

## REPORT ON TA AND FACULTY SURVEYS ON TEACHING ASSISTANTSHIP EXPERIENCES AND CLIMATE

### EXECUTIVE SUMMARY

The McCormick Graduate Teaching Committee provides a platform for graduate students to communicate with faculty and administration about teaching roles and graduate student professional development opportunities in learning and teaching. Two separate surveys were distributed to McCormick graduate students and faculty in an effort to gauge perceptions around teaching assistant (TA) roles and responsibilities, training and experiences, and how TAs are valued. This document provides a summary of the survey data and the committee's recommendations for improving TA training, feedback, and perceptions by the community.

Communication about TA expectations and training varies widely in McCormick. TA expectations and training should be standardized within departments and across the school. As instructors in the McCormick School of Engineering, TAs should receive consistent and frequent feedback on their teaching, including from students, faculty, peers, and the Searle Center of Advancing Learning and Teaching.

To improve TA expectations, feedback, and training, we recommend:

- Identifying effective practices already underway in McCormick,
- Training graduate students from each department to lead workshops and discussions with support from the Searle Center,
- Gathering pedagogical resources and TA policies and expectations

To improve perceptions of valuing TAs, we recommend:

- Standardizing TA workloads and expectations
- Giving interested TAs more meaningful instructional roles
- Establishing McCormick-wide TA awards
- Developing a mechanism for TAs to report inequities at the department level

The committee can support all these efforts by helping to develop workload and expectation guidelines, help select department and McCormick-wide TA awards without bias, and provide TAs with a mechanism to report inequity and other issues at the school level.

## MCCORMICK TEACHING COMMITTEE

The McCormick Graduate Teaching Committee's mission is to support graduate students in their instructional roles at Northwestern as well as facilitate professional development opportunities in learning and teaching. The committee's goals are to:

- (i) support graduate students in their teaching roles in the McCormick school
  - a. through workshops, conversations with peers and instructors
  - b. through Teaching Assistant (TA) training in teaching and inclusive practices
- (ii) serve as a liaison between the Dean's office, the McCormick School of Engineering, departments, and Searle Center
- (iii) provide resources to individuals and departments to support graduate students in their instructional roles.

## SURVEY PREFACE

We conducted two surveys, one among graduate students and another among the faculty in the McCormick School. The graduate student survey was aimed at understanding the TA experience and responsibilities, the level of training they receive and desire, the feedback they receive from instructors, and their perceived value in the Northwestern community. The faculty survey gauged experiences and perceptions of working with TAs, the nature of TA work, and how they believe TAs are valued by the community. Both surveys were developed and sent to faculty and graduate students in Fall 2020. Data analysis began December 2020. This report summarizes the survey findings and provides recommendations based on the findings. Please note the following when interpreting results:

1. Participants were anonymous and were not asked to reveal identity-based information, such as gender, race, sexual orientation, citizenship status, or other factors that may influence their experiences.
2. Faculty were not asked to identify themselves as tenure- or teaching-track professors.
3. The word 'feedback' was not defined intentionally to appreciate its varied forms and types.

## DEMOGRAPHICS

Table 1 shows the total number of graduate student and faculty survey responders by department. A total of 98 completed the graduate student survey, with MSE had the most responses (23, ~23.5%), while IEMS had the fewest with only 3 responses (~3.1%). A total of 69 completed the faculty survey, where the most well-represented department, MSE, had 12 responses (~17.4%). IEMS had the lowest representation in this survey with only 3 responses (~4.3%).

**Table 1. Graduate student and faculty responses for each survey broken down by [department](#)\***.

Department	Student Responses	Faculty Responses
BME	11	6
ChBE	11	9
CEE	9	10
CS	11	5
ECE	8	5
ESAM	6	4
IEMS	3	7
MSE	23	12
ME	16	8
SDI	N/A	3
Total	98	69

## SUMMARY OF FINDINGS

**ROLES AND TRAINING.** Both surveys asked about the typical roles TAs serve in McCormick which revealed that TAs primarily hold office hours and grade assignments ([A1 Figures 1 and 2](#)).

The quantitative data from both surveys revealed:

- Graduate student responses indicated variation in awareness of training provided by their department, where no single department had students clearly reporting “yes” or “no”, and an average of 38.3% (range 0-75%) per department reporting “I Don’t Know/Not Sure” ([A2 Figure 3](#)).
- Nearly half of the graduate students who responded (42/98, 42.9%) indicated that they have not received any training in preparation for their role as TA ([A2 Figure 4](#)).
- A high fraction of graduate students who responded (39/98, 39.8%) indicated they have not been a TA in McCormick, which was taken into consideration when analyzing the results ([A2 Figure 4](#)).
- Those who reported receiving training indicated they are mostly trained to hold office hours or grade ([A2 Figure 4](#)), which are the most common TA roles reported by graduate students and faculty ([A1 Figures 1 and 2](#)).
- Graduate students expressed interest in receiving training in *all* roles and responsibilities listed on the survey. In each category, 2-6 times more people reported wanting training than having received it. Those categories also included professional development skills, such as developing assignments, lecturing, and bias, inclusivity, and anti-racism training ([A2 Figure 4](#)).

In the qualitative responses, some faculty described wide variation in TA quality, goals, and interest. Some faculty did note the need for TA training. However, some responses indicated TAs as either good or bad or interested or not, implying that training would have little effect in improving TA development. The committee would like to emphasize that skills and interest in TAing can evolve and be improved with adequate training.

**FEEDBACK.** In an effort to understand the nature of feedback on teaching, we asked faculty and graduate students whether TAs receive feedback, who provides it, and how frequently it is received. Unfortunately, we did not explicitly define what is meant by “feedback” in the survey, which impacted our interpretation of the data .

