Experiments in the Communication Lab: Adaptations of the Comm Lab Model in Three Institutions

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Across engineering and science disciplines, individual schools and programs are searching for ways to better support science and engineering students as writers and communicators [1] [2] [3]. Despite rich accounts of these interventions, it is difficult to imagine how to implement them in different institutional contexts. In this paper, we analyze the adaptation of one such intervention, the Communication Lab (Comm Lab), a peer-to-peer coaching resource for writing, presenting, and other forms of technical communication [4]. By analyzing three institutions' iterations of a Comm Lab, we argue that a balance between core pedagogical strategies and attention to client needs makes the Comm Lab model both identifiable across institutions and flexible enough to adapt to new institutional contexts. For example, the client-based model relies on using peers with disciplinary expertise to ensure quality feedback. However, the definitions of "peer" and "disciplinary expertise" become more multidisciplinary across institutions according to the student population, the director's background, and the Lab's goals.

We first describe three iterations of the Comm Lab: 1) a private research university's consortium of several department-specific Comm Labs, 2) a private research university's centralized Comm Lab for their Division of Science, and 3) an undergraduate-only STEM institution's centralized Comm Lab for students using a multidisciplinary, co-curricular space. We then analyze these adaptations alongside institutional data, client population, and client feedback to articulate three considerations for adapting an educational innovation based on disciplinary and institutional needs: disciplinary breadth, scale, and institutional fit. We conclude by sharing data on the success of the Comm Labs as well as considering the value of cross-institutional collaboration.

Introduction

The importance of writing to science and engineering graduates is well documented and supported by national accreditation agencies, including ABET. To meet this need, individual STEM schools and programs have devised a variety of ways to better support their students as writers and communicators. Many of these attempts to improve communication skills happen within curricula as interventions within existing courses [1] [2] [3]. As a result, it can be difficult to imagine how to translate a given course-specific intervention to a different discipline or institutional context. In this paper, we address the challenges of adapting other institutions' interventions by tracing the adaptations of a Communication Lab (Comm Lab), a co-curricular intervention designed to provide peer-to-peer writing and communication support to engineering and science students. At its core, the Comm Lab is a STEM-specific writing center where students can meet face-to-face with a peer knowledgeable in their discipline to get feedback on STEM writing and communication genres. On the organizational level, however, the Comm Lab is distinguished by its emphasis on adaptation of structure and services to the desired institutional context. Thus, our research asks which features of the Comm Lab can or should be adapted in new institutional contexts and which features must be retained across contexts to make it effective. By answering this question for our specific intervention, we also identify broader considerations for adapting writing and communication programs to new contexts.

The Communication Lab model originated in 2012 within a single department at MIT, and subsequently expanded to multiple implementations within the same institution, each serving a different department. This expansion process afforded continual opportunities to learn about the model's adaptability. In one case, described in a previous publication [4], departmental administration initially invested in parallel development of both a Comm Lab and a graduate communication course, but ultimately chose to sustain only the Comm Lab because it was found to be significantly more flexible, resource-lean, and impactful than a course. Since then, the Comm Lab model has been adapted to several more institutional contexts, including Brandeis University and Rose-Hulman Institute of Technology.

In this paper, we compare adaptations of the Comm Lab across several disciplines and three institutions by drawing on quantitative and qualitative Comm Lab and institutional data. Ultimately, we argue that the Comm Lab model's adaptability comes from balancing core

pedagogical principles, which transfer across institutional contexts, with a data-driven focus on institutional needs and contexts.

We first review some of the literature that supports the Comm Lab's pedagogical model—a reliance on peer-to-peer, discipline-specific writing support. We then describe three adaptations of the Comm Lab: 1) MIT's consortium of several department-specific Comm Labs, 2) Brandeis's centralized Comm Lab for their Division of Science, and 3) Rose-Hulman's undergraduate-only centralized Comm Lab for students using a multidisciplinary, co-curricular space. We then discuss these adaptations with a focus on how our different institutional profiles shape our Comm Lab design. Specifically, we draw connections between institutional data and the disciplinary focus, scale, and institutional fit of each Comm Lab. We conclude by sharing data about the Comm Labs' success, reflecting on the importance of continued data collection, and considering the value of cross-institutional collaboration. Our conclusion reflects both the limitations of our study and the need for ongoing research. These three Comm Labs, all at different stages in their development, are collecting data that meet their own needs. Thus, broad claims about effectiveness and success are beyond the scope of this paper. Our future research will focus on developing assessment measures to allow us to answer questions about efficacy.

