A Mixed-Methods Analysis of Perspectives Toward Learning Assistant–Faculty Relationships

By Cameron J. Hill, Anthony P. Barrasso, and Kathryn E. Spilios

The Learning Assistant (LA) model uses a near-peer framework to transform undergraduate education; improve K–12 teacher education; recruit K–12 science, technology, engineering, and mathematics (STEM) teachers; engage faculty in evidence-based teaching methods; and transform departmental cultures to value evidence-based teaching (Otero, 2015). As part of the model, undergraduate students as LAs are incorporated into the instructional staff for courses they have already completed, serving a multifaceted role. In the classroom, LAs facilitate discourse among students and help them understand course concepts. In weekly meetings with the lead instructor of the course and, often, other members of the teaching team, LAs develop a deeper understanding of course content and share their perspectives as former students on each lesson. Additionally, LAs attend a seminar-style course in which they learn teaching and learning theory (Otero et al., 2006). Thus, the experience of an LA is rooted in practice, preparation, and pedagogy.

LAs work with students who are close in age and have similar class schedules and other shared experiences, which, according to cognitive and social congruence theory, make it easier for LAs to empathize with and support their students (Loda et al., 2019). By training LAs in education theory and deepening their content knowledge through the weekly seminar and meetings with faculty, an LA program aims to train undergraduates to be competent instructors. Thus, adding an LA (or multiple LAs) to a course is designed to improve the student-to-instructor ratio and facilitate student-centered learning.

Implementation of an LA program positively impacts students, LAs, and faculty. Students in LA-supported courses benefit from reduced DFW rates (grade of D or F or withdrawal; Alzen et al., 2018), increased learning gains (Herrera et al., 2018; Van Dusen & Nissen, 2017), and improved performance among undergraduate students on questions that require higher-order cognitive skills (Sellassi et al., 2017). LAs themselves gain valuable experience that serve as supplemental training for future middle and high school math and science teachers (Gray et al., 2016). Faculty working with LAs reevaluate and improve their pedagogical practices (Caravez et al., 2017). All of this research is promising, but it focuses on the individual roles within the LA program. In reality, students, LAs, and faculty do not operate in isolation, and the intricacies of the LA-faculty relationship may impact student and faculty outcomes.

The specific responsibilities of an LA can vary by course, and the extent

Learning Assistant (LA) programs oversee and support undergraduate instructors and faculty members who work together to facilitate student learning in a variety of classroom settings. The success of an LA program is tied to experiences of the participants; therefore, understanding the perceptions of LAs and faculty is central to driving programmatic changes and ensuring positive outcomes. In this article, we use a mixed-methods approach to analyze the perspectives of LAs and faculty in Boston University’s LA program. Using surveys and one-on-one interviews, we highlight the qualities of a strong LA, the nature of LA-faculty relationships, the role of the LA in a course, and how faculty benefit from working with LAs. Our data suggest that interpersonal skills are imperative to be a successful LA, there is variation in how LAs and faculty interact, curriculum can be inclusive of LAs, and LA-faculty partnerships impact faculty understanding and implementation of evidence-based pedagogy. This article provides targeted, actionable suggestions for LA program improvements based on our analysis, as well as a foundation for future studies to further explore the impact of the LA model on faculty and LAs.
to which LAs can impact a course depends on the type of partnership they form with their faculty teaching partners. LAs are implemented in a variety of settings, including lectures, labs, recitation sections, and virtual learning environments. Within these settings, there is even further variation, with some LAs focusing solely on in-class learning, whereas others also hold office hours or lead review sessions outside of class. Depending on the level of partnership between the LAs and their faculty teaching partners, LAs may provide feedback to inform instruction and even play a hands-on role in curriculum design. Sabella et al. (2016) described three types of LA-faculty partnerships: mentor-mentee, which is one-directional, with limited LA input; faculty-driven collaboration, in which faculty elicit LA suggestions and feedback; and a true collaborative model, in which faculty and LAs share responsibility in the classroom and work together to shape the curriculum. Moreover, a strong LA-faculty partnership rooted in collaboration improves LA and faculty understanding of core design strategies and pedagogical teaching methodologies (McHenry et al., 2009).