Our major findings on receiving feedback from the graduate student survey data ([A3 Figure 5](#)) are:

- Over half of graduate student (33/56, ~59%) indicated they receive feedback from the students they teach.
- About a third of graduate students (21/56, ~37.5%) indicated they receive feedback from faculty.
- About a fifth of TAs (12/56, ~21%) indicated they have never received feedback on their role as a TA.
- While very few reported receiving feedback from their peers or other TAs, no TA reported having received any feedback from a non-course instructor faculty.

Our major findings regarding feedback frequency from the graduate student survey ([A3 Figure 6](#)) are:

- Most TAs (40/56 responders, 71.4%) reported that they receive feedback primarily only at the end of the quarter across all sources, especially from the students they teach.
- Under a fifth of responders (9/56 responders, ~16%) reported receiving feedback more than twice per quarter from course instructors.

Results from the faculty survey regarding feedback frequency to graduate students ([A3 Figure 7](#)) showed that:

- Most faculty (50/69 responders, ~72.5%) indicated that they provide feedback to TAs throughout the quarter, as opposed to only at the end of the quarter (8/69 responders, ~11.6%).
- Only one faculty member indicated they had never provided feedback to TAs.
- Additionally, 13/69 faculty (~18.8% of responses) indicated they only provide feedback to students if they ask.

**QUALITY OF TA EXPERIENCE.** The survey responses asking graduate students about their experiences serving as a TA in McCormick and working with students, instructors, and other TAs were overwhelmingly positive.

- Most graduate students indicated that their experiences are either very positive or somewhat positive in all categories ([A4 Figure 8](#)).

We note this result may reflect a bias in who completed the survey, as those who are interested in TAing may have been more likely to respond.

**PERCEPTION OF VALUE.** Graduate students' responses varied both within and between departments when asked to rate their agreement with the following statement: "My department values teaching as part of my professional development as a graduate student in my discipline". Our major findings from the quantitative data ([A5 Figure 10](#)) are as follows:

- Most graduate students indicated that all members of the Northwestern community—undergraduate students, graduate students, professors/faculty, other TAs, departments, and the Northwestern community as a whole—either highly value, value, or somewhat value TAs.
- A large number of TAs reported being unsure of how much they are valued by each category of the Northwestern community.
- Of note, professors/faculty, department overall, and Northwestern community were the only categories where students report of feeling highly undervalued.

The survey data suggests that graduate students do not feel that faculty, departments, or the Northwestern community value TAing as much as students. However, when faculty were directly asked faculty about valuing TAs, we found that:

- Nearly all faculty indicated that they strongly agree (54/69 responders, ~78.3%) or agree (13/69 responders, ~14.7%) with the statement, "I value the work of TAs" ([A5 Figure 11](#)).

We found that faculty perceptions of value did not align with graduate student perception, in which 15% of graduate student responders reported a negative perception of feeling either highly undervalued, undervalued, or somewhat undervalued. Qualitative responses from faculty describe graduate student TAs as *important/essential, hard-working, committed, interested, strong, knowledgeable, excited*, and other positive attributes. We again note that the faculty spoke about TAs as static, rather than as evolving professionals who grow over time. In addition, faculty were asked to rank their perception of how other faculty and their department value the work of TAs. All responses were positive (strongly agree, agree, or somewhat agree) in both categories. Interestingly, faculty perceive themselves to value TAs more highly than their department or their colleagues, and they believe their department as a whole values TAs more than individual colleagues ([A5 Figures 12](#) and [13](#)).

## RECOMMENDATIONS

Based on the results of the surveys, we present a series of recommendations aimed at strengthening TA professional development in McCormick as well as improving feedback and communication about teaching between faculty and graduate students.

**TRAINING.** Because many graduate students appear to be uncertain about the availability of TA training, there is a clear need for better communicate the training available within the department. These should be outlined both at the School and departmental level. In addition, there are campus resources that provide pedagogical support such as the Graduate Student Teaching Conference led by the Searle Center each September as well as programs and workshops throughout the year. However, these resources are meant to supplement department-specific training. Our data reveal that graduate students desire more training as part of their professional development.

We **recommend**:

- Departments provide training to prepare graduate students to serve as TAs, if not already doing so.
- Departments must strongly communicate to the graduate students the training opportunities available within the department and across campus.
- Faculty encourage students to attend the Graduate Student Teaching Conference and ongoing workshops to supplement their departmental TA training and professional development.

The **McCormick Graduate Teaching Committee** can support these efforts by:

- Providing recommendations to departments on ways to support graduate student professional development and training.
- Gathering data on existing training within departments and at the Searle Center to facilitate communication across departments about such resources.
- Supporting departments in developing TA training resources.
- Leading workshops and discussions for graduate students interested in strengthening their pedagogical skills.

**FEEDBACK.** The data suggested a need to promote clear expectations and structured communication on feedback between faculty and TAs. We also noted the lack of diversity of sources of feedback; students seem to primarily receive feedback from course instructors and students. While we believe frequent feedback from faculty and students is valuable, we also recognize that feedback from peers and non-course instructor faculty should be included as well.

Based on the survey data, we recommend:

- Departments, faculty, and TAs encourage students to fill out CTECs for TAs.
- Faculty and TAs develop and encourage implementation of mid-quarter feedback (at a minimum—continuous feedback is preferred), rather than just at the end of the term.
- Faculty provide TAs with clear and specific feedback on their teaching at multiple time points throughout the quarter.

The **McCormick Graduate Teaching Committee** can support these efforts by:

- Developing groups in which students provide peer feedback on teaching.
- Developing feedback and observation forms for faculty (or other mentors) to provide structured feedback on teaching.
- Develop ways to host conversations about providing feedback on teaching, grading, or other aspects of TAing.

