encouraging silos. This appreciation for others included the recognition that unity among interprofessional colleagues must also be prioritized to enhance the learning environment for every learner level:

“We conducted a retreat looking at the whole educational enterprise in the department. Not just for the physicians but the technologists, the nurses, and the other professionals about their ongoing continuing medical education, their training, and so forth. I’ve been involved in a lot of the educational initiatives in the department.” (#4)

Building rapport with colleagues was also crucial. They highlighted the importance of listening and communicating to maintain relationships with all educational and clinical leaders. This provided easier information access so that they could intervene to benefit all if needed:

“They need to form a partnership with the leader, and the rest of the leadership and develop a rapport with trainees. Depending on the program, a rapport with the

Program Director or Fellowship Directors. I think that's probably the most important because if people don't give you information or don't talk to you about issues you can't fix them.” (#14)

This emphasis on rapport extended to trainees. They recognized that trainees are at the forefront and that viewing them as partners will benefit the entire clinical learning environment:

“I work with the chief residents very closely to get as many suggestions from them as—that's basically how it works. It's not a predetermined structure or not a rigid structure. People have great ideas.” (#12)

Uniting education efforts was also crucial. They had the vision to identify prospects to develop and build opportunities to learn as part of an educational community:

“We wanted to create something that is just logistically easier in community building for just our own department. That's why we have—we're not calling it grand rounds because we have other grand rounds, but this is a [discipline] Seminar Series.” (#1)

Envisioning future growth

Vice Chairs for Education reflected on how they could continue to bring their departments value. They noted the importance of having someone serve as a centralized hub for educational efforts:

“If you're trying to do things across different kinds of learners—students, residents, and fellows and faculty—if you have very complicated programs, a very large department that's complex, then, I think, you need a centralized person to oversee that.” (#10)

They also expressed that prioritizing education does not necessarily occur due to happenstance, indicating the importance of having a straightforward education program with a visible leader:

“The department needs someone who's going to be the point person to interact with the medical school, to interact with [the Institutional] GME office, to interact with the fellowship directors, to interact with the program director, to coordinate all—not even necessarily coordinate, but to cajole, urge, work with all these different people to create something. They can say, “Oh, we have an education program. We have at least somebody thinking about it.” It's not just happening organically or randomly.” (#7)

They also recognized that, while not the primary purpose of the role, at times, they may need to fight for, bring to the forefront, or defend education as a priority:

“My job is to fight for that space and that, I think, is one of the key roles for the Vice Chair, to lobby for, and defend the educational mission in the face of overwhelming financial and leadership pressure to do otherwise.” (#13)

With an eye toward the future, they pointed to an ancillary, positive effect of having a Vice Chair for Education, where the existence of this role could lead to an increase in applicant quality, especially those who value education:

“I don't think anyone's particularly keeping tabs, but [an increase in] the number of and quality of the medical students we recruit for our fellowship program, our medical student fellowship program, the quality of the applicants and the people who eventually come for our fellowships.” (#7)

Ultimately, Vice Chairs for Education pointed to the role being increasingly valuable for academic medicine:

“It's a pretty important role. If you're in an academic medical center, the thing that defines us versus any community hospital is the fact that we have students and residents. By definition, it should be a pretty important role in the departments.” (#14)

Discussion

In describing how Vice Chairs for Education navigate their role and serve as educational leaders, we found essential nuances compared with other previously reported descriptions. The meaningful nature of the role was clearly and palpably expressed and made for an obvious, and compelling narrative throughout our analysis. Rather than having a strategic vision developed and promoted through a top-down directive, each Vice Chair for Education collaboratively built and re-imagined the role based on perceived and real departmental needs between educational leaders and trainees.

