

Mid-semester Course Feedback Surveys Extend the Reach of an Engineering Teaching Center

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Extend the Reach of an Engineering Teaching Center**

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Abstract

Formative mid-semester feedback to faculty can be used to improve a course before the summative end-of-semester teaching evaluations run by a college or university. The James McCormick Family Teaching Excellence Institute (MTEI) has changed the culture in Cornell University's College of Engineering such that the norm across most of the departments in the college is to incorporate mid-semester feedback accompanied by actionable suggestions from MTEI. Faculty taking specific individualized action on student-identified problem areas each semester, when carried out by many professors across multiple semesters and in many courses, increases the impact of MTEI far beyond the handful of "regulars" who would attend a teaching development event.

The mid-semester survey MTEI uses was created in collaboration with faculty in one department and across the last seven years has been modified and fully adopted in seven additional departments and partially adopted in several more departments. The surveys can be customized according to individual departments and instructors' preferences. The mid-semester feedback is conducted via anonymous, adaptive Qualtrics surveys deployed to the students enrolled in each participating course.

The survey design and implementation has been mindful of both student and faculty time. Students first select aspects of the course they feel need improvement and are only asked detailed survey questions about those areas. Then students respond to multiple select questions to identify what is going particularly well in the course, both in class and on assignments. A third block of questions, suggested and vetted by Cornell's Diversity Programs in Engineering Office, asks students about feeling included in the course. Using drill-down and multiple select options organizes student's responses, making it more efficient to identify themes in the data. When the students' responses have been collected, MTEI personnel read through each course's report, highlight key pieces of student feedback, and send the report to the instructor in an email including a summary and actionable suggestions to address significant student concerns. Faculty then have the option of reading the full report for themselves or focusing just on the MTEI analysis. They can spend their time, effort, and focus on improving the course, not on the logistics of creating and running feedback surveys.

While the feedback and responses are at the course level, across the college we see improvements in how often strengths of courses are cited by students. The process is labor-intensive for MTEI, but it is efficient for both students and faculty, and is a key component of improving the general level of teaching effectiveness across the college.

Introduction and motivation

As a teaching center, MTEI's goal is to assist **all** faculty in improving their courses and teaching skills. For faculty at the beginning of their teaching careers, we provide information, support and feedback for a strong start in teaching so they build confidence and identity as good teachers. For highly skilled teachers, MTEI offers assistance with planning and assessment of new approaches, or technology, or learning activities they created. Both of these groups of faculty are highly motivated and seek out and welcome assistance. For teachers needing significant and more specialized support, their departments frequently encourage them to seek assistance to increase their teaching skills. For various reasons (research, too many classes, high service load, etc.), there is a large population of teachers between the groups described above who could use help increasing their teaching and communication skills as shown in the middle levels of the teaching skills hierarchy in Figure 1. This population of teachers may not attend MTEI programming, but will frequently respond well to information tied to their specific course(s) that is timely and time efficient to implement. Reaching all faculty, including in this last group, has guided the design and implementation of the mid-semester course feedback program.

MTEI is supported and mentored by very successful alumni and we value the insights and external perspectives they share with us. They have strongly supported this effort to reach all faculty. Alumnus James McCormick, founder First Manhattan Consulting Group, has served as a program consultant since MTEI's founding in 2008 and based on his experience in driving change in businesses, he has continually advanced the idea of reaching all faculty, not just those who typically participate in our programs. This has led to a strong focus on reaching the broad and middle range of teachers and has been a driving force in MTEI programming, especially for the department-wide mid-semester feedback surveys. Figures 1 and 2 reveal how we have deliberately looked at different categories of teachers and built programs to support them and reach them where they are.

The work described in this paper has three motivations:

- 1) Provide nearly all engineering teaching faculty with a time-efficient method to incrementally improve their courses and engage with MTEI,**
- 2) Provide students with an efficient, anonymous, routine way to provide feedback on courses before the end of the semester, and**
- 3) Provide an "early alert" for courses that might have diversity and inclusion issues.**

To accomplish these goals, MTEI created a carefully designed mid-semester student feedback survey that reaches nearly 200 courses and provides most of our faculty with timely, incremental, time-efficient suggestions of steps they can immediately take to improve their course and teaching. Developing the feedback survey required extensive effort. The next sections will briefly explore the literature regarding the development of mid-semester feedback surveys followed by a discussion of the development of MTEI's implementation.