**PERCEPTION OF VALUE.** In an effort to promote TA sense of worth, we recommend providing TAs opportunities to contribute to course design and develop assessments. This may help TAs feel a sense value in their assigned courses as well provide continued professional development. In addition, we understand that recognizing and acknowledging the hard work that TAs do is important. Some departments (e.g. Chemical and Biological Engineering Department), provide an annual TA award with a stipend. Our data revealed that TA workload varies dramatically by context, with some working within the required weekly hours while some working significantly more.

We **recommend**:

- Standardizing expectations and TA workload to ensure equity across contexts.
- Providing TAs more autonomy and meaningful roles, such as being involved in course development, assignment planning, and lecturing.
- Developing a means of recognizing and rewarding teaching. For example, developing a teaching award at the department level, while being sure to select awardees in such a way that mitigates bias.
- Providing TAs with an avenue to report concerns about working beyond standardized requirements without repercussions.

The **McCormick Graduate Teaching Committee** can support these efforts by:

- Developing McCormick-wide TA awards (perhaps in multiple categories) with monetary stipends to highlight the work of several excellent TAs each year.
- Provide TAs with an avenue to report concerns about working beyond standardized requirements without repercussions.

We recognize that awards could become biased without a proper framework to guide the decision-making process. The McCormick Teaching Committee can help develop a framework for selection of awardees and provide a context to support TAs as they hope to achieve excellence in teaching and promote inclusive learning environments.

## REFERENCES

1. <https://www.northwestern.edu/searle/services/feedback-on-teaching/index.html>

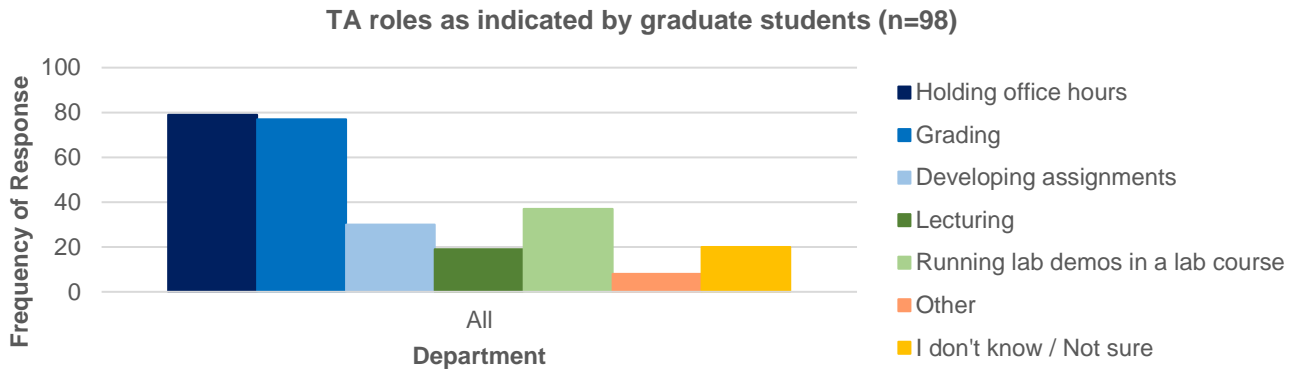
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*\*Abbreviations for each department in the survey are as follows; Biomedical Engineering (BME), Chemical and Biological Engineering (ChBE), Civil and Environmental Engineering (CEE), Computer Science (CS), Electrical and Computer Engineering (ECE), Engineering Science and Applied Math (ESAM), Industrial Engineering and Management Sciences (IEMS), Materials Science and Engineering (MSE), Mechanical Engineering (ME), Segal Design Institute (SDI)*

# APPENDIX

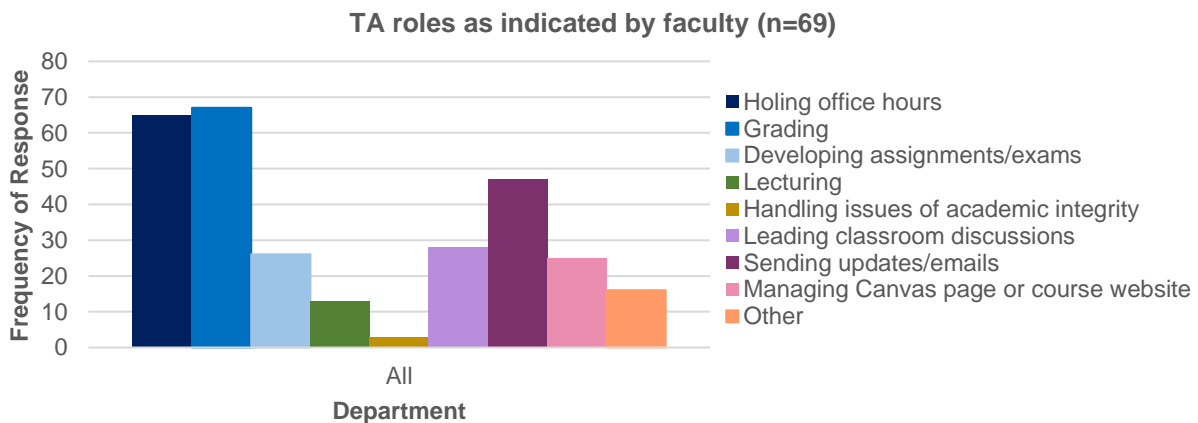
## A1. TA ROLES

We asked TAs and faculty about the typical roles graduate students serve as a TA for classes in McCormick. TAs indicated that they primarily hold office hours and grade, though some run lab demos and develop assignments (Figure 1). Additionally, 20% of TAs (20 out of 98) indicated that they lecture. Please note that the word “lecturing” was not defined in the questionnaire and might mean different things to the respondents.



**Figure 1. TA roles as indicated by graduate students aggregated across all departments.** Total graduate student responses n=98. Question: “What are the typical roles of a TA in your department? (Check all that apply)”. Data presented as summed across all departments.

