

Side Channels: Faculty Support Networks

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This article examines a project at our institution that unfolded in unexpected ways. Faculty members had expressed interest in loose networks for collaboration and resource-sharing, so we implemented “Faculty Support Networks” (FSNs) to foster connection among faculty members interested in central teaching and learning topics: course-based assessment, developing future faculty, experiential learning, inclusive teaching, and the scholarship of teaching and learning. We present a case study of these FSNs, from the program design to their influences on our communication with faculty. Although asynchronous engagement was sparse, the FSNs did help extend our reach and draw faculty to our services.

Side Channels: Faculty Support Networks

Faculty work depends on a sense of community and shared ethos for its vitality (O’Meara et al., 2016; Stupnisky et al., 2017), and that sense of community, in turn, relies on effective communication (Kim & Rehg, 2018). Studies on faculty work-life, retention, and satisfaction (O’Meara et al., 2014; Stupnisky et al., 2015) have consistently demonstrated the importance of community and the risks of isolation, particularly for the diverse and dynamic faculty populations that most institutions of higher education strive to maintain. If centers for teaching and learning (CTLs) are to fulfill their mission of enhancing teaching and learning while supporting faculty success, they must also facilitate communication and foster community.

However, as numerous studies have shown (e.g., Boyer, 1991/2016; Gallagher & Trower, 2008), faculty members face scheduling and cognitive demands that make it difficult to process incoming communication or engage in new support programs. At larger institutions, pressures to excel in research often coincide with responsibilities to students and service obligations, sometimes creating role conflict. To manage competing demands, faculty members develop “salience hierarchies” (Richards & Levesque-Bristol, 2016, p. 10) to help them determine what to prioritize (see also Caplan, 1993).

In this environment, CTLs may attempt to meet faculty where they are by offering flexible, lower-commitment programs and resources tailored to faculty needs. This paper examines one such small-scale, low-commitment initiative. Faculty members at our institution—a large, public, Carnegie R1 university in the southern U.S.—had expressed interest in informal networks for collaboration and resource-sharing. In response, we developed Faculty Support Networks (FSNs) to address this need, fostering connections among faculty engaged in key teaching and learning topics: course-based assessment, developing future faculty (i.e., graduate teaching support), experiential learning, inclusive teaching, and the scholarship of teaching and learning (SoTL). At the same time, the program was designed to allow faculty members to participate on their own terms, minimizing conflicts with other professional responsibilities.

This article presents a case study of these FSNs, detailing their design and their intended and unintended effects on our communication with faculty. We begin with a brief review of the literature on similar efforts, followed by an examination of the program’s planning, implementation, and ongoing development. We conclude with a discussion of its implications.

Literature Review

Research has shown that professional social networks (Benbow et al., 2021; Buckley & Nimmon, 2020) and collegiality more broadly (Hardré & Kollmann, 2012) play a crucial role in faculty professional development. In response, CTL professionals have begun using structured networks to support various aspects of faculty work-life. Much of the existing research on faculty communication focuses on communities of practice or learning

communities, which emphasize reflective discussion among faculty and CTL staff or the sharing of effective teaching strategies (de Carvalho-Filho et al., 2020; Grierson et al., 2012). With the rise of digital communication, many faculty support units have introduced programs that establish virtual spaces and dedicated communication channels for faculty working on specific topics. Several studies highlight the effectiveness of networks centered on teaching-related themes, particularly context-specific inclusive instruction, funding for teaching innovation, and the scholarship of teaching and learning (McCormack et al., 2016; Nagy, 2011; Rozman et al., 2006). Research-focused networks aimed at supporting faculty in securing grants and publishing have also shown success, particularly in advancing the careers of faculty from traditionally underrepresented demographic groups (Beckman, 2017; Demes et al., 2019; Ruiz & Machado-Casas, 2013; Wheaton & Moore, 2019). Additionally, some networks focus specifically on mentoring, connecting faculty members with multiple experts across departments or institutions (Yun et al., 2016; Bristol et al., 2014; De Four-Babb et al., 2015).