Many aspects of the role are consistent with prior reports. Vice Chairs for Education provide broad leadership and oversight of educational initiatives and focus on moving the educational mission forward and promoting a shared vision for success.^{3,10,12,24} All those in our study have robust prior educational experience as fellowship, residency, and/or clerkship directors.⁴ Consistent with most prior literature, all were physicians.⁶ They also willingly served as mentors, advocates, and resources rather than as direct supervisors.^{3,10,12} They have their Chair's support and are engaged with the senior departmental leadership team.^{10,12} Aligning with prior work, job descriptions, guidelines, and metrics for success were limited and largely anecdotal.^{4,10,12,24}

We discovered several less widely reported aspects, including how they obtained the position. Some were asked, some advocated for the role, and some were appointed after highlighting the need for the chair. Compared to prior literature, we also noted a smaller proportion who currently oversee residency training programs.²⁵ This suggests a potential trend towards role separation, highlighting the role as having a focus beyond that of GME trainees. Cowley previously reported that Vice Chairs for Education are generally charged with “highlighting the educational mission,” which aligns with our findings.¹⁰ However, those in our study also clearly understood that making education a priority does not occur by happenstance. This was accompanied by a heightened sense that, in addition to being cultivated and furthered, the educational mission must be prioritized

and even defended at times. This offers a glimpse into the complexity of the role, with Vice Chairs for Education likely serving as both offenses – staying visible and positively promoting education – and defense – preemptively identifying problems and pushing back against those who might otherwise minimize education, as compared to clinical or research priorities.

We uncovered multiple ways Vice Chairs for Education embody servant leadership principles.¹³ They consistently put others' needs before their own and empowered colleagues.¹³⁻¹⁵ Catanzano et al³ note that emotional intelligence is necessary to navigate the rapidly changing clinical learning environment; our findings support that assertion. They maintain authenticity in the face of real-world challenges, for example, by modeling fairness and navigating complex challenges with integrity. At times they accept responsibility for less than ideal outcomes, sometimes to protect junior colleagues. They recognize the importance of building community, prioritizing teamwork, and supporting a flattened hierarchy. They create opportunities for educators to engage and learn while maintaining an eye toward improvement.

Our results characterize how Vice Chairs for Education embrace servant leadership. These traits – such as embracing open communication, building community, empowering others, and maintaining a “true north” of the benefits of learning for all – provide a window into how we might characterize the attributes needed to be successful. Perhaps those drawn to the role have a unique leadership phenotype honed and tailored through years of experience. An even more robust understanding of their leadership style might allow for the development of standard role objectives across disciplines and offer opportunities for increased synchronicity between educational, administrative, and clinical initiatives.

Our study has some limitations. First, despite interviewing most of our institution's Vice Chairs for Education and believing the data collected were rich and sufficient, fourteen interviews may not explore role nuances deeply. Second, while our mixed methods approach allowed the integration of subjective interviews and objective CV data, other methods may offer a deeper exploration. While our interviewees are drawn from one large multi-institution academic medical center, our results may not extend to other settings. Finally, we collected the data before the COVID-19 pandemic, and we cannot account for how Vice Chairs for Education may have utilized or adapted their leadership approach to best serve their departments during the pandemic.

In summary, we offer the first evidence that Vice Chairs for Education embody servant leadership principles. Their emphasis on supporting and empowering others – while continually driving the educational mission forward – highlights the complexity of the role. Servant leaders embrace, support, and protect their trainees and colleagues, their departments, and, subsequently, their

institution.

Conclusion

Leading educational initiatives takes daily oversight, “putting out fires,” and viewing challenges through both micro- and macroscopic lenses to maximize the clinical learning environment for all. Deconstructing a siloed view when not tasked with overseeing any one particular constituent group perhaps enables consideration of all within a clinical department and its broader system. Careful attention to collaboration, teamwork, mentoring, community, and unification of educational efforts among varied constituencies is paramount. Vice Chairs for Education prioritize humility and professionalism within a servant leader role, maintaining the goal of advancing medical education for all.

Acknowledgments

The authors would like to extend appreciation to Vice Chairs for Education who participated in this study.