Faculty indicated that primarily they ask their TAs to hold office hours and grade, which shows strong congruency with TA roles indicated by graduate students (Figure 2). Note, the survey asked the faculty about a larger list of roles, so comparing roles one-to-one between the two surveys is not possible. For example, faculty indicated that they often ask their TAs to send updates/emails to the class.

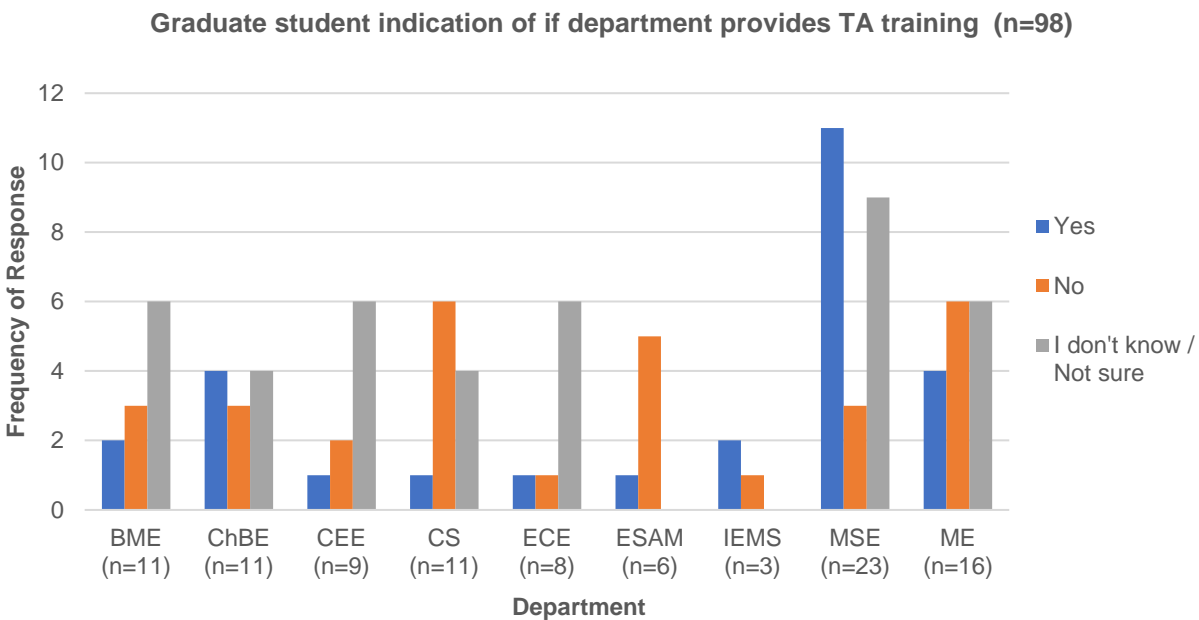


**Figure 2. TA roles as indicated by faculty aggregated across all departments.** Total faculty responses n=69. Question: “Please check all of the following roles that are typical of a teaching assistant who works with you when you’re the instructor for a course.” Data presented as summed across all departments.



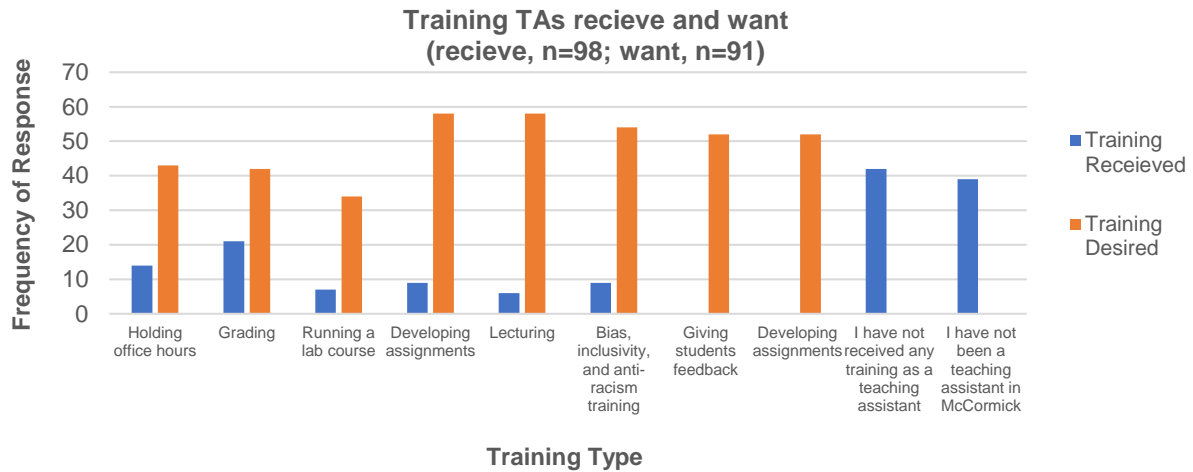
## A2. TA TRAINING

We attempted to get a sense of current TA training in McCormick, assessing which departments provide training and what topics TAs are or want to be trained on. We first asked the graduate students if their departments provide training. TA responses varied dramatically between and within departments: some indicated that their department provide training, some indicated that their department do not provide training, and some indicated that they are not sure (Figure 3). The committee's survey did not ask for explanation for these responses. This array of responses could result from one of several things, such as 1) younger students or those who have not TAed yet being unsure of what training is available or not having received it yet, 2) poor communication, advertisement, or attendance of provided training, or 3) varying ideas about the definition of TA training. For example, some may believe TA training is an explanation of department TA requirements and expectations while others may believe training entails more of a workshop or seminar style explanation of specific aspects of TAing.



**Figure 3. Training provided by departments as indicated by graduate students.** Total graduate student responses n=98. Question: “Does your department provide any training or preparation specifically for teaching assistants?”