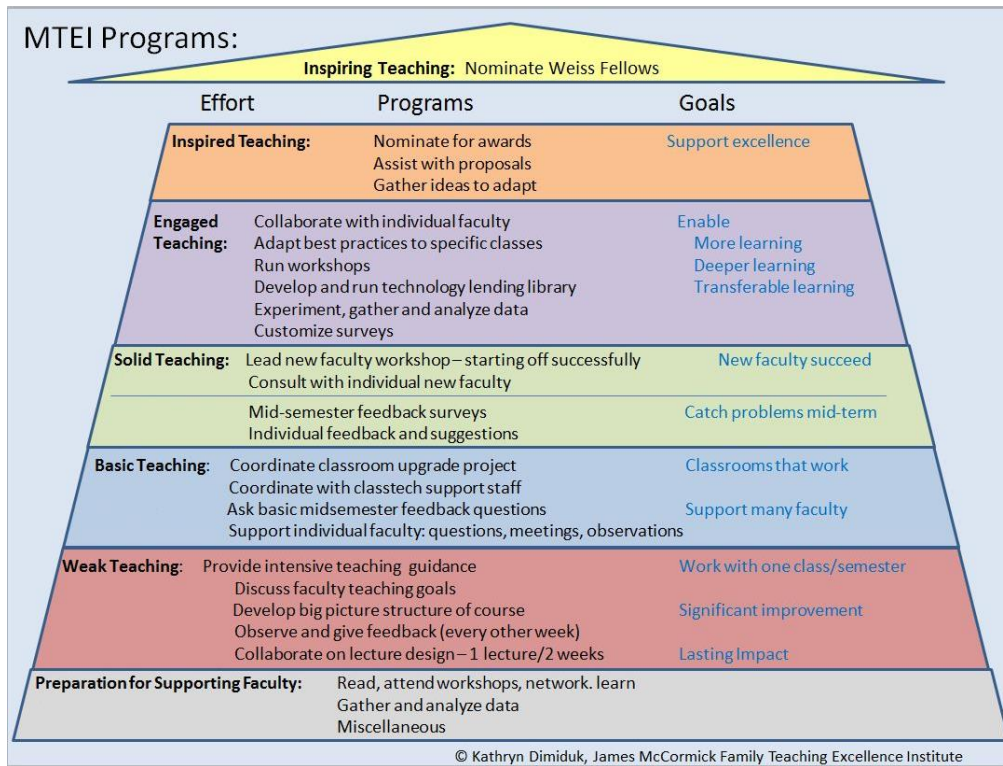


Fig. 1. Teaching skills hierarchy

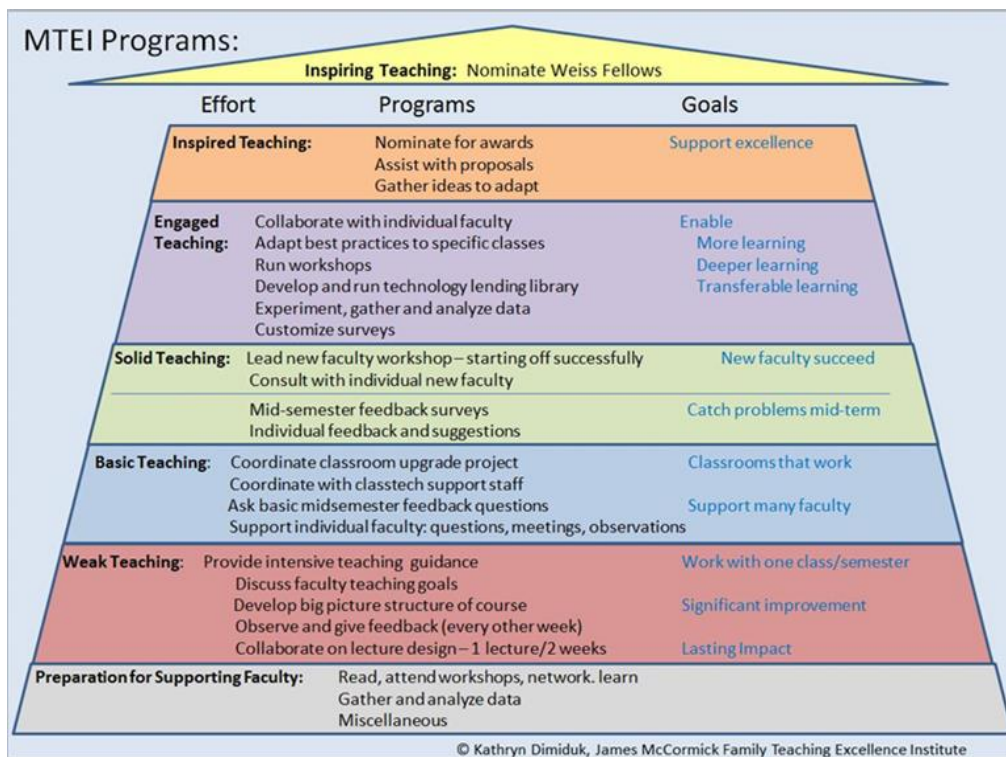


Fig. 2. Mapping MTEI programs to the teaching skills hierarchy

Literature review of mid-semester evaluations

Formative assessments (mid-semester evaluations) have proven valuable in providing student feedback [1] [2]. Mid-term student evaluations have long been fertile ground by which faculty growth and development has been re-examined and reassessed [3] [4]. In 1970, a teaching center at the University of Washington created an assessment tool, Small Group Instructional Diagnosis (SGID), which provided an opportunity for faculty and lecturers to obtain a better grasp of course structure and course materials and to better understand student feedback while the course was still in progress. Changes could be made to various aspects of departmental courses and students and faculty in turn saw more powerful and positive summative evaluations. SGID quickly gained faculty interest due to increased student motivation in courses, and faculty saw concrete and immediate ways to make changes to help students and potentially change future courses [5].