Author Contributions

Conceptualization: Kristina Dzara, Lori R. Berkowitz.

Methodology: Kristina Dzara, Lori R. Berkowitz.

Validation: Kristina Dzara, Abid Khan, Lori R. Berkowitz.

Formal Analysis: Kristina Dzara, Abid Khan.

Investigation: Kristina Dzara, Abid Khan, Lori R. Berkowitz.

Resources: Lori R. Berkowitz.

Data Curation: Kristina Dzara, Abid Khan.

Writing—Original Draft Preparation: Kristina Dzara.

Writing—Review and Editing: Kristina Dzara, Abid Khan, Lori R. Berkowitz.

Supervision: Lori R. Berkowitz.

Project Administration: Kristina Dzara, Lori R. Berkowitz.

Funding

Not applicable.

Ethical Approval

The Mass General Brigham Human Research Program considered the project exempt.

Competing Interests

The authors declare no conflicts of interests.

References

- Lewis PJ, Probyn L, McGuinness G, Nguyen J, Mullins ME, Resnik C, et al. Developing a job description for a vice chair of education in radiology: the ADVICER template. *Acad Radiol*. 2015;22(7):933-8. doi: [10.1016/j.acra.2015.02.001](https://doi.org/10.1016/j.acra.2015.02.001).
- Dunnick NR. Leading an academic radiology department: using vice chairs. *J Am Coll Radiol*. 2015;12(12 Pt A):1298-300. doi: [10.1016/j.jacr.2015.05.013](https://doi.org/10.1016/j.jacr.2015.05.013).
- Catanzano TM, Slanetz P, Schaefer PW, Chetlen AL, Naeger DM, Mohammed TL, et al. Vice chair for education: twelve roles to provide a framework for success. *Acad Radiol*. 2021;28(7):1010-7. doi: [10.1016/j.acra.2020.02.022](https://doi.org/10.1016/j.acra.2020.02.022).
- Brownfield E, Clyburn B, Santen S, Heudebert G, Hemmer PA. The activities and responsibilities of the vice chair for education in U.S. and Canadian departments of medicine. *Acad Med*. 2012;87(8):1041-5. doi: [10.1097/ACM.0b013e31825cf71a](https://doi.org/10.1097/ACM.0b013e31825cf71a).
- Martinez GF, Ross E, Knox KS. Academic medicine: vice chairs for education perceptions of departmental culture. *Journal of*