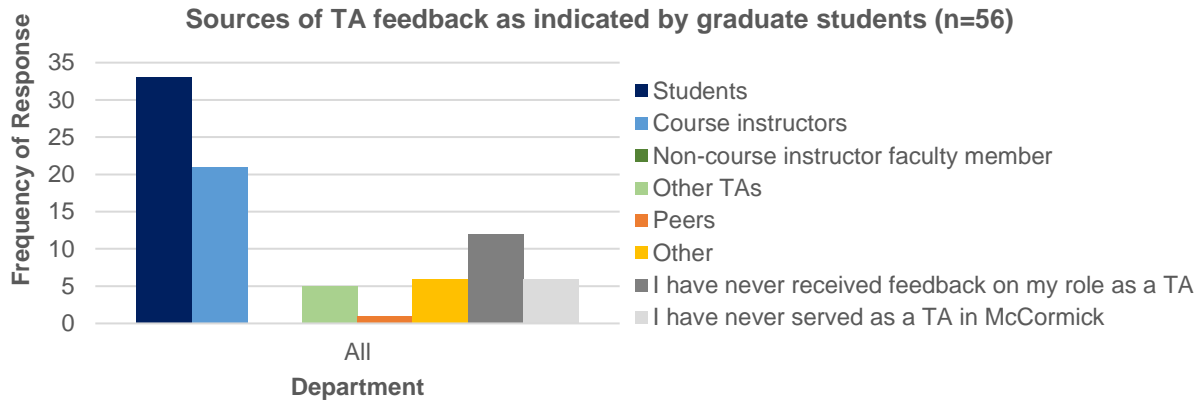
In terms of training TAs want, the highest responses were in involved roles like lecturing and developing assignments, or roles that centered classroom or student interaction, such as giving students feedback and bias, inclusivity, and anti-racism training. This could indicate graduate student interest in gaining training in roles faculty typically see as instructor roles.



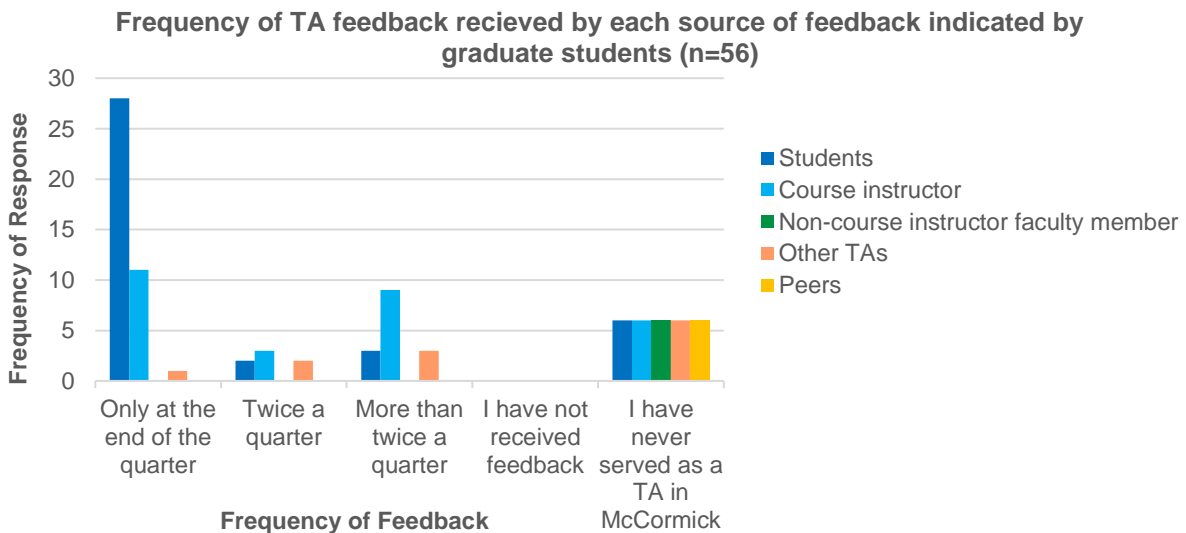
**Figure 4. Training that TAs receive and want.** Total graduate student responses were n=98 for receiving training and n=91 for wanting training. Question about receiving training: “Have you received training or preparation as a teaching assistant in any of the following areas? If other, please specify.” Question about wanting training: “What areas would you want training in before serving as a Teaching Assistant? If other, please specify. (Check all that apply)”. Data presented as summed across all departments. Note: giving students feedback and developing assignments were not options on the training TAs want question.

### A3. TA FEEDBACK

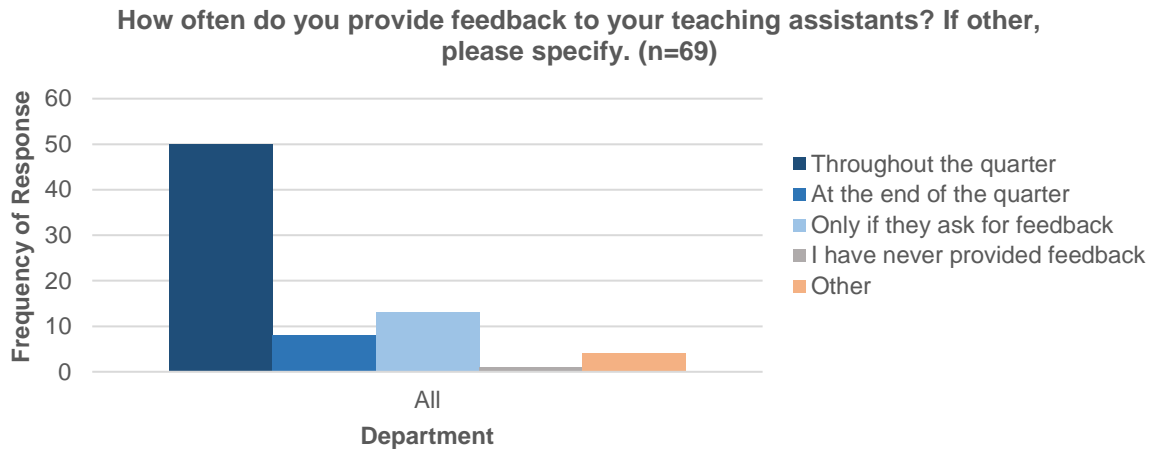
We attempted to understand how frequently TAs are receiving feedback on their teaching and who provide that feedback. Because feedback is not defined in the survey, respondents may interpret the term differently. Over half of graduate students (33/56 responders, ~59%) indicated that they receive feedback from students (Figure 5) and about a third (21/56 responders, ~37.5%) indicated that they receive feedback from faculty. We expect these categories to be the two highest.