For units that administer such networks, these connections offer opportunities for enhanced communication. By joining a network, participants indicate a willingness to engage in at least a minimal level of information exchange. Furthermore, such networks often function—sometimes explicitly (e.g., Nagy, 2011)—as modern extensions of **communities of practice**, where participants share common goals, methodologies, and values around a central activity. Communication within these networks can thus become more relevant and targeted compared to the overwhelming volume of information disseminated through central administrative channels.

The FSNs discussed in this study are unique in that they integrate features from multiple existing models. Our FSNs are organized by a CTL around specific themes but do not rely on a core text or study corpus. Unlike some teaching networks, FSNs are loosely affiliated with other CTL initiatives but do not include structured workshop series or symposia. Finally, they operate as omnidirectional networks, with CTL staff providing administrative and logistical support but without a designated leader, hub, or mentor role.

Program Design

In response to prior expressions of interest in looser networking opportunities, we designed the FSN program in the summer of 2020. During the preceding two years, conversations among CTL staff and faculty had elicited a sense that faculty were eager for support, particularly in experiential learning and inclusive teaching, but that they preferred a more social process, less oriented around formal workshop events or traditional learning communities. Our discussions in preparation for the FSN system predated the COVID-19 pandemic, but as our project neared implementation, our university pivoted to online instruction during the spring 2020 term, followed by fully online education during fall 2020, and then a return to in-person instruction (with physical distancing) during the spring 2021 term. These changes created immense new stressors and pressures for faculty across our CTL's areas of service, and like other CTLs, we recognized a need to facilitate connection and support without adding to faculty members' already full schedules—a need subsequently demonstrated in recent studies showing how perceived scarcity of time and institutional support leads faculty to choose not to use resources that otherwise still earn their interest (Woodward & Trowbridge, 2024).

In this suddenly changed environment, low-pressure opportunities to network and collaborate seemed more imperative than ever, as did the need to provide those opportunities via digital technologies. The FSN program leveraged two key technologies to connect participants. First, participants were added to an active directory, a mailing list akin to a listserv. Second, they were added to a site hosted in Microsoft Teams, a software suite selected because it fuses threaded asynchronous discussion capabilities with file storage for live online co-editing. The five themes—course-based assessment, developing future faculty, experiential learning, inclusive teaching, and SoTL—were selected based on areas of consistent faculty interest and CTL workshop attendance. We tested and evaluated the Teams software in our CTL's internal work processes and developed contact lists for participant invitations.

In keeping with the loose, participant-driven, horizontally networked experience intended, we developed only minimal content for the

platforms—resources such as articles or re-posted calls for papers rather than more elaborate materials—assuming that faculty members would want to generate their own discussions and tools. To distribute the effort and time required as equitably as possible, each FSN was assigned to a single staff member.

Implementation

The FSN program launched with a public announcement to campus, accompanied by an initial recruitment process, which involved individual invitations delivered early in the fall 2020 semester. Partly because of preceding conversations and differing aspirations for the program, each CTL staff member approached their FSN slightly differently. For instance, the CTL's support for SoTL was very new, so that staff member emphasized gathering opinion leaders by invitation and spreading the word about our new programs. In contrast, the staff member working with the experiential learning FSN saw the network as a response to faculty calls for more collaborative structures—the FSN could serve as a platform for faculty members engaged in experiential learning techniques to collaborate in addressing the pandemic's staggering challenges and find community in the face of adversity. The CTL's central communications office emailed invitations to faculty members who had expressed interest in the FSN, attended CTL events related to FSN content areas, and/or were known on campus for their engagement in teaching and research related to FSN content areas. Again, the approach to recruitment varied by area of responsibility. The SoTL FSN, focused on opinion leaders, issued direct, personal invitations to those potentially interested in the initiative. The experiential learning FSN initially added 98 faculty members directly, based on their past involvement in CTL activities. The Inclusive Teaching FSN operated in a snowball fashion, adding members of an existing task force and inviting them to invite their colleagues. Following the initial recruitment period, we also established a registration page where faculty and graduate students could request to be added to any of the FSNs.

Given that summer 2020 was the first summer of the COVID-19 pandemic, the FSNs debuted alongside pandemic-focused CTL offerings, including asynchronous and synchronous “boot camp” programs for teaching online

courses, amid regular reports on the spread of the pandemic and the institution's plans to offer fall courses online only. The initial FSN recruitment phase received positive responses from faculty, who joined in substantial numbers, and we followed up with interest surveys aimed at gauging participants' goals for the program. Response rates to the surveys were low: in the SoTL FSN, for instance, 25 people joined, but only 13 completed the survey; in the experiential learning FSN, 23 completed the survey. However, survey results showed strong enthusiasm for the opportunity, and some FSNs moved to online synchronous planning meetings—but attendance at these was sparse.