Developing a core pedagogical approach

Communication Lab appointments are designed to facilitate clients' growth by encouraging them to take ownership over the process of analyzing and improving their work, with the support of the tutor as peer facilitator. An appointment, which lasts between 30 and 60 minutes depending on the needs of the client, opens with the tutor and client setting goals together for the appointment. The tutor then assesses the quality of both content and style of the client's work, while the client works on an activity suggested by the tutor in order to engage the client in the assessment process (e.g., identifying three strengths and three weaknesses). After assessment, the tutor engages the client in the process of identifying and addressing communication issues, typically using open-ended questions, modeling potential changes, and showing other examples for comparison. Empirical research in writing center studies has documented the efficacy of peer-based learning in terms of writer satisfaction, improved writing process, better revision, and improved course outcomes, among other measures [5]. Most peer-based writing tutoring pedagogies are based in Bruffee's notion of the "knowledgeable peer"—a writing partner who

provides a social context for writing and brings "sensitivity to the needs and feelings of their peers and knowledge of the conventions of discourse" [6]. In other words, effective peer writing tutors reinforce the social nature of writing, are sympathetic to the challenges of academic writing, and understand a writer's disciplinary context. While the extent to which peer tutors need to be disciplinary experts is a subject of debate in writing center scholarship, recent studies have found that—particularly in STEM disciplines—peers with disciplinary knowledge are better able to address content and challenge students' claims and evidence [7].

Within the MIT Comm Lab specifically, Hanson, et al. reported substantial benefits from the discipline-specific peer-mediated model, including the value of peer feedback, student preference for working with content experts, and the cultivation of a cohort of "local communication experts" embedded within their communities [4]. Indeed, the peer tutoring model has observable multiplicative benefits: first, the peer tutors also provide informal mentorship as peers in the field during their tutoring sessions; second, they will continue to use their training to benefit their colleagues wherever they go; and third, embedding peer tutoring in the academic environment promotes a culture of peer feedback, reminding trainees that *asking* for feedback is a vital part of growth [4].

Growing and adapting the communication lab

As the MIT Communication Lab grew across five departments (and one sister institution, not described in detail in this paper), deepening its practices through this process, other institutions expressed interest in adopting the model for their own STEM populations. In response, the MIT Communication Lab launched in 2017 a four-day workshop called the Summer Institute, designed to teach other institutions how to adopt the Comm Lab's core principles for education, management, and strategy, and use those principles to design an implementation for their own institutional setting and needs. The workshop's content arose as a natural extension of the Comm Lab's core organizational tenet of local adaptability. Since 2017, faculty, staff, and students from ten institutions have attended the Summer Institute, resulting in four additional Comm Lab adaptations to date, including Brandeis and Rose-Hulman. Key features of all three Comm Labs are summarized in Table 1.

Table 1: Comparison of key Communication Lab features across implementations

	MIT	**Brandeis**	**Rose-Hulman**
Date founded	Winter 2012-2013 in Dept. A, and subsequently adapted across four other Depts., B through E	Fall 2017	Fall 2018
Institution type	Private research university	Private research university	Private STEM college
Population served (in parentheses: number of tutoring appointments served to each population in 2018)	*Within the departments served in the School of Engineering:* undergraduates (693), graduate students (793), postdocs (154), faculty (0; use services other than tutoring)	*Within the Division of Science:* undergraduates (220), graduate students (175), postdocs (39), research staff (3), faculty (3)	Undergraduates, with a focus on students working on co-curricular competition teams
Approximate size of population served	UG: 2,000 Grad:1,800 Postdocs: 600 Faculty: 400	UG: 660 Grad: 490 Postdocs: 100 Research staff: 75 Faculty: 100	UG: 2,200 Students on Competition Teams: 300
Average ratio of Director/Manager: Clients	1:610 (per department served)	1:1,425	1:300
Comm Lab organizational structure	For each department served, one manager oversees 5-18 peer tutors from that department. Central program director oversees departmental managers and cross-departmental activities.	Program director oversees 6-10 peer tutors.	Program director oversees 5 peer tutors.
Composition of peer coaching team	Graduate students and postdocs	Graduate students and postdocs	Undergraduate students
Location of dedicated coaching space(s)	At least one designated room within each department served	One designated office space	Conference room in campus makerspace
Pedagogical basis of	Original director came	Director has a	Director has a