One challenge with SGID early on was to increase the number of faculty involved in mid-semester evaluations. Many faculty who participated with this assessment tool were already well established, motivated and skilled teachers. Strategies such as making it mandatory for new faculty to evaluate the process after their first year, making the questions more course specific and assisting faculty in understanding the benefits of mid-semester evaluations to their courses proved to be compelling methods in gaining more faculty interest [6] [7] [8]

Formative assessments have significantly changed over years. Key studies using formative assessments illustrate the importance of continuously thinking about mid-semester evaluations [9] [10] [11]. Kulik's study focused on teaching center facilitators who followed up with faculty as a crucial intervention after implementing mid-semester evaluations [9]. The results confirmed that faculty who received teaching center "consultations" (comments, suggestions, and feedback) had significantly higher progress than those who did not receive "consultations". Many studies have used facilitators to administer formative assessments [9] [10] [11] [12]. These studies used multiple disciplines, departments, and various class sizes and levels.

Technological advances have opened new possibilities for how the assessments are administered and also enhanced the possibility of questions becoming more applicable to students and more course specific. One use of technology was an online collaboration assessment. Students, in small groups, were requested to use Google Docs, an online tool which allows students to interactively respond to the evaluations. All students were able to view each other's comments and respond to the comments. Google Docs is familiar to many students and requires no software purchase [13]. This study was successful with many students. Despite this success using Google Docs, there remains questions of anonymity and the willingness of some students to share information when peers have visible access to their responses.

Many studies [12] [14] recognize the importance of teaching center or facilitator intervention in the mid-semester evaluative process. Diamond's study [15], for example, used a longitudinal study with SGIDs, where facilitators were central to the mid-semester evaluation process. They asked key standardized open-ended questions: "1) What aspects of this course/instruction enhance your learning? 2) What aspects of this course/instruction could be improved? 3) What

could you-as the student-do to make the course better for yourself, your classmates, and the lecturer?” [15] The facilitator gathers the top responses and shares them with faculty. The facilitator would offer suggestions and resources on how to address these concerns with students.

Two key aspects differentiating the MTEI mid-semester feedback surveys from Diamond’s are student anonymity and scalability to a large number of courses. MTEI uses Qualtrics surveys to allow students to participate in the evaluations outside of class with complete anonymity. Scaling is enabled by MTEI’s approach of efficiency in the surveys. Survey logic adapts the questions students see based on the topics that students say need improvement, thus gathering pertinent information while reducing the number of questions the students see. In addition many questions are multiple select based on MTEI’s experience with student answers, with an “other” for anything else students want to add. This reduces the number of free response comments and enables automatic tallying of results.

After gathering student data from the surveys, MTEI is able to identify which courses need specialized and focused intervention. Similar to other studies in the literature review, once issues regarding courses have been identified, MTEI makes suggestions through individual emails that accompany the reports sent to faculty, and follow-up telephone and in-person discussions and classroom observations. Faculty have been motivated and open to making necessary adjustments to their courses mid-semester and for their future courses.

Discussions and training/workshops at many universities and within mainstream society have heightened awareness and consciousness around issues of diversity. The literature is inundated with data discussing either diversity or mid semester evaluations, but there is little data on the impact these entities have on one another. However, in 2015, African American students at Emory University demanded that faculty include “open-ended micro-aggression questions” on teacher evaluations in order that they have a safe and anonymous space to share their feedback. [16] Micro-aggressions, according to psychologist and leading author on the subject, Derald Sue, are: “The everyday slights, indignities, put downs and insults that people of color, women, LGBT populations or those who are marginalized experiences in their day-to-day interactions with people.” [17] Micro-aggressions are often subtly expressed and often without malicious intent. Cornell has incorporated diversity and inclusion questions into the mid-semester surveys that exposes micro-aggressions and other issues facing classes.