Following the initial surveys and synchronous meetings, the FSNs began sending brief newsletters on a regular basis, with variations in content and frequency. The SoTL FSN sent a full-length biweekly newsletter featuring “food for thought” readings and calls for papers for teaching and learning conferences and publications. Other FSNs sent briefer updates, primarily focusing on CTL events related to the FSN's area of interest. However, the effect of these newsletters and updates was not immediately clear.

The asynchronous Microsoft Teams site debuted in early December 2020, featuring distinct spaces for each FSN, where administrators launched threaded discussion opportunities centering around FSN areas of interest and began creating file storage spaces for document sharing. Initially, participants signed on and “liked” the first posts, but interaction diminished quickly—and the winter break, followed by university leaders' decision to return to the classroom in spring 2021, further redirected faculty members' attention and energy. In hindsight, the return to the classroom was an extraordinarily stressful event, perceived by faculty members as both an acknowledgment of the university's core role in the education and socialization of students and as something rather different. Many faculty members saw the return as a decision that put their health and well-being at risk, without adequate accommodation for those who felt unable to return to in-person teaching or who questioned the wisdom of resuming in-person instruction before a population-wide vaccination campaign could be completed. These stresses compounded an already complex and difficult situation—one shown to increase faculty burnout and turnover (Winfield & Paris, 2024). As faculty members grappled with conflicting feelings and

requirements, they likely had little time or incentive to learn to use the Teams interface or contribute to discussions there.

During the spring, summer, and fall of 2021, newsletter mailings continued, and we experimented with new ways to stimulate asynchronous exchange via Teams. For example, the SoTL FSN posted calls for papers, organized read-along discussion sessions, and live-blogged an online SoTL conference. The experiential learning FSN administrators created Teams folders for sharing and critiquing assignment designs and posted article discussion topics four times in January and February 2021. Each of these posts received no more than one “like” reaction, and only two faculty members made their own posts. Only one of those received a comment from another faculty member. The experiential learning FSN administrators had more success facilitating communication between faculty members and community partners. When the Experiential Learning office received emails from community partners indicating interest in service-learning partnerships, the experiential learning administrators forwarded these through the FSN. These communications helped connect three community partners with at least one faculty member in less than a week.

Results

In terms of the initial intent to foster community and communication amid ever-increasing demands on faculty time and attention, the FSN program may not have had the intended effects. After the early surveys and interest meetings, interaction dropped off precipitously, even though survey responses had indicated interest in meetings and resources. For instance, a majority of respondents to the SoTL survey (77%, $n = 10$) indicated that they wanted the network to help them find collaborators, but few attended the first synchronous meeting, and none provided an RSVP to subsequent meeting invitations. In a survey for the experiential learning FSN, we asked if members would be willing to contribute sample materials such as syllabi or assignments to a repository of resources. Fourteen participants said “yes,” while two said “no.” However, when the repository was created, only one person actually posted documents when prompted. On the other hand, about half of the SoTL FSN survey respondents indicated interest in emailed or asynchronous resources, and indeed, participants did seem to continue

using these.

Subsequent events have indicated unintended results related to the nature of this tailored, interest-based communication. Despite the lack of interaction on the Teams site, membership in the FSNs continued to grow at a slow but steady pace. By August 2022, there were 121 members in course-based assessment, 147 in developing future faculty, 142 in experiential learning, 123 in inclusive teaching, and 88 in SoTL—though these numbers include some members who joined multiple FSNs, so a total count of unique users is not available. We also found that the newsletters began to serve as a useful “side channel” of communication, attracting participants and collaborators for unit opportunities. On the whole, the recurring presence of the longer, detailed mailings seems to have increased participation in workshops and other support opportunities, including consultations and internal funding mechanisms. Across the 2021–2022 academic year, the distribution of event information via FSN mailings resulted in a substantial increase in participation, bringing some otherwise sparsely registered events up from single-digit registration to 10 to 20 registrants. In one noteworthy case, a recruitment effort for submission reviewers for the CTL’s annual conference had not been yielding volunteers. However, after an FSN mailing was sent, it generated a dozen direct replies. These mailings were carried out via the active directory listserv rather than newer specialized email distribution software, so it is not possible to establish a causal connection. However, we can say that FSN mailing distributions correlated with a bump in registration.