Fellow training curriculum	from an education background and assembled process-oriented curriculum based on examples, interviewing field experts, and reviewing relevant literature.	background in science research and the development and facilitation of skill-based workshops.	background in English and specializes in writing center studies.
Launch history	Dept. A launch was proposed by departmental leadership and built by the original director with funding from an institutional educational grant and departmental funds. Subsequent dept. launches were proposed by departmental leadership and students, led by the central program director, and funded by institutional budget allotments to those departments.	Proposed by the director and funded for two years with funding from Science Departments, an NSF Center, and other university funds	Proposed by the director and funded for two years by a private foundation

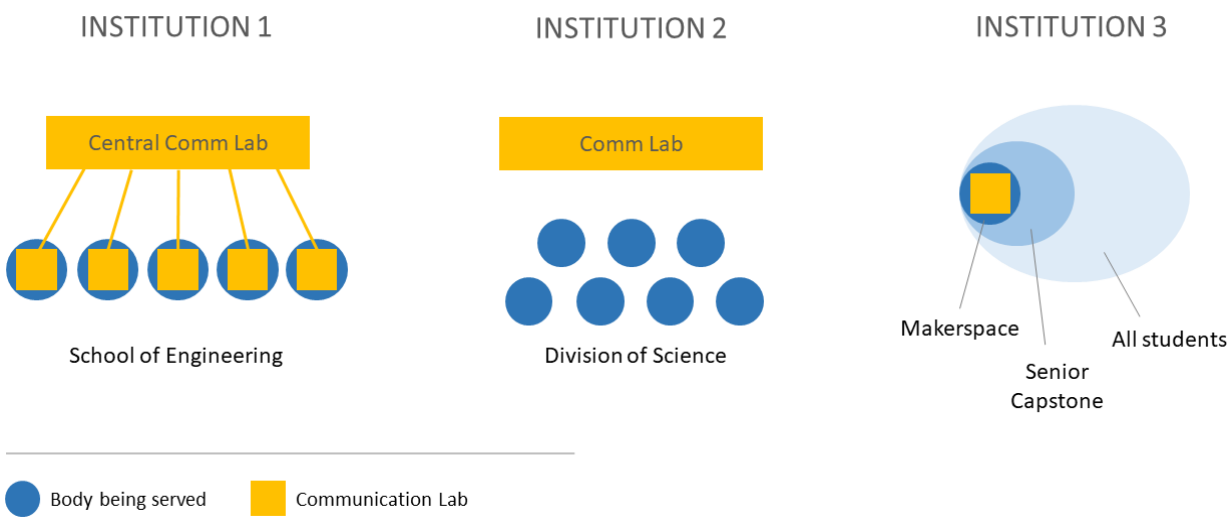


Figure 1. Customization of the Comm Lab structure to suit each institution's needs, internal organization, and funding mechanisms. At MIT, a central Comm Lab administration oversees discipline-specific Comm Labs that are embedded within each participating department in the School of Engineering. Each departmental Comm Lab has its own assigned manager. The Brandeis Comm Lab is a centralized resource that serves all seven departments within the Division of Science, with one director overseeing all operations. At Rose-Hulman, the Comm Lab is currently embedded within the school's makerspace, and may in the future be expanded to serve all undergraduates in a senior capstone course, and eventually all students.

The original Communication Lab: MIT's engineering communicators

The MIT School of Engineering Communication Lab is a consortium of highly discipline-specific Comm Labs, each embedded within a participating department in the School of Engineering, but organized under a single umbrella administration at the School of Engineering level (Figure 1). The populations served by the MIT School of Engineering Communication Lab are summarized in Table 1 and Figures 2 and 3. The intervention has previously been described in detail by Hanson, et al. [4]. The MIT Comm Labs achieves a high level of discipline specificity and responsiveness to field-specific needs and norms through this department-embedded model. Each departmental Comm Lab is staffed by its own team of 5-15 peer tutors, who are graduate students and postdocs selected from that department, and offer tutoring services to any department affiliates, from undergraduates to faculty. Each team is supervised by

a 50% full time equivalent (FTE) manager, who acts as the departmental liaison and leads strategic planning and outreach for the team. Funding for both staffing and operations is provided by the department (ultimately deriving from the institutional budget). Each Comm Lab is physically headquartered in its respective department and uses local "consumer research," as well as the knowledge of its own peer tutors, in order to design communication interventions for that department in addition to tutoring, such as workshops and online resources. Altogether, each Comm Lab strategically aligns its offerings with the habits and needs of its host department: career interests, curriculum, extracurricular programs, timing of major deadlines, and so on. For example, one Comm Lab might organize practice sessions for speakers at a departmental conference, while another might offer a workshop series for students preparing to present their work for their departmental qualifying exams. This strategic alignment is reflected in the cross-departmental variation in tasks for which clients seek help at MIT (Figure 4).