- Higher Education Theory and Practice. 2017;17(1):81-96.
6. Sanfey H, Boehler M, Darosa D, Dunnington GL. Career development needs of vice chairs for education in departments of surgery. *J Surg Educ.* 2012;69(2):156-61. doi: [10.1016/j.jsurg.2011.08.002](https://doi.org/10.1016/j.jsurg.2011.08.002).
 7. Sanfey H, Boehler M, DaRosa D, Dunnington GL. Career development resource: educational leadership in a department of surgery: vice chairs for education. *Am J Surg.* 2012;204(1):121-5. doi: [10.1016/j.amjsurg.2012.04.003](https://doi.org/10.1016/j.amjsurg.2012.04.003).
 8. Jordan J, Coates WC, Clarke S, Runde DP, Fowlkes E, Kurth J, et al. Exploring scholarship and the emergency medicine educator: a workforce study. *West J Emerg Med.* 2016;18(1):163-8. doi: [10.5811/westjem.2016.10.32636](https://doi.org/10.5811/westjem.2016.10.32636).
 9. Hofler LG, Hacker MR, Dodge LE, Schutzberg R, Ricciotti HA. Comparison of women in department leadership in obstetrics and gynecology with those in other specialties. *Obstet Gynecol.* 2016;127(3):442-7. doi: [10.1097/aog.0000000000001290](https://doi.org/10.1097/aog.0000000000001290).
 10. Cowley DS, Lehmann JA, Dalack GW. The role of the vice chair for education in departments of psychiatry. *Acad Psychiatry.* 2018;42(4):482-8. doi: [10.1007/s40596-017-0779-0](https://doi.org/10.1007/s40596-017-0779-0).
 11. McBride A, Li ST, Turner TL, Vinci RJ. Roles, responsibilities, and value of a vice chair of education in academic pediatric departments. *J Pediatr.* 2020;217:4-6.e1. doi: [10.1016/j.jpeds.2019.10.072](https://doi.org/10.1016/j.jpeds.2019.10.072).
 12. Papanagnou D, Messman AM, Branzetti J, Diemer G, Hobgood C, Hopson LR, et al. The vice chair of education in emergency medicine: a workforce study to establish the role, clarify responsibilities, and plan for success. *AEM Educ Train.* 2020;4(Suppl 1):S5-S12. doi: [10.1002/aet2.10407](https://doi.org/10.1002/aet2.10407).
 13. Greenleaf RK. *The Servant as Leader*. Cambridge, Mass: Center for Applied Studies; 1973.
 14. Aij KH, Rapsaniotis S. Leadership requirements for Lean versus servant leadership in health care: a systematic review of the literature. *J Healthc Leadersh.* 2017;9:1-14. doi: [10.2147/jhl.s120166](https://doi.org/10.2147/jhl.s120166).
 15. Robert K Greenleaf Center for Servant Leadership. Who is a servant leader? Greenleaf Center for Servant Leadership; 2021. Available from: <https://www.greenleaf.org/>. Accessed February 16 2021.
 16. Spears LC. *Insights on Leadership: Service, Stewardship, Spirit, and Servant-Leadership*. John Wiley & Sons; 1998.
 17. Zhu W, Zheng X, Riggio RE, Zhang X. A critical review of theories and measures of ethics-related leadership. *New Dir Stud Leadersh.* 2015;2015(146):81-96. doi: [10.1002/yd.20137](https://doi.org/10.1002/yd.20137).
 18. Fahlberg B, Toomey R. Servant leadership: a model for emerging nurse leaders. *Nursing.* 2016;46(10):49-52. doi: [10.1097/01.NURSE.0000494644.77680.2a](https://doi.org/10.1097/01.NURSE.0000494644.77680.2a).
 19. Waterman H. Principles of 'servant leadership' and how they can enhance practice. *Nurs Manag (Harrow).* 2011;17(9):24-6. doi: [10.7748/nm2011.02.17.9.24.c8299](https://doi.org/10.7748/nm2011.02.17.9.24.c8299).
 20. Savel RH, Munro CL. Servant leadership: the primacy of service. *Am J Crit Care.* 2017;26(2):97-9. doi: [10.4037/ajcc2017356](https://doi.org/10.4037/ajcc2017356).
 21. Prosser S. Servant leadership. *Prof Nurse.* 2002;18(4):238.
 22. Robinson FP. Servant teaching: the power and promise for nursing education. *Int J Nurs Educ Scholarsh.* 2009;6:Article5. doi: [10.2202/1548-923x.1699](https://doi.org/10.2202/1548-923x.1699).
 23. Ritchie J, Spencer L. Qualitative data analysis for applied policy research. In: Bryman A, Burgess RG, eds. *Analyzing Qualitative Data*. London: Routledge; 1994.
 24. Dzara K, Hampton BS, Hammoud M, Berkowitz LR. Recommendations to guide vice chairs for education in serving as effective leaders. *Res Dev Med Educ.* 2021;10(1):26. doi: [10.34172/rdme.2021.026](https://doi.org/10.34172/rdme.2021.026).
 25. McBride A, Li ST, Turner TL, Vinci RJ. Roles, responsibilities, and value of a vice chair of education in academic pediatric departments. *J Pediatr.* 2020;217:4-6.e1. doi: [10.1016/j.jpeds.2019.10.072](https://doi.org/10.1016/j.jpeds.2019.10.072).