Data from our newsletter mailings provide a little more information as well. In early 2022, we shifted the distribution of the SoTL FSN from the active directory system to a more modern email distribution software, the Emma system, which records how many people opened the newsletter and how many clicked on items within it. Between spring 2022 and spring 2024, the newsletter had an average open rate of 67.5%, meaning that two-thirds of recipients opened the email—a high average over the most recent two years of a resource that has existed for four years. On average, about 10% of recipients clicked on something within the email, though this number varied sharply, at times reaching as high as 18% and at other times dropping as low as 4%. This result reiterates what we have observed: that faculty found the

FSNs useful as a communication resource but were less inclined to engage with them for collaborative or networking purposes.

In terms of staff time and effort, the FSN implementation process at our institution appeared to require minimal resources and upkeep, with a few important caveats. First, the original idea of a collaborative resource providing networking opportunities and active archives might have required a greater investment of person-hours than the FSNs consumed as implemented. Second, although the program did not consume many hours per month, it was distributed among at least five staff members at any given time (the absolute number was slightly higher due to some employee turnover). Larger CTLs can likely absorb a similar workload easily, but smaller CTLs, especially those staffed with only a few people on a part-time basis, may reach a point of diminishing returns. Finally, technology adjustments ultimately resulted in some redundant effort that likely bogged down implementation more than necessary. At the height of the program's activity, each FSN staff administrator had to manually add participants to (a) the listserv that distributed the newsletters, (b) the Teams page, and (c) for those who wanted modern email analytics, a separate mailing list in our Emma email distribution software. In subsequent program iterations, the Teams site did not receive enough use to justify maintaining it and was discontinued. These observations may offer a useful opportunity for more focused technical planning should others want to replicate such a program.

Lessons Learned & Recommendations

The FSNs were designed and launched using available best practices for such work. They addressed existing faculty requests, provided material resources and support (see, e.g., Zakrajsek, 2010), and offered participants considerable autonomy and control (see, e.g., Lechuga, 2014; Stupnisky et al., 2017) over how the program unfolded. They gauged participant interests without over-surveying and offered flexible venues for engagement, establishing synergy with other programs and resources. The absence of engaged participation, along with the unintended positive results in terms of side-channel communication, suggests several possible lessons for future endeavors.

- **Networks need hubs:** To generate meaningful interaction, CTLs

need to mobilize opinion leaders among the faculty to help spread and endorse the network.

- **Recommendation:** In CTLs staffed by faculty, leadership can sometimes play a “hub” role, but in those where staff members occupy leadership positions, meaningful partnership is crucial. It may be useful to contact key faculty members directly and ask for their participation, for instance, in adding to a repository of documents. A showcase of participant activities may also be beneficial, allowing everyone to learn what others are doing and form connections based on shared endeavors.
- **Platform matters:** The technology industry consistently produces new platforms, each offering new affordances and possibilities. However, with every new platform comes a learning curve, which can become an obstacle rather than an opportunity. In our case, Microsoft Teams was familiar and relatively well-liked among administrative staff on our campus but was less well known to faculty members, who spend much more time in the campus learning management system.
 - **Recommendation:** Networks can ultimately grow into and thrive on new platforms, but we need to begin in systems that faculty members are already using and that do not clutter their email inboxes.
- **Time is of the essence:** Networking opportunities with like-minded faculty may be desirable, but when the crunch comes and people need to decide what to prioritize, these will be the first things skipped.
 - **Recommendation:** Build in a core activity or outcome that contributes to participants’ professional success in tangible ways—for instance, by helping them work toward a publication or new course design.
- **Sharing can be difficult:** For many academics, teaching and scholarship are central to their professional identity and may represent proprietary domains. Encouraging people to share their work outside of traditional venues may feel uncomfortable for some.

Furthermore, most people in academia are trained to turn a critical eye on their peers' work, which may not always translate easily into constructive engagement in unstructured social spaces.