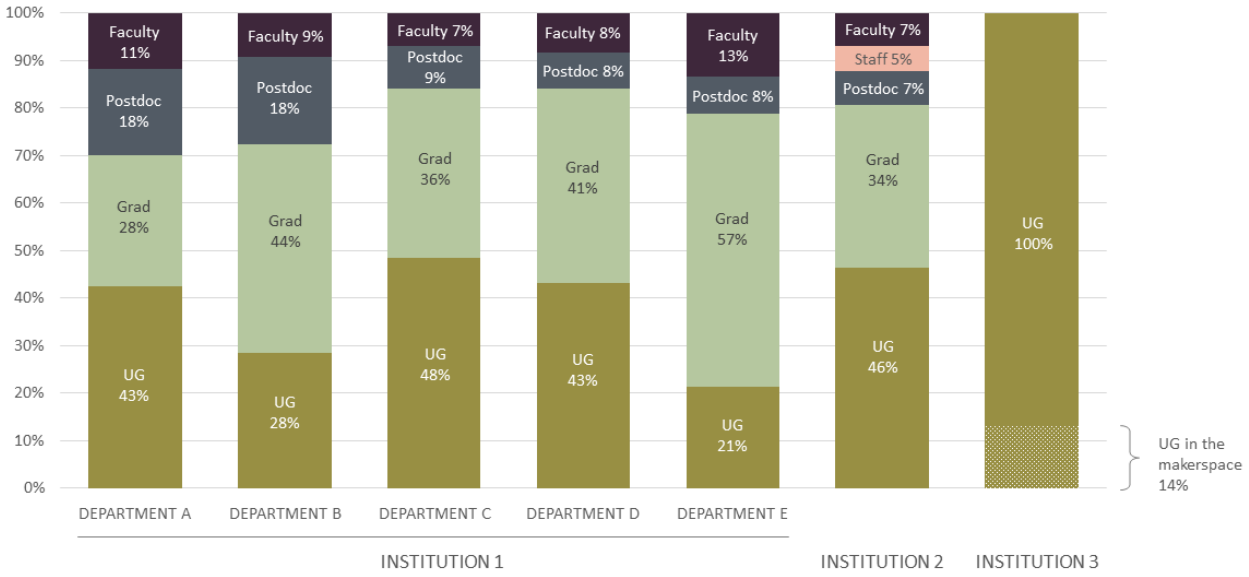


Figure 2. The Communication Labs at each institution serve communities with different profiles. "UG" indicates undergraduate students.

Above the departmental level, the umbrella Comm Lab administration (at base, a 100% FTE position) liaises with university leadership and administers cross-departmental efforts like tutor training (which continues to include extensive discipline-specific examples), data collection, educational assessments, service to cross-departmental programs, and creation of cross-

disciplinary resources. The umbrella administration has at various times experimented with adding up to an additional 65% FTE, to meet administrative and educational needs as the organization grows. Funding for the umbrella administration is provided both by "franchise fees" paid by each member department, and the larger educational organization of which the Communication Lab is a member.

The locally distributed model also offers political benefits at a decentralized institution like MIT, where departments hold significant power. Thus, department leaders are especially appreciative of having local control over staffing, budget, strategic direction, etc. (although such decisions are made in collaboration with the umbrella Comm Lab administration). For example, MIT department leadership often sets strategic direction regarding populations to be served: some departments heavily emphasize graduate students, while others offer equal service to all populations.