Creation of the surveys at Cornell

The idea for the department-wide mid-semester feedback surveys grew out of a discussion requested by a graduating senior. He pointed out that students had no way to anonymously provide feedback while a course is in progress, neither to the professor, nor to the department. He felt this was a significant failure that should be addressed. At that time, mid-semester feedback was typically only done by individual instructors who wanted to excel in teaching, not the courses of greatest concern to the students. To address the issue, **mid-semester feedback surveys would have to be normalized in the department and given to all students in all courses. This would need to be done in a way that had faculty support, wasn’t burdensome to students or faculty, and that also provided an “early alert” for courses that were having difficulties.**

The resulting survey was designed with an adaptive, multiple-select, drill-down-to-problem-areas approach. Students initially rate the course as quite good or needing improvement in one

or more areas. This defines the path through the survey, either to a pair of open-ended questions asking what is good and what needs improvement or to a deeper dive into problem areas, first selecting problem areas and then providing more detailed information. This allows easy tallying of responses to identify problem areas, some free-response questions to capture details and students not seeing irrelevant questions. The result was detailed information on problem areas from a small set of questions that each student saw. The multiple select answers were based on MTEI’s extensive experience with course evaluations and recurring concerns. Faculty input was sought on the exact wording of questions and potential responses so that the resulting survey reports would resonate with them. This careful question and answer choice phrasing minimized the number of students who selected “other” which made the surveys efficient for students to take and for MTEI to tally results. Figure 3 and 3a show the survey flow for the first block of questions. If a student selected “needs improvement in one or more areas” a multiple select question showing potential problem areas was asked next. Depending on the answers selected, additional questions on the specific areas were asked, drilling down for more detailed information on those problem areas. Questions related to topics not selected were skipped.

The survey was adopted for all courses in the pilot department, with an opt-out option if a professor had his or her own mid-semester feedback system that was more tailored to a specific course. Word spread between faculty and two more departments immediately adopted the survey and additional departments were added across the following semesters.

As the survey adoption grew, there was strong faculty interest in also reporting on the strengths of courses in a systematic way and not just with open-ended comments. This led to a second block of questions that asked about strengths in the lecture component of the course and in assignments using multiple select questions. See Figure 4.

The results were presented as a bar graph so faculty could quickly see which strengths students saw in their course and which ones weren’t as present. As one faculty succinctly stated – “but all of these are important strengths, shouldn’t I be doing well at all of them? I’m going to try for more next semester.” A question was also added to measure whether students saw active learning happening in their classes. Figure 5 compares student responses concerning strengths for a particular course where the professor worked on increasing strengths over several years.

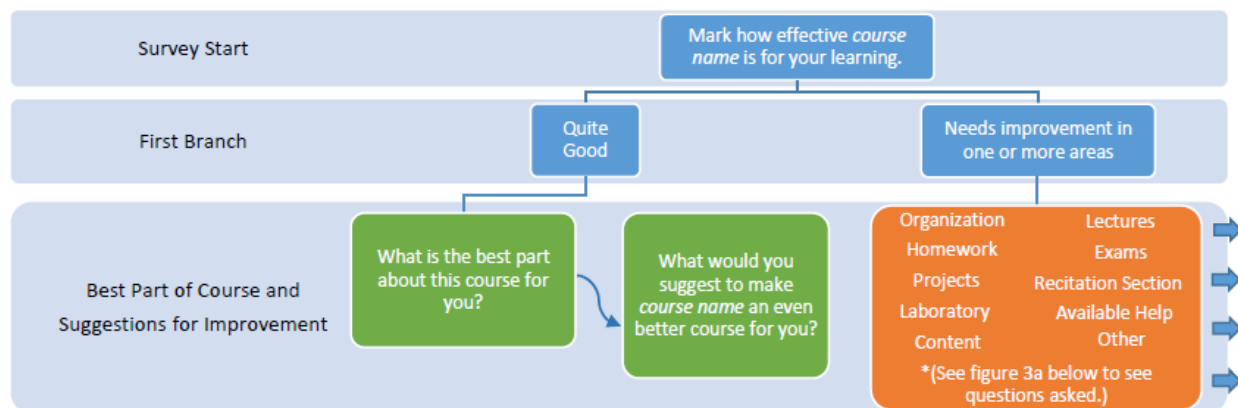


Fig. 3. First block of questions showing survey path (Green background indicates open-ended question; orange background indicates multiple select question). Continues in Fig. 3a.

Topic	Question	Answers
Organization	Which of the following change(s) to the course organization would help you learn more? (check all that apply)	<ul style="list-style-type: none"> • Better organize the content across the course. • Use a textbook. • Make the organization of the lectures more apparent. • Make the workload more even, less sporadic. • Modify the homework due dates. I would suggest... because.... • Assign homework earlier so we have more time before it is due. • Don't assume we know material that was only briefly mentioned in earlier courses. An example is • Don't repeat large parts of earlier courses. An example is • Try to make fewer mistakes. • Start and end on time. • Other
Lectures	I could learn better from lectures if you would (check all that apply)	<ul style="list-style-type: none"> • not cancel multiple lectures • write larger • improve your handwriting • speak louder or use a microphone • organize the lecture better • make lectures more interesting • include more examples • make the explanations clearer • use clickers • use clickers differently, elaborate • engage students more by • other, please elaborate