- **Recommendation:** Build trust before asking for contributions. This advice sounds easier than it is, and it may take multiple elements from the preceding recommendations to move the network into participants' comfort zones. To some extent, the tension between the need to share and the need to preserve proprietary information is a central challenge in academic life. Collaborative work, where everyone shares a commitment to and a stake in a reward, can help mitigate some of these concerns.

Implications & Conclusion

CTLs participate in a broader ecology of faculty work and life, and their interventions must always navigate the times and tides co-created by a wide array of groups, from administrators to students to faculty. As a result, faculty members often feel pulled in several directions at once and may perceive their work obligations as competing with one another and with their needs outside of work. In such an environment, CTLs must continuously ask themselves whether faculty members need one more program—and even if they do, whether the need they perceive will align with their available time and the priorities for which they feel accountable. Furthermore, as O'Meara et al. argued as early as 2008, we may need to consider whether “narratives of constraint” constitute the best response to faculty stress. Experiences like ours challenge all faculty developers to find ways to generate synergy among work roles rather than simply helping faculty members juggle their responsibilities more effectively.

While the FSNs did not work as we had planned, the loose structure and horizontal hierarchy of the FSN model have proven useful in offering “side channels” for information flow. With the enhancements recommended above, the model may still prove effective in facilitating collaborative work across disciplines in areas of shared interest. Informal networks remain among the most effective means for connecting people across institutional boundaries—the challenge is to mobilize them effectively without adding too much to everyone's workload. We believe that this kind of space will be

key to the ongoing success and vitality of our institution.

Acknowledgements

The authors would like to thank Dr. Christopher Lavan and Dr. Ferlin McGaskey for their leadership of Teaching & Learning Innovation, and their support of the FSN program.

References

- Beckmann, E. A. (2017). Leadership through fellowship: Distributed leadership in a professional recognition scheme for university educators. *Journal of Higher Education Policy and Management*, 39(2), 155-168.
- Benbow, R. J., Changhee, L., & Hora, M. T. (2021). Exploring college faculty development in 21st-century skill instruction: An analysis of teaching-focused personal networks. *Journal of Further and Higher Education*, 45(6), 818-835.
- Bristol, L., Adams, A. E., & Guzman Johannessen, B. G. (2014). Academic life-support: The self-study of a transnational collaborative mentoring group. *Mentoring & Tutoring: Partnership in Learning*, 22(5), 396-414. <http://dx.doi.org/10.1080/13611267.2014.983325>
- Buckley, H., & Nimmon, L. (2020). Learning in faculty development: The role of social networks. *Academic Medicine*, 95(11), 520-527.
- Boyer, E. L. (1991 / 2016). *Scholarship reconsidered: Priorities of the professoriate* (D. Moser, T. C. Ream, J. M. Braxton, & Associates, Eds.). San Francisco, CA: Jossey-Bass.
- Caplan, P. J. (1993). *Lifting a ton of feathers: A woman's guide to surviving in the academic world*. Toronto: University of Toronto Press.
- de Carvalho-Filho, M. A., Tio, R. A., & Steinert, Y. (2020). Twelve tips for implementing a community of practice for faculty development. *Medical Teacher*, 42(2), 143-149.
- De Four-Babb, J., Pegg, J., & Beck, M. (2015). Reducing intellectual poverty of outsiders within academic spaces through informal peer mentorship. *Mentoring & Tutoring: Partnership in Learning*, 23(1), 76-93.