**Figure 5. Sources of TA feedback as indicated by graduate students.** Total graduate student responses (n=56). Question: “From which of the following have you received feedback on your role as a Teaching Assistant?” Data aggregated across departments.



**Figure 6. Frequency of feedback received by each source of feedback as indicated by graduate students.** Total graduate student responses (n=56). Question: “From which of the following have you received feedback on your role as a Teaching Assistant?” Data aggregated across departments.

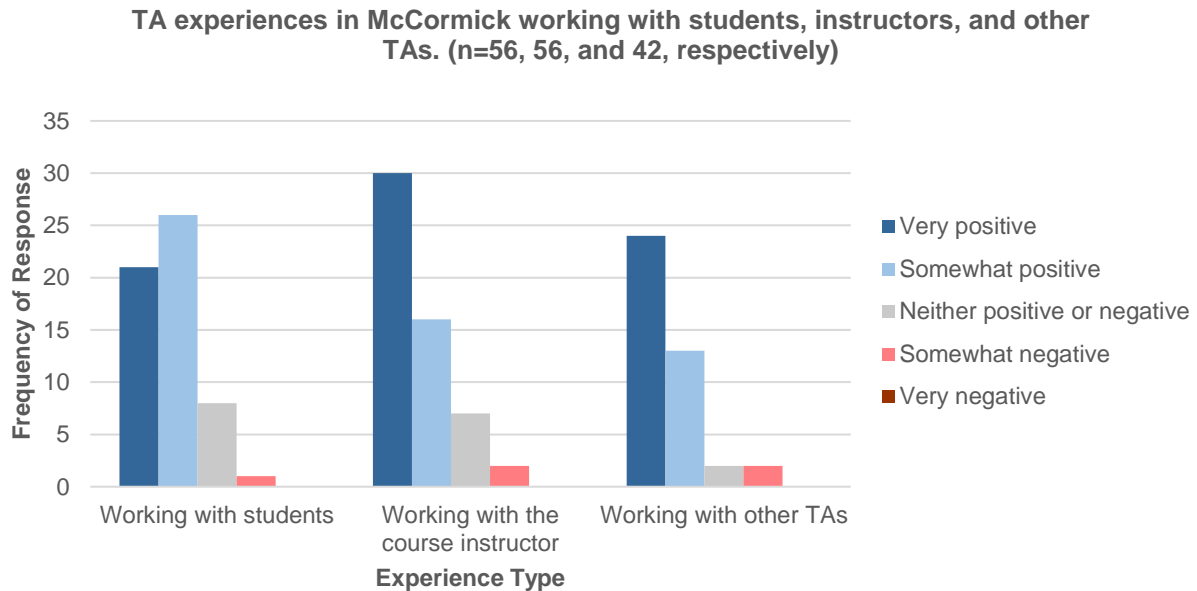


**Figure 7. Frequency of TA feedback as reported by faculty.** Total faculty responses (n=69). Question: “How often do you provide feedback to your teaching assistants? If other, please specify.” Data aggregated across departments.

Overall, we see a lack of congruency between faculty and graduate student reporting of feedback received and frequency of feedback. This could result from lack of congruent definitions of feedback between graduate students and faculty, or a lack of clarification that feedback is being provided in instances of such. We hope to help facilitate more clear and frequent methods for TAs to receive feedback, such as by providing a form that faculty can fill out for TAs, where feedback is clear to both parties. We also see an opportunity to provide avenues for TAs to get feedback from previously untapped sources, such as peers, other TAs, and non-course faculty.

#### A4. TA EXPERIENCES

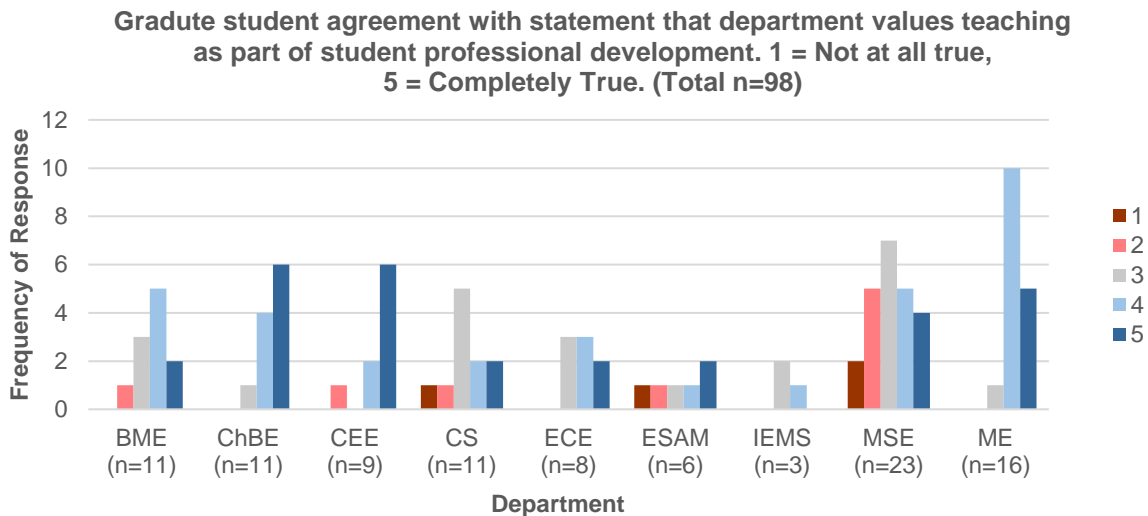
The survey asked graduate students about their experiences serving as a TA in McCormick working with students, instructors, and other TAs (Figure 8). The results are overwhelmingly positive, where most graduate students indicated that their experiences are either very positive or somewhat positive in all categories. We note that this may be a result of bias in who filled out the survey, as those who are excited about TAing may be more likely to respond to a survey about TA experiences.