Fig. 3a. Examples of additional targeted (drill-down) questions that were included based on the identified problem areas (see the orange block in Figure 3)

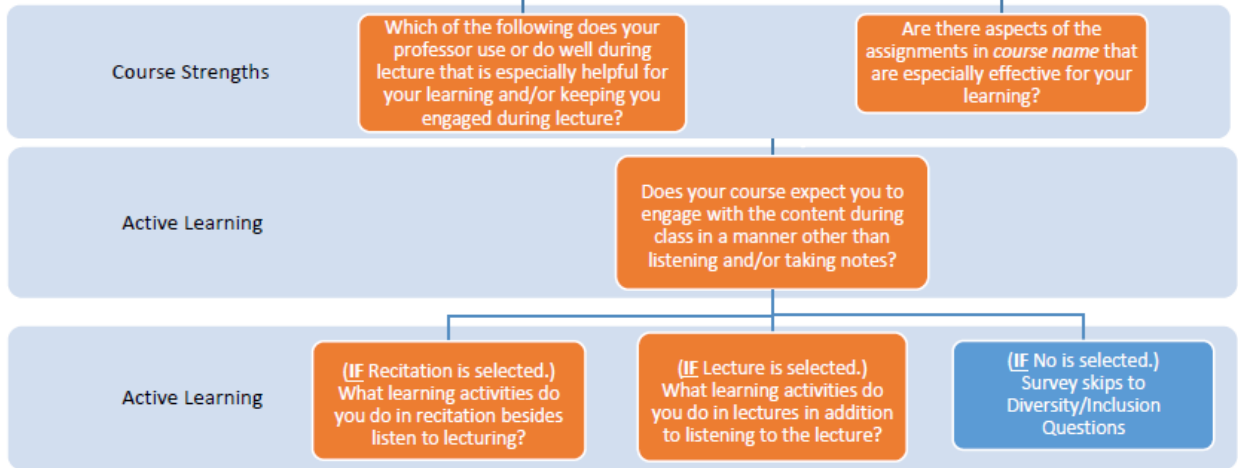


Fig. 4. Question block 2 seen by all students: strengths of the course, and active learning

Survey Question: Which of the following does your professor use or do well during lecture that is especially helpful for your learning and/or keeping you engaged during lecture? Select all that apply, if any.

Example Class (F17 vs. F19)