The LA program has been extensively studied, but the focus is often on student outcomes in LA-supported courses (Barrasso & Spilios, 2021). In this article, we describe LA-faculty relationships using the LA program at Boston University (BU) as our example. BU is a large R1 university that hires approximately 250 LAs each academic year. Given that LA program implementation is varied (Campbell et al., 2019), our goal is to understand the perceptions and opinions of faculty and LAs in the BU LA program and provide broadly applicable advice for faculty and administrators involved with LA programs elsewhere. Mainly, we focus on how our case study participants perceived the qualities of a strong LA, the intricacies of the LA-faculty relationship, the role of the LA in the course, and the benefits for faculty due to working with LAs. Given that publications specifically examining these partnerships are limited, descriptive studies that present perceptions of these topics, like the one presented in this article, are important building blocks to understanding how the faculty-LA partnership, and the LA model as a whole, impacts teaching and learning.

**Methods**

**Methodological framework and overview**

Following a mixed-methods explanatory case study design (Creswell & Plano Clark, 2018), we began with a quantitative analysis, which informed our subsequent qualitative analysis. Quantitative data collection occurred in two partially concurrent steps: (i) an LA exit survey and (ii) a faculty perspectives survey. Based on the preliminary analyses, we then designed the qualitative phase of LA and faculty interviews during summer 2019. This study was approved by the BU Institutional Review Board (#5043X).

**Quantitative analysis**

The optional LA exit survey was distributed to all LAs at the end of each semester from fall 2015 through fall 2018 (Online Appendix A; 39.2% response rate [291 out of 743]). The faculty perspectives survey was distributed to faculty in the LA program at BU during the fall 2018 semester (Online Appendix B; 37.5% response rate [15 out of 40]). The surveys contained a combination of multiple choice, Likert scale, and open-ended questions.

The faculty roster remained consistent across semesters. Therefore, to avoid sampling bias, we distributed the faculty survey during one semester, resulting in a small sample size (but equivalent response rate) compared to the LA survey.

**Qualitative analysis**

**Framework and design**

The qualitative phase of this study most closely resembled the phenomenological study described by Creswell and Ploth (2018). We compared and contrasted the experiences of multiple individuals that had a shared experience (phenomenon) to describe the essence of the experience. In this case, we interviewed three LAs and three faculty instructors one-on-one to describe the experience of being part of an LA-faculty partnership. Like a classic phenomenological study, we wrote the LA and faculty interview questions to capture “what” the LAs and faculty experienced in their partnerships and “how” their partnerships functioned (Moustakas, 1994). Additionally, we asked targeted questions about how the experience impacted the participants’ approach to teaching (Online Appendix C).

In addition to the questions used for analysis, we asked questions to standardize language and avoid misinterpretation. First, we asked participants to share their understanding of pedagogy, evidence-based teaching techniques, and active learning. This ensured that participants used these terms in a consistent manner and allowed for a comparative analysis. Second, at BU, LAs may work in class with a graduate teaching assistant (TA) but meet weekly with faculty.
and TAs during prep sessions. Thus, when LAs mentioned “faculty,” we asked probing questions to understand whether they were referring to the faculty member or the TA; any comments specifically referring to interactions with a TA were not included in this analysis. Although TA-LA interactions are certainly of interest and explored elsewhere (Becker et al., 2016; Spike & Finkelstein, 2010), we focus here specifically on the LA-faculty relationship.

**Procedure**

Using a positive deviance approach, we selected interview participants to demonstrate the perspectives of practiced individuals from a breadth of disciplines and experiences (Table 1; Bradley et al., 2009). We selected three faculty members to be interviewed from the 12 who indicated their interest when completing the fall 2018 faculty perspectives survey and three experienced LAs who were currently teaching during summer 2019.

We used a semistructured format for our interviews where questions were written beforehand, but the interviewer was free to alter the wording of questions without changing the meaning and ask probing questions for clarification and further explanation (Barré & While, 1994). Interviews were conducted face-to-face during June and July 2019 and recorded using the interviewer’s cell phone. Interviews ranged from 17 to 51 minutes depending mainly on the length of responses from participants and the number of probing questions asked by the interviewer. After the interviews had been completed, they were transcribed with NVivo Transcription, and participants were compensated for their time with a $25 Amazon gift card.