**Figure 8. TA experiences in McCormick with students, instructors, and other TAs.** Total number of graduate responses on question about working with students, the course instructor, and other TAs were n=56, n=56, and n=42, respectively. Question: “If you have served as a TA before, how would you describe your overall experience in McCormick working with students? ...working with the course instructor? ...working with other TAs?”

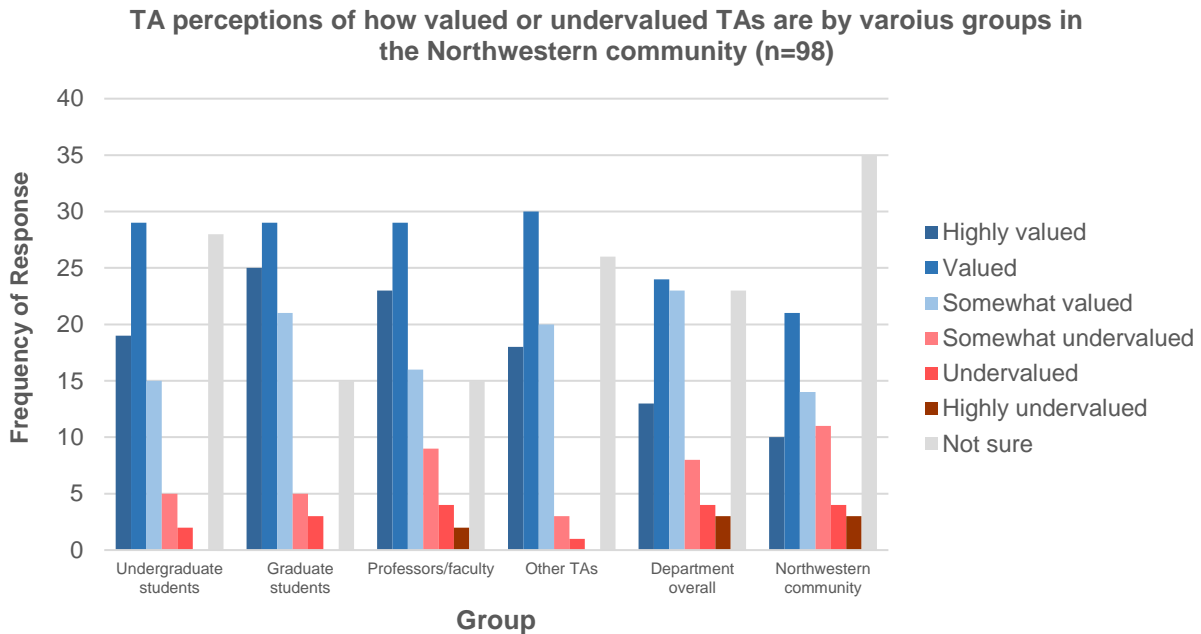
## A5. PERCEPTION OF VALUE

We also looked at how graduate student and faculty perceive the value of TAing, both in the classroom and the professional development of graduate students. First, we asked the graduate students to rate their agreement with the following statement: “my department values teaching as part of my professional development as a graduate student in my discipline”. Since this question had varied responses between departments, we present results broken down by department (Figure 9). We note that some departments have wider spread, including some students who disagree while others agree with the statement, compared to other departments with more uniform responses, most of which indicate agreement with the statement. While we do not intend to point fingers at any specific department (since the sample sizes are small to make such overarching statements), we think it is important to understand the perceptions of TAs in their individual departments, as results vary more here than in other questions when broken down by department.



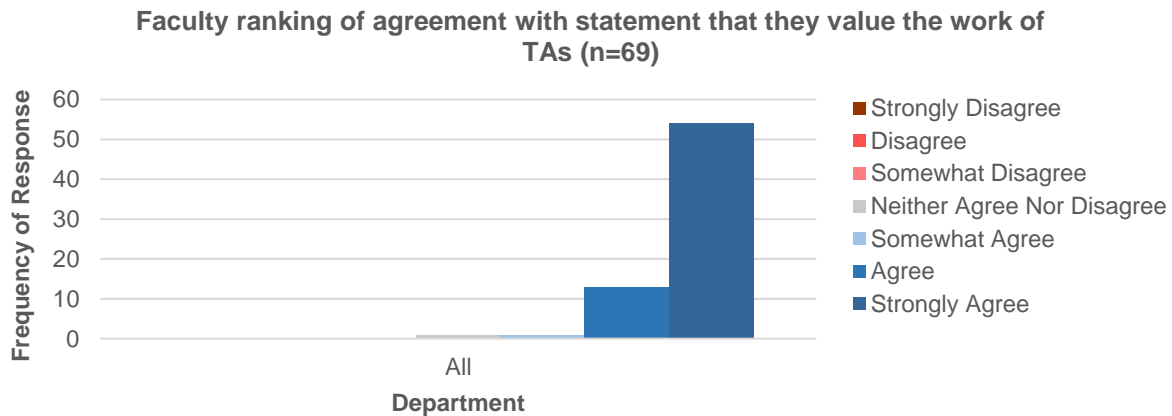
**Figure 9. Department valuing of teaching as part of student professional development as indicated by graduate students.** Total graduate student responses (n=98). Question: “Please indicate the extent that the following statement applies to you: My department values teaching as part of my professional development as a graduate student in my discipline. 1 = Not at all true, 5 = Completely true”. Data separated by department.