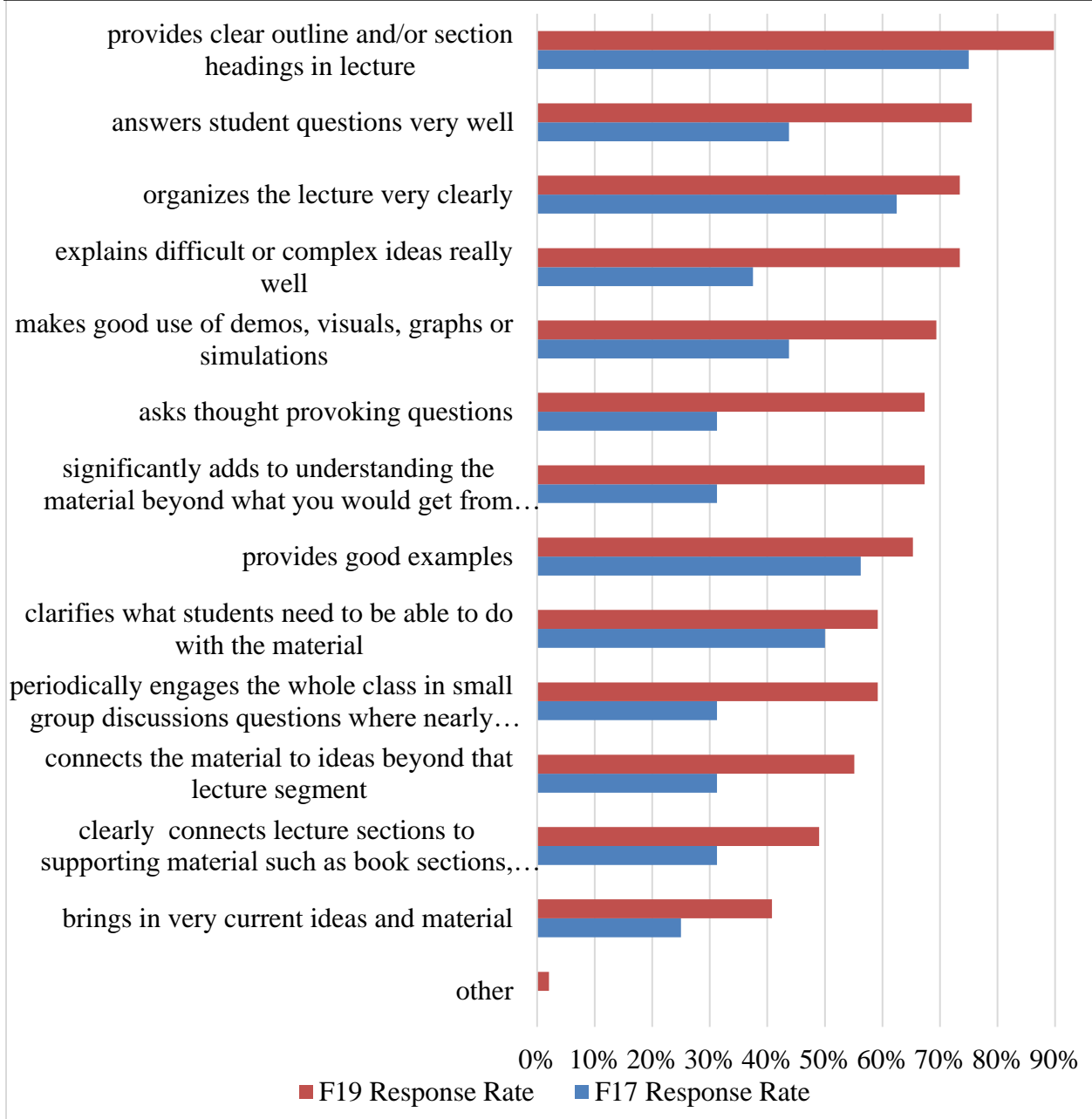


Fig. 5. Example bar graph showing how the lecture strengths responses has changed over time for a particular course. This emphasizes that the survey itself can serve to suggest and motivate areas to improve year to year, even for an already good course.

The third block of questions, Figure 6 and 6a, was created in response to student concerns around diversity and inclusion and how to easily report things that made them uncomfortable in a class but didn't rise to the level of filing a formal report. These questions were developed by authors Dimiduk and Carter in coordination with Cornell's Diversity Programs in Engineering, and were worded with an intent to capture diversity or inclusion concerns in a broad sense. This provides a way to identify not just larger issues, but also micro-aggressions, which course staff might otherwise be unaware of, and bring them to the attention of faculty. The surveys were not intended to, nor do they replace formal reporting of serious issues.

The next section will briefly explain how MTEI implements and processes the mid-semester surveys. Currently the survey fully reaches 8 departments, includes some courses in several more departments, and covers nearly 200 courses each semester.

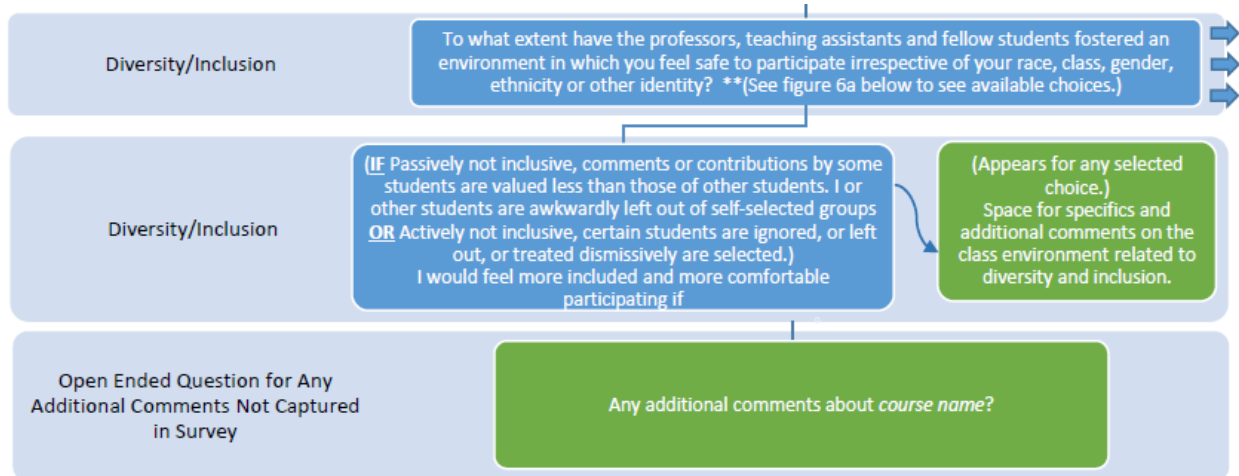


Fig. 6. Diversity and inclusion questions

Answers
Actively inclusive, all are fully encouraged to participate and are supported.
Passively inclusive, everyone is welcome to participate. Nothing specific to encourage or discourage anyone.
Passively not inclusive, comments or contributions by some students are valued less than those of other students. I or other students are awkwardly left out of self-selected groups.
Actively not inclusive, certain students are ignored, or left out, or treated dismissively.