**Coding interview transcripts**

To code the interview transcripts, we used an inductive thematic approach (Braun & Clarke, 2006). In an initial coding effort, the first author outlined several major codes that were discussed in the interviews and were relevant to our research questions. Then all of the authors worked together to collate the codes into major themes that would be discussed in the manuscript. Next, the first author performed line-by-line coding to identify quotes that were related to each theme. This allowed all of the authors to review relevant data and produce this article.

**Results and discussion**

**Qualities of a strong LA**

The LA’s role in a course is multifaceted: LAs interact with students, the instructor, and often graduate student TAs, and each relationship calls for different interpersonal characteristics. When LAs and faculty were asked what qualities make a strong LA, the LAs emphasized the significance of being patient with students, communicating effectively, and balancing the mentor-peer role when teaching students. By contrast, the faculty members focused on the importance of confidence, diversity, professionalism, and empathy (Table 2). Thus, LAs placed an emphasis on actions LAs take while working with students, and faculty focused more on the characteristics intrinsic to the LAs themselves.

During the hiring process, instructors are assessing which candidates would make strong near-peer instructors, balanced with logistics such as scheduling constraints. Although LAs should certainly have proficient course-related content knowledge, a student might not always fully understand the struggle of being a student in the class and be able to relate with the student and offer them advice. Faculty 3 recognized that “[LAs should be able to] empathize with the struggle…[their] grades are often not always completely reflective of a student’s mastery of the material.” This sentiment aligns with the idea that LAs themselves prioritize the importance of interpersonal interactions in

<table>
<thead>
<tr>
<th>Participant</th>
<th>Department/major</th>
<th>Time with LA program (terms)</th>
<th>Classroom setting</th>
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</thead>
<tbody>
<tr>
<td>Faculty 1</td>
<td>Biology</td>
<td>14</td>
<td>Laboratory</td>
</tr>
<tr>
<td>Faculty 2</td>
<td>Chemistry</td>
<td>17</td>
<td>Discussion</td>
</tr>
<tr>
<td>Faculty 3</td>
<td>Health sciences</td>
<td>11</td>
<td>Lecture</td>
</tr>
<tr>
<td>LA 1</td>
<td>Chemistry (fourth year)</td>
<td>2</td>
<td>Laboratory and discussion</td>
</tr>
<tr>
<td>LA 2</td>
<td>Human physiology (fourth year)</td>
<td>2</td>
<td>Laboratory and discussion</td>
</tr>
<tr>
<td>LA 3</td>
<td>Chemistry (third year)</td>
<td>3</td>
<td>Laboratory and discussion</td>
</tr>
</tbody>
</table>
their roles as peer instructors. In addition to being well-rounded and in tune with the student experience, LAs also help establish a safe learning community in which LAs, students, and faculty are comfortable interacting and communicating with one another. This can lead to the development of a stronger professional identity for students (Close et al., 2016; Nadelson & Finnegan, 2014) and a broadening of conceptions of pedagogy for students and faculty (McHenry et al., 2009).

**LA-faculty interaction and relationship**

Both LAs and faculty (four out of six) viewed their relationships as partnerships in which there was an equal sharing of responsibilities and mutual gain from the interaction. Although the term *faculty-driven collaborative partnership* (Sabella et al., 2016) is not in the verbiage of BU LAs and faculty, it is the archetype that most closely fits how interview participants described their relationships. For example, Faculty 3 engaged LAs in the design of weekly assignments, allowing the LA to make concrete contributions to the classroom and engage firsthand in student learning: “[I]n my classes, the students get homework three times a week and so one of those homework assignments is written by the LA and the other two are written by me.” By initiating collaboration with their LA partner, Faculty 3 gave the LA an opportunity to develop transferable skills that would improve their teaching and potentially aid in other academic endeavors (Bettinger et al., 2016; Feldon et al., 2011). Additionally, taking feedback from LAs and listening to their ideas about assignments can give LAs a stronger professional identity (Close et al., 2016; Sabella et al., 2016).