<http://dx.doi.org/10.1080/13611267.2015.1011038>

- Demes, K. W., Murphy, G. C., & Burt, H. M. (2019). Catalyzing clusters of research excellence: An institutional case study. *Journal of Research Administration*, 50(1), 108-122.
- Gallagher, A., & Trower, C. (2008). *Perspectives on what pre-tenure faculty want and what six research universities provide: A report by the Collaborative on Academic Careers in Higher Education*. Cambridge, MA: The Collaborative on Academic Careers in Higher Education. <http://www.coache.org>
- Grierson, A. L., Tessaro, M. L., Grant, C., Cantalini-Williams, M., Denton, R., Quigg, K., & Bumstead, J. (2012). The bricks and mortar of our foundation for faculty development: Book-study within a self-study professional learning community. *Studying Teacher Education*, 8(1), 87-104.
- Hardré, P. L., & Kollmann, S. L. (2012). Motivational implications of faculty performance standards. *Educational Management Administration & Leadership*, 40(6), 724-751.
- Kim, H., & Rehg, M. (2018). Faculty performance and morale in higher education: A systems approach. *Systems Research & Behavioral Science*, 35, 308-323. <http://dx.doi.org/10.1002/sres.2495>
- Lechuga, V. M. (2012). Emotional management and motivation: A case study of underrepresented faculty. *New Directions for Institutional Research*, 155, 85-98.
- McCormack, C., Ambler, T., Martin, B., Waite, K., & Wilson, A. (2016). Narrative-based evaluation demonstrates the value of a higher education professional learning network. *Studies in Educational Evaluation*, 50, 79-87. <https://doi.org/10.1016/j.stueduc.2016.07.003>
- Nagy, J. (2011). Scholarship in higher education: Building research capabilities through core business. *British Journal of Educational Studies*, 59(3), 303-321. <https://doi.org/10.1080/00071005.2011.599792>
- O'Meara, K., Bennett, J. C., & Niehaus, E. (2016). Left unsaid: The role of work expectations and psychological contracts in faculty careers and departure. *The Review of Higher Education*, 39(2), 269-297.
- O'Meara, K., Lounder, A., & Campbell, C. M. (2014). To heaven or hell:

- Sensemaking about why faculty leave. *The Journal of Higher Education*, 85(5), 603-632.
- O'Meara, K., Terosky, A. L., & Neumann, A. (2008). Faculty careers and work lives: A professional growth perspective. *ASHE Higher Education Report*, 34(3), 1-217.
- Richards, K. Andrew R., & Levesque-Bristol, Chantal. (2016). Assisting in the management of faculty role stress: Recommendations for faculty developers. *The Journal of Faculty Development*, 30(1): 7-14.
- Rozman, S. L., & Roberts, G. (2006). Tougaloo College and the HBCU Faculty Development Network: Networking for mutual reinforcement. *Journal of Higher Education Outreach and Engagement*, 11(3), 81-93.
- Ruiz, E. C., & Machado-Casas, M. (2013). An academic community of "hermandad": Research for the Educational Advancement of Latinas (REAL), a motivating factor for first-tier tenure-track Latina faculty. *Educational Foundations*, 27, 49-63.
<http://www.caddogap.com/periodicals.shtml>
- Stupnisky, R. H., Hall, N. C., Daniels, L. M., & Mensah, E. (2017). Testing a model of pretenure faculty members' teaching and research success: Motivation as a mediator of balance, expectations, and collegiality. *Journal of Higher Education*, 88(3), 376-400.
- Stupnisky, R.H., Weaver-Hightower, M.B., & Kartoshkina, Y. (2015). Exploring and testing the predictors of new faculty success: A mixed methods study. *Studies in Higher Education*, 40(2), 368-390. doi: <http://dx.doi.org/10.1080/03075079.2013.842220>
- Wheaton, D., & Moore, L. (2019). Creating a multi-institutional writing retreat network: How we did it and why it works. *Journal of Faculty Development*, 33(2), 97-102.
- Winfield, J. D., & Paris, J. H. (2024). A mixed method analysis of burnout and turnover intentions among higher education professionals during COVID-19. *Journal of Education Human Resources*, 42(2), 128-152.
<https://doi-org.utk.idm.oclc.org/10.3138/jehr-2021-0048>
- Woodward, J., & Trowbridge, D. (2024). Attitudes and opportunities

regarding teaching and pedagogical training during the COVID-19 pandemic. *Journal of Political Science Education*, 20(2), 177–197. <https://doi-org.utk.idm.oclc.org/10.1080/15512169.2023.2239968>

Yun, J. H., Baldi, B., & Sorcinelli, M. D. (2016). Mutual mentoring for early-career and underrepresented faculty: Model, research, and practice. *Innovative Higher Education*, 41(5), 441-451.

Zakrajsek, T. D. (2010) Important skills and knowledge. In K.J. Gillespie & D. L. Robertson (Eds.), *A guide to faculty development* (2nd ed., pp. 83-98). San Francisco, CA: Jossey-Bass.

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