Fig. 6a. Available choices for the first diversity and inclusion question (see the top blue block in Figure 6)

Survey implementation and processing

Each semester, MTEI works closely with each department to ensure that all courses are included and that co-listed courses appear only in the parent department's survey so students are not surveyed multiple times for the same course. Timelines are set for faculty input for additional questions for specific courses and survey dates. Part time (seven weeks or less), special topics, research, independent, seminar, and colloquium type courses are typically excluded from the mid-semester survey. Surveys are created in Qualtrics and shared with participating departments.

Departments communicate any changes (classes cross listed, removing or adding classes, or course name changes). Departments alert students to the survey process and usually give a brief overview of the purpose of the surveys, how the surveys should be taken, their anonymity, and the dates the surveys will close. MTEI tests each survey to alleviate any malfunctions in the system before the final launch. Student enrollment data is turned into a Qualtrics email list. Students who have not yet completed the survey receive reminder alerts every other day to complete the survey.

Once the surveys close, MTEI generates reports for each course which MTEI faculty then read, comment on, and share with faculty and departments. This whole process takes considerable MTEI effort, but very little effort from most faculty. Faculty focus and effort is reserved for considering and making changes to their teaching and courses after they receive their reports.

Mid-semester feedback reports

Each mid-semester feedback report is read by the MTEI director or a faculty teaching fellow at the center. They then write an individual email to the course instructor highlighting something that is going well in the course, something actionable that the students would like improved, and suggestion(s) on potential improvements. The suggestions focus on something straight-forward that the faculty member can try in the next several classes. Because the suggestions are directly tied to student concerns and are written in terms of straight forward actions, faculty have been remarkably receptive to feedback and willing to try something slightly different. Faculty don't feel singled out as all faculty in the department get the emails. Some faculty pore over the reports themselves and some comment that they really like the summary and suggestions as that is easier both in terms of time and angst of reading negative comments. For more complicated suggestions or courses with multiple, significant issues, a meeting with the professor and potentially sitting in on a class is suggested. Occasionally, a suggestion is included for the next time the class is taught as a way to avoid the problem in a later semester. Table 2 illustrates frequent responses from students and strategies MTEI implemented to address the issues.

These are all straightforward ideas and standard teaching center fare. The impact comes from sending an individual email to faculty tying specific suggestions to student concerns brought up on the feedback survey for their course. By leveraging what students report and that all classes in a department are included, we are providing next step suggestions to most of the faculty each semester. Small steps each semester adds up to noticeable progress over time.

Table 2. Student concerns/ MTEI actions

Student Concern	Action(s) Suggested by MTEI
Can't hear	Suggest using the microphone and information on its location. If the professor is already using the mic, a ticket is sent to the AV support group to adjust the sound levels.
Lecture is disorganized	Suggest starting lecture with a brief outline, 3-4 lines. Add headings in the lecture as well. Add a summary or take-away slide at the end or write on the board.
Confusion on the course project	Suggest next lecture reviewing project information and then using a muddiest-point- minute-paper to identify remaining points of confusion. Suggest a rubric.
Students concerned they don't know what the exam will be like	Point students to learning outcomes. Potentially go over some high-level review of the course showing how the ideas are connected and what you consider important. This focuses students' review efforts on what you think is important
Homework is out of pace with the lecture	Suggest rather than staying off cycle, moving a problem or two to the next assignment to get back in sync
Content is just lots of bits and pieces.	Suggest spending part of a lecture to go over at a high-level what has been covered and how it all fits together and/or where the material is going for the rest of the class.
Students are confused.	Suggest muddiest-point-papers to learn where they are confused. Send the information to recitation leaders or go over a few points in the next lecture.
Class is boring.	Suggest active learning such as think pair share. Include information on implementing the suggested active learning method.
Need more examples.	Point out the request and ask if more can fit in the class. If not, suggest making a video of an additional example worked in detail for particularly hard topics. Make 2 or 3 a semester and over time you build up a library.
Lectures move too fast.	Suggest moving some material out of class, via posted readings or short videos. Those videos can be either video lecture capture or tablet-based screen and voice capture.
Homework grading too slow.	Suggest clarifying expectations of TAs or homework graders. Suggest simplifying the homework grading rubric to focus primarily on completion with fewer problems graded in detail.
TAs unprepared for discussion sections and office hours.	Suggest making explicit what has been covered in most recent lectures and what TAs need to cover. Require TAs to have fully worked all problems for discussion sections, not just read over provided solutions. Have homework solutions available for TAs well ahead of office hours and explicitly require them to familiarize themselves with the solutions beforehand.

When the mid-semester surveys were first introduced, the dominant complaints were around organization. That concern is much less frequent now and most classes now have a strong showing in the lecture strengths question for using outlines and headings. This was not the case when strengths were first included as a question. More recently, lack-of-engagement in lecture has been increasingly brought up by students, so suggestions have been including simple active learning approaches. A few semesters later the active learning questions are now showing more positive responses.