Data from our survey suggest that LAs not only recognize the collaborative nature of their partnership but also feel valued and respected by their faculty partners (Table 3). By being open to honest feedback and ideas from LAs, faculty have an avenue for understanding the student perspective.
and maintaining a healthy and collaborative partnership, but LAs and faculty realize that this relationship is a two-way street:

[If the LA is not] getting to the point quick enough, I can interrupt them and correct them if they make a mistake. ... They're also welcome to ... correct me and they do sometimes if I lose the class.—Faculty 2

[My faculty and I] are always respectful of each other. ...I felt like I was treated pretty much equally. At no point did they commandeer the classroom from me because they didn’t like what I was doing.—LA 2

Once a respectful working relationship is established, LAs and faculty can open up more and learn and grow with each other (Erdem & Aytemur, 2008). For example, LAs can look to faculty for advice on career goals, especially if they are interested in graduate school and higher education. However, results from our survey suggest that not all faculty were frequently discussing these topics with LAs, and some never took time to speak with their LAs about such things (Table 4). The course-dependent role of LAs

At BU, LAs are utilized in varied class environments, and the specific role they play depends on the course. Even though faculty and LAs work as partners to create and deliver course material with the goal of improving student outcomes, there is variation in how LAs are used. Students may benefit when LAs are given more opportunities to teach because LAs offer an essential and unique peer perspective:

I think it’s worth leaning on the LA more...because we have a better sense of where students struggle because we probably struggled there. ... I found that when I was given a chance [to give] a little prep talk at the beginning of lab it was better for the students because...I knew exactly where [students] would mess up.—LA 3

LAs are students themselves, so they have numerous shared experiences with their fellow undergraduates. Given the common ground between LAs and students, it is likely that LAs can identify common misconceptions or mistakes that students hold because they may have been making the same mistakes when they were students in the class (Loda et al., 2019). As our data suggest, LAs recognize the value of the peer-to-peer perspectives and contributions.

In general, LAs felt that the course they worked in was adequately structured to include LAs (Table 3), but there were course-specific instances where a closer look at the LA’s role is warranted:

I don’t know how effective having LAs in lecture is [since it] felt inefficient at times because [students] will ask a question and if you can’t answer it [quickly] you have to say to come to office hours.—LA 2

There is evidence that further refinement of the LA role could have a significant impact on study outcomes. For example, LAs have a positive impact on student outcomes in several different classroom scenarios; however, students with LAs in their lab section had a significantly higher learning gain than those with LAs in their lecture or recitation (Herrera et al., 2018). Thus, the small variations within an LA’s role may have a significant impact on outcomes, and more work should be done to better understand the optimal role for LAs.

Faculty benefits from working with LAs

The LA-specific pedagogy seminar imparts a level of knowledge unique
to the LA, and both faculty and LAs agreed that the weekly seminar improved how LAs approach student questions. Faculty 1 noted that “the most obvious skill that [the LAs] use from the pedagogy course is the way they question students.” LAs also recognized their newly acquired pedagogical training:

“[O]ne of the terms that stands out to me is dialogic learning. … [You] don’t just lecture at the students, you actually have a conversation with them about the different concepts that they’re struggling with. [The way I learned] to implement that is [asking] series of questions. …[You have the student] show you…what the answer is, but you have to show them the path they need to take.—LA 3

These comments suggest that LAs acquire pedagogical content knowledge that makes them a valuable addition to a teaching team and gives them the expertise to collaborate with faculty and other instructors on lesson planning.

Furthermore, in the interviews, faculty highlighted how much they benefit from working with LAs. One area where faculty could benefit is in bolstering their own pedagogical content knowledge through conversations with the LAs (“bottom-up pedagogy transfer”). Because LAs are trained in evidence-based teaching methods as part of their experience, they may be able to readily call upon the lessons from their seminar to inform instruction (Top et al., 2018). The pedagogy seminar teaches LAs skills that are beneficial in the classroom, but sometimes the graduate students or faculty they teach with may have minimal experience with education theory, depending on their background:

“It’s almost a disparity that the LAs by the end of their first semester have all this knowledge that the graduate students don’t necessarily have. … If you look at the start of a semester for a new graduate student and a first-time LA … the pedagogical knowledge of the LA would advance at a more rapid rate than the graduate students. —Faculty 1