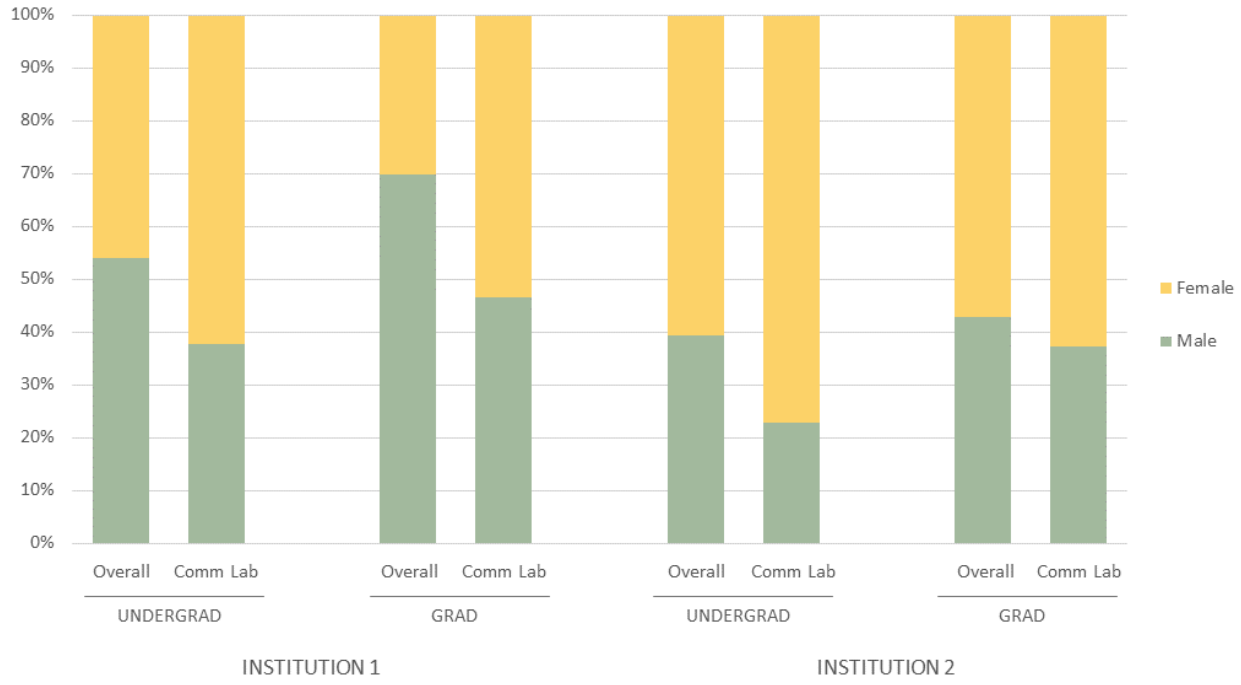
The Centralized Communication Lab: Brandeis's Science Communicators

Brandeis's centralized Comm Lab was founded in 2017 for the diverse communities within the Division of Science (the Biochemistry, Biology, Chemistry, Computer Science, Mathematics, Physics, and Psychology Departments, and Interdepartmental programs granting degrees at the bachelor's, master's, and Ph.D. levels) (Figure 1). The Comm Lab is staffed by a director and 6-10 peer tutors, who are graduate students and postdoctoral fellows selected from within the Division of Science. The funding for the Lab is secured annually through science-related centers, grants, departments, and administrative offices. The Lab offers both peer tutoring and general-audience science communication workshops.

As a relatively small research university, Brandeis prides itself on the ease of interdisciplinary interactions, and so, in contrast to MIT, the Comm Lab serves all the departments, programs, and majors within the Division of Science, and its clients range between undergraduates and faculty (Table 1 and Figures 2 and 3). This structure encourages interdisciplinary collaboration and networking, since peer tutors regularly run coaching sessions or workshops with students outside their specific disciplines. Brandeis also has a strong commitment to social justice. In Comm Lab sessions with students, graduate student and postdoctoral tutors intentionally normalize expectations around how much effort goes into communicating science to cultivate a sense of

belonging for all clients—a strategy that has been shown to help broaden the participation of underrepresented groups in science and engineering [8]. Additionally, the Comm Lab has developed strategic partnerships with the student organizations on campus that support women in science and underrepresented minorities. To further serve the needs of those client organizations, the director and peer tutors develop additional tailor-made communication workshops, which are facilitated by the peer tutors.

A.