We subsequently asked graduate students to indicate to what degree they feel TAs are valued by various categories of people within the Northwestern community, including undergraduate students, graduate students, professors/faculty, other TAs, departments, and the Northwestern community as a whole (Figure 10).

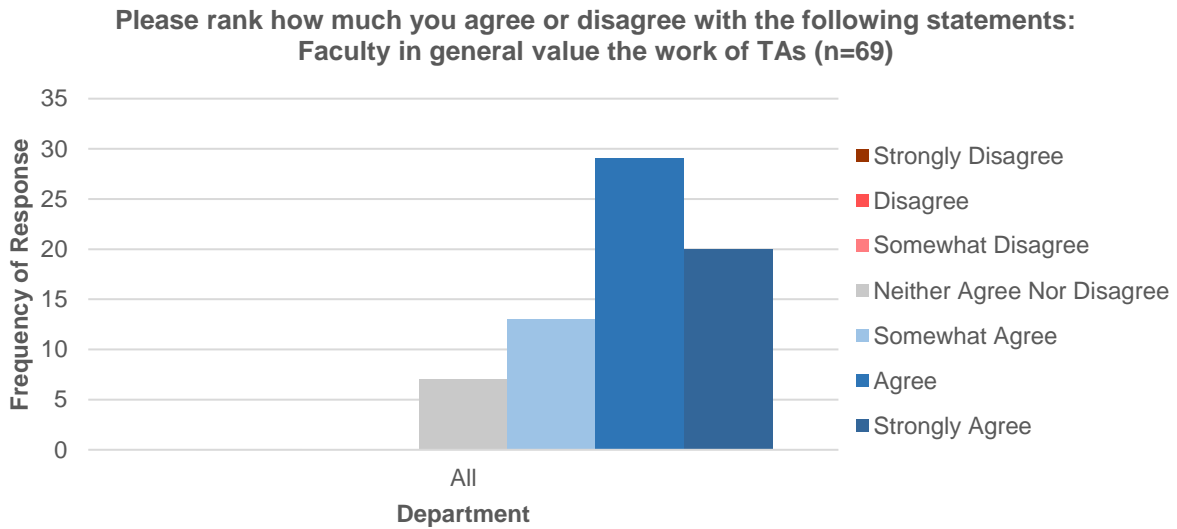


**Figure 10. TA perceptions of how valued or undervalued TAs are by various groups in the Northwestern community.** Total graduate responses (n=98). Question: “To what degree do you feel that teaching assistants are valued by the following”. Data aggregated across departments.

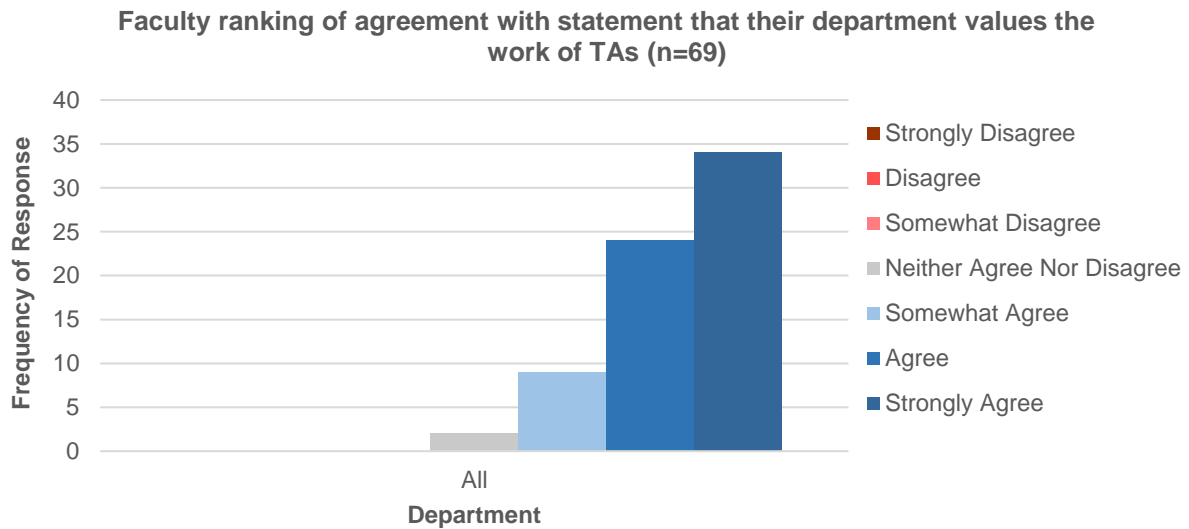
Finally, we asked faculty to indicate to what degree they feel TAs are valued by various categories of people, including themselves (Figure 11), other faculty (Figure 12), and their department broadly (Figure 13).



**Figure 11. Faculty ranking of agreement with statement that they value the work of TAs.** Total faculty responses (n=69). Question: “Please rank how much you agree or disagree with the following statements: I value the work of TAs.”. Data aggregated across departments.



**Figure 12. Faculty ranking of agreement with statement that other faculty value the work of TAs.** Total faculty responses (n=69). Question: “Please rank how much you agree or disagree with the following statements: Faculty in general value the work of TAs.”. Data aggregated across departments.



**Figure 13. Faculty ranking of agreement with statement that their department values the work of TAs.** Total faculty responses (n=69). Question: “Please rank how much you agree or disagree with the following statements: My department values the work of TAs.”. Data aggregated across departments.