Through the weekly meetings, LAs may share their ideas of how to approach a certain lesson, thereby transferring practical knowledge gained in the pedagogy seminar to the instructor. This type of information transfer requires consistent dialogue focused on the how and why (pedagogy) rather than what (content). However, it is important to distinguish between real-time impacts and long-term curricular improvements. Aspects of the pedagogy seminar might come up in weekly conversations between the LA and faculty where the LA may suggest a technique to accomplish a certain goal, but the conversation topics may not necessarily be rooted in specific pedagogical concepts. Within a given semester, the focus may be primarily on course content and general course concerns. For example, according to LA 2, “I’ve definitely had conversations about what’s the best way to approach this material…but it’s never been grounded in….a formal lesson I learned.” Additionally, faculty do report that they spend time talking about teaching techniques (Table 4). In the long term, faculty can leverage the LA’s perspective in course revisions and planning for future semesters. Once weekly course needs are met, LAs and faculty could allot time to analyze how specific course content presentation and student interactions would be improved by implementing specific pedagogical techniques.

Further support for bottom-up pedagogy transfer comes from interview data where faculty report an improvement in their teaching techniques as a result of teaching with LAs:

“[S]ometimes the way an LA decides to approach a situation is not a way that I’m familiar with, [and so their strategy] might become one of my go-to ways of teaching a concept.—Faculty 1

LAs also provide an opportunity to experiment with new pedagogical techniques:

“[Having an LA] lets me use pedagogy in the classroom that I wouldn’t otherwise be able to. I tried running case studies without LAs the first year in the classroom and it didn’t work. —Faculty 3

As a result, having an LA affords faculty the opportunity to understand a new perspective on teaching (Table 5). However, it is important to point out that some faculty are skeptical of the LA program due to its inherent reliance on peer-based, interactive instructional techniques. Each faculty member brings their personal experience to the classroom, and many people rely on teaching in the same manner in which they were taught. In our interviews, Faculty 2 expressed these ideas: “[I]f I want information I’ll go to the highest authority. I will not go to my peer.” They went on to conclude that, over time, the LA program has convinced them of the value of peer perspectives and that the LA program influenced them to “rearrange the way we teach…” in order to create an active learning environment.” Students, on the other hand, see near-peer instructors as a
trusted, reliable source of information (Bulte et al., 2007).

Conclusions and future directions

We have described the opinions and perspectives of three faculty members and three LAs in the BU LA program and supplemented these details with survey data to provide insight into the experience of LA program participants. Combining our conclusions from this study with previously published research, we have developed four action items for the consideration of administrators and faculty who oversee or are considering the implementation of an LA program:

1. **Qualities of a strong LA:** An emphasis should be put on interpersonal skills such as patience, communication, confidence, professionalism, and empathy, as well as the ability to balance the multifaceted peer-mentor role of the LAs. Discuss these qualities during interviews and use them to guide the hiring process; dedicate a component in the LA pedagogy seminar to help LAs build these skills.

2. **LA-faculty relationships:** Promote more collaborative partnerships between faculty and students (Sabella et al., 2016), and encourage faculty and LAs to be transparent about their expectations about the partnership, with a specific focus on establishing clear roles and responsibilities for both the faculty and LA. This can ensure the formation of a cohesive partnership grounded in trust and communication.

3. **Roles of LAs in the course:** Frequently evaluate the role of LAs in their course to ensure that the curriculum, classroom environment, and LA responsibilities are well aligned. The role of an LA can vary widely from course to course, and LAs have insight into their effectiveness (or lack thereof) in certain settings that faculty and administrators may not be able to identify.

4. **Impact on faculty:** Advise faculty and LA partners to explicitly build in time to discuss teaching techniques and incorporate pedagogical discussion into weekly prep sessions. An expanded understanding of pedagogy is an attainable outcome for both faculty and LAs in an LA program (McHenry et al., 2009). Thus, discussing pedagogical concepts could be mutually beneficial for those involved.

In this article, we provide a detailed perspective on the synergistic nature of the LA-faculty relationship and open the door for further research into improving student outcomes, developing best practices with LAs, and supporting faculty with evidence-based teaching methodologies to better enable learning by students in the classroom.

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References


**TABLE 5**

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<th>Perception</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
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<tr>
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<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Made me a better teacher</td>
<td>12</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Encouraged me to reevaluate the way I teach my class</td>
<td>12</td>
<td>3</td>
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</tr>
<tr>
<td>Encouraged me to use research-based teaching techniques in the classroom</td>
<td>8</td>
<td>6</td>
<td>1</td>
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