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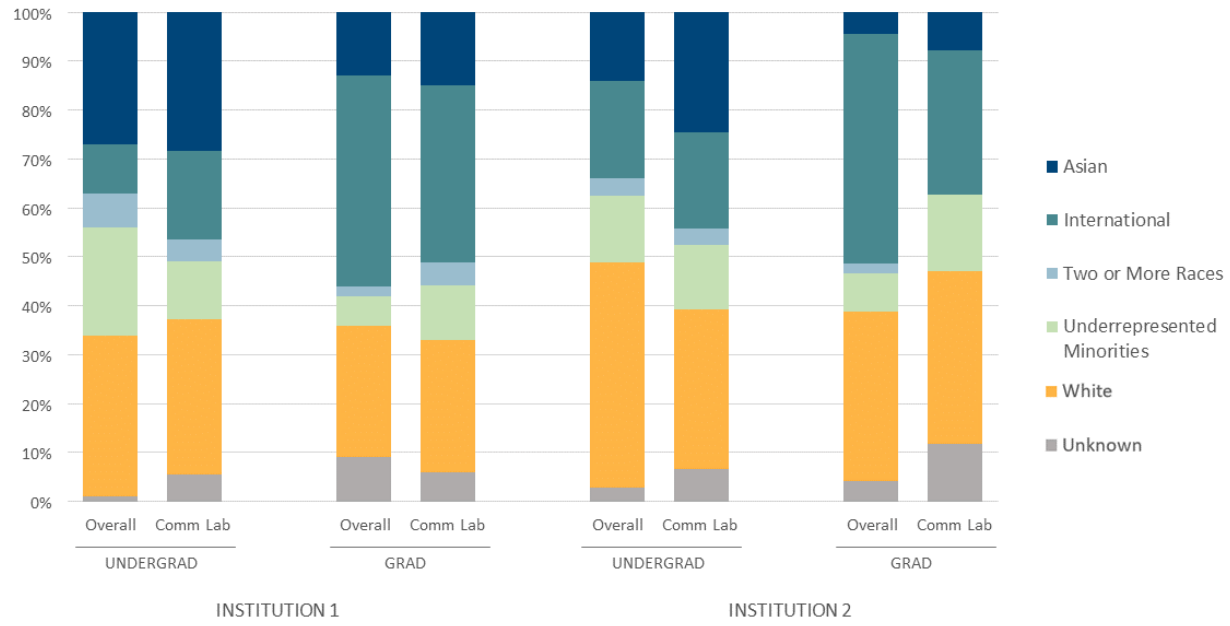

Figure 3. (A) The gender and (B) racial demographic composition of the unique clients served by the Communication Labs at Institutions 1 and 2 in 2018, compared to composition of the overall community in 2018 (School of Engineering and School of Arts and Sciences, respectively, for Institutions 1 and 2)

The Undergraduate Communication Lab: Rose-Hulman's innovative communicators

Rose-Hulman's centralized Comm Lab was founded in fall of 2018 and began offering appointments in December 2018. The Comm Lab is staffed by 5 advanced undergraduate peer tutors, all of whom are engineering students. During the two-year pilot phase funded through a grant from a private foundation, the Comm Lab is tailoring its services to student competition teams in Rose-Hulman's makerspace, where students work on co-curricular projects like Human Powered Vehicle and Concrete Canoe (Figure 1). These teams must submit design and safety reports and make presentations as part of their national competitions, but because these teams' activities happen outside the context of a course, students received no formal writing or communication support, and team leaders and faculty advisors do not have the expertise or time to devote to enhancing teams' writing processes and presentation skills. The Comm Lab meets this need by providing individual consultations and workshops to help teams manage, create, and revise written, spoken, and visual communication.

Rose-Hulman is a STEM-focused institution, and a large majority of the students complete engineering degrees. Because it is such a specialized school, students often separate communication from the "real work" of developing technical skills. Although writing and communication are an integral part of innovation, making, and design, students have limited opportunities to explore and leverage these transferable communication skills in co-curricular spaces. The goal of the Comm lab is to meet students quite literally where they are—in a makerspace—and bring writing and communication to them. Having a Comm Lab as part of a makerspace encourages students to think of communication as essential to their identities as engineers.

Balancing disciplinary breadth, scale, and institutional fit

The Comm Lab implementations at these three institutions demonstrate the extent to which the model can be adapted to populations of significantly different disciplinary breadth, scale, and underlying institutional structure (Table 1, Figure 1), while retaining the core principle of delivering peer-to-peer STEM communication support that is carefully shaped by research into the needs of the specific client base. These implementations demonstrate success both within their client bases and within their institutions. For example, client return rates are as high as 60% in Comm Labs at MIT, and are already 43% at Brandeis. More broadly, Brandeis's Comm Lab has been included in training grant renewals and reviewed positively by the NSF after a Center Site Visit review. In Rose-Hulman's first quarter of operation, the Comm Lab and its individual peer tutors received competitive institutional grants to support additional research on client needs, indicating the institution's support for and interest in the Comm Lab.

Below, we summarize how to adapt Comm Lab implementation to the constraints and conditions of a given institutional setting, with subsection headings framed as principles for how to design around the key parameters of disciplinary breadth, scale, and institutional structure.

Disciplinary breadth: Communication Lab peer tutors should represent a range of science/engineering background relevant to their clients, but do not necessarily have to be exactly discipline-matched.

While the MIT peer tutors are distinctive in their level of discipline specificity (serving only clients from the same department), the tutors at Brandeis and Rose-Hulman have mixed science and engineering backgrounds, respectively. Thus, the Comm Labs at Institutions 2 and 3 are closer to a traditional writing center model. Nonetheless, each of those two Comm Labs retains and promotes a focus on the specific needs of STEM populations. Exclusive staffing by STEM tutors with general literacy in the expectations of technical communication hence promotes trust from both clients and (where relevant) their faculty advisors, as well as building a culture of solidarity and peer mentorship within the STEM community. For example, at MIT, it is common for Comm Lab peer tutors to advise undergraduate clients on applications to graduate school, medical school, and post-undergraduate fellowships, and use their own experiences to provide perspective and strategy for such consultations. This is also true at Brandeis, where the peer tutors provide guidance on getting into a research lab for students who are new to science and want to learn about the process of obtaining a job, internship, or volunteer position in a research laboratory.

Moreover, the STEM peer tutors are seen as trusted resources not only by their clients, but for the benefit of their managers' strategic decision-making: they are direct sources for valuable insight on discipline-specific needs and preferences such as deadlines, conventions for the academic publishing process, and cultural expectations for departmental requirements like theses.

To what extent does a client's choice of coach or satisfaction with the coaching experience depend upon the peer tutor's technical discipline? Data from these three institutions indicate that the definitions of a "knowledgeable peer" shift and become multidisciplinary depending on institutional context and clients' goals. At MIT, where clients are presented with a choice of peer tutors first from their own department's Comm Lab but may opt to seek out tutors from other departments, significant anecdotal evidence suggests that clients often choose peer tutors as proxies for the perceived breadth of expertise of their ultimate audience. That is, clients working

on communication intended for a narrowly specialized or highly expert technical audience, such as journal editors, often try to choose a tutor from the appropriate technical field or subfield, whereas clients communicating to a broad audience sometimes report seeking out a tutor from an entirely different field. MIT is also in the process of conducting an educational assessment about clients' experience during the peer tutoring process, including questions of disciplinary match. Preliminary results even suggest that clients who perceive their coaches as being able to have a more technical discussion with them, are more likely to perceive the tutoring session as being very helpful.

At Brandeis, however, when clients are asked while scheduling an appointment why they selected the peer tutor they chose, an exact discipline match is valued as less important (12% of respondents) than knowing or having worked with a tutor before a session (44%), liking a tutor's biography (19%), or even the availability of a tutor (15%). This may be because Brandeis is a small and highly collaborative institution where many students may have interacted with Comm Lab tutors outside of their discipline in seminars or other community-wide events. Similarly, at Rose-Hulman, students select Comm Lab tutors based on availability or previous relationships through coursework. Because Rose-Hulman's competition teams work on documents for external audiences—including sponsorship packets for potential donors or design reports for industry judges—specific disciplinary expertise is less important than general STEM knowledge, to align with the broad technical expertise of the competition teams' intended audience.

Scale and scaling: The Communication Lab model can be piloted impactfully on very different scales, as long as the pilot is strategically designed to a) identify and serve the most relevant, urgent client needs, and b) promote professional development for peer tutors.

The three Comm Labs described here serve populations that can vary by at least an order of magnitude (Table 1, Figure 2). MIT has peer tutor teams varying in size from 5-18 serving departments with undergraduate populations in the low 10s to low 1,000s, while Rose-Hulman has launched with a focus on serving ~300 undergraduate users of a makerspace (Figure 2). These diverse populations also have communication needs in different genres (Figure 4). Because 18 tutors serving 1,000s of undergraduates cannot possibly offer the same depth of

service as 5 tutors serving 50 undergraduates, a team in a situation like the former must set strategic priorities.

Figure 4. Distribution of the top five reasons why undergraduates in each department/institution use the Comm Lab. The vast differences in motivations reflect both the diversity of the undergraduate experience and each Comm Lab's strategic direction. For instance, course instructors in MIT's Departments A and E collaborate closely with their respective Comm Labs, Brandeis helps undergraduates navigate through the process of choosing a research lab, and Rose-Hulman is solely fulfilling the co-curricular needs of its makerspace community.

Based on our experiences across these institutional settings, we propose that two key priorities must be simultaneously balanced when designing a Comm Lab pilot, especially in cases where staffing and/or funding are limited. First, the pilot must target a *selective* portfolio of clients each experiencing a relevant and urgent educational gap, like Rose-Hulman's makerspace: i.e., technical communication with a concrete incentive for success, but little existing formal support.

Second, the pilot must ensure that the peer tutors selected to serve such clients are themselves ensured an excellent professional development experience (mentorship via the manager, skill-building opportunities, structured collaborations with other tutors, etc.), such that the peer tutors become another layer of advocacy for the program and can serve as strategic thought-partners as the program continues to grow, rather than serving "merely" as tutors. A visible indicator of this emphasis on the tutors' experience is MIT's deliberate upper limit on the size of tutor teams, even when serving departments of 1,000s; team cohesion and a low manager:tutor ratio is considered more important than sheer person-power.

Working closely with peer tutors to make a selective impact on visible pockets of need like Rose-Hulman's makerspace will provide even a resource-limited Comm Lab pilot with the opportunity to prove its ability to improve client skills and experience. The small client population concentrated in a single space encourages teams who have positive experiences to refer others. One competition team, after several appointments working on a sponsorship packet for donors, scheduled a multi-team appointment with a Comm Lab peer tutor to facilitate a collaborative proposal for shared team resources. In a small learning community with shared goals like a makerspace, positive client experiences translate to greater demand for services and increased tutor confidence that their work is valued.

Institutional fit: The administrative structure (centralized or decentralized) of the Communication Lab should reflect the size and population of the institution.

The considerations above about disciplinary match and scale intersect with the general question of how a Comm Lab implementation should be matched to institutional politics or preferences, particularly how centralized or decentralized an institution is. In the case of MIT, the highly department-specific model arose as an artifact of the fact that its Comm Lab was initially founded in a single department, yet the model has persisted and is regarded as a political benefit due to the generally decentralized institutional setting, as discussed above. Meanwhile, Brandeis initially aimed for a more centralized model because pragmatically, each department was too small to sustain its own Comm Lab. Philosophically, this centralized Comm Lab was also designed to maximize the benefits of the large interdepartmental Center grant that is the Comm Lab's primary funding source, by directly translating this funding into training and networking

opportunities. Finally, Rose-Hulman's centralized model was chosen as the most cost-efficient form of service on the basis that the institution is small and students' curricular and co-curricular needs are often interdisciplinary. Moreover, the peer tutors themselves, who predominantly seek employment in industry following graduation, benefit more from broader training in technical writing and rhetorical strategies than they would from specialized training in a single discipline, which might better prepare students for graduate study.

Conclusion

By carefully considering institutional needs and adapting the Comm Lab model accordingly, each institution has created a STEM communication service that meets the needs of its client population. Across all three institutions, clients are regularly satisfied by their appointments and feel prepared to take steps that improve their documents or work toward their goal. After one session at MIT, a client reported that "I [hesitated] before meeting with [Tutor] because I consider his specialty to be in research, not in scientific writing. I was wrong—he had enough technical background to understand the conference paper I was working on, and was able to provide concrete instructions towards clear communication." Another client captured the empowerment that is encouraged in the Brandeis Comm Lab: "[Tutor] was great! I really like her attitude. She was enthusiastic and focused on positives. Instead of saying 'you did this wrong,' she would say 'you did this right, keep doing that.' I now feel confident that my presentation is on the right track to be a success." Finally, despite only being open for four weeks, Rose-Hulman has already interacted with students from 5 of the 9 competition teams, including one team that has a standing weekly meeting with a Comm Lab peer tutor.

All three institutions continually collect and analyze data about client and peer tutor success and satisfaction, including data from the previously mentioned educational assessment at MIT. Not only do these data ensure continued alignment between the Comm Lab model and client needs, but they also make the case for sustained funding. The ability to collect meaningful data is particularly important for Brandeis and Rose-Hulman to secure funding past their two-year pilot stage.

Beyond our individual institutions, these data will facilitate continued collaboration across institutions. As this paper demonstrates, there is value in working across institutions—even vastly different institutions—to share ideas and evaluate program outcomes. By comparing Comm Lab adaptations, we are able to identify the core approaches that we should retain even as we make changes to best suit our institutions. Moreover, we can more easily articulate what is unique about our individual Comm Labs and how we are serving our clients. This process of comparison illustrates that adapting educational programs across institutions benefits from both broad collaboration and specific institutional knowledge.

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