Every semester MTEI does further follow-up with a few courses including observing a class and meeting with the professor. For example, one semester, in a particular course, students reported the male professor was giving the women students a hard time if they answered or asked a question. They perceived that he was making faces at them while they answered and he would come stand right over them. The MTEI director, female, met with the professor, observed the class and saw exactly this behavior. Following up with him after class, he made faces at her too. When pointed out, his response was he was trying to clear his ears as she was very soft spoken, as were all the women in his class. From the classroom observation, all the women were not soft-spoken; this was the clue to the underlying problem. The professor had lost some hearing and couldn't hear the women students. He was moving close to them and trying to clear his ears in an attempt to hear them. Once this was identified, he treated it as an engineering problem to be solved; he needed data so he went for a hearing test, and was fitted for hearing aids. He was open with the students about the underlying issue and having initially lost some hearing at an engineering internship years ago working with a pile driver. The hearing loss was exacerbated now that he was older. The following semester there was no evidence of the problem in the student feedback. Thus, what could have been a serious bias complaint instead became a teachable moment on many levels – as an engineering problem, as a hearing protection issue, as a communication issue, and as a role model for addressing a disability directly to remediate and resolve the underlying problem.

In another example, one class had many students report “lecture not organized” while at the same time many students selected that lectures made good use of an outline and headings. This discrepancy was quite unusual. A classroom observation made the underlying issue apparent. The instructor was starting the class with a brief outline of the class and connecting the lecture to the previous lecture. However, this was an early morning class, and half the students arrived late – after the outline and connection building had already been presented. The problem was resolved by writing the outline on a side board and leaving it up across the lecture. Students were reminded to come on time but for many, the class was earlier than they could arrive on time. The outline on the side allowed them to more easily pick up on the lecture at whatever point they arrived and also to know what they had to review on their own. In this case, it was valuable that the MTEI director had been reading the feedback for many semesters and recognized the out-of-character feedback indicating there was a problem with this particular course.

For the diversity question in Fig. 6 and 6a, nearly all students choose the answers actively or passively inclusive. For any classes where even one student selects passively or actively non-inclusive, the text answers to the diversity block and other text answers in the survey are carefully read. Faculty are alerted to issues and encouraged to address the issue themselves, or with the TAs or in a discussion with the whole class depending on the source of the issues. While this represents less than 1% of classes and responses in any semester, we take these

student concerns seriously. Some specific issues for faculty and TAs that leave students feeling excluded include: presumed common experiences not being common, political bias, gender insensitive examples in class, international students treated as “foreigners”, and English speaking students feeling excluded if the TA switches to the TA’s native language rather than English in office hours. Women students feeling excluded in group work or lab groups has come up multiple times and faculty are encouraged to address this in class. Faculty can only address these issues if they know about them. A few students write to say they resent this question and more write to say they appreciate the question being asked. Because the surveys are anonymous, we cannot follow up with individual students, so the question does have information on where to report incidents or to get support through the Diversity Programs in Engineering Office.

Departmental use of the mid-semester feedback

A summary table is created for each department that gives the percentage of students who said each course was quite good. This information is shared with the appropriate person in department leadership and gives a quick view of which courses might be experiencing difficulties. In some departments this is the only information given to the chair and the rest of the survey only goes to MTEI (who create the reports) and the individual faculty members. Individual faculty can share the results further if they wish and can include information in their performance reviews at their choice. In other departments, the culture is that all the reports are shared with departmental leadership. Some departments add questions to surveys for all their courses to address broader curriculum development.

Conclusion

We have met the following goals:

- Students now have an anonymous method to provide feedback for many (nearly 200) courses mid-semester.
- The surveys reach nearly all the courses in eight departments so this feedback is an accepted part of the department culture for all instructors in these departments, weak or strong.
- We send a signal to students that we are paying attention across the college to the course environment and whether students feel included or not. This sometimes identifies micro-aggressions that can be addressed. Usually these are unintentional and the faculty were unaware they were happening in the course. Faculty then make changes and usually the issue doesn’t show up the next time the course is taught.
- Faculty receive individualized teaching tips for their specific course.
- Faculty teaching strengths are also recognized thus encouraging the growth of teaching strengths.
- MTEI now routinely interacts with over three quarters of the faculty in the college in any given semester.
- Teaching tip emails and teaching discussion lunches can be targeted to issues that show up across multiple courses.
- Across multiple semesters we see an increase in the strengths reported in teaching and a decrease in basic teaching problem areas which can be measured.

Because MTEI faculty read all the comments, they develop a sense of teaching strengths and issues across departments and the college. This informs topic selection for other MTEI programming such as periodic Teaching Tip emails that go out to all teaching faculty and periodic small group Teaching Discussion Lunches. In addition to general invitations to the lunches, individual invitations are sent to faculty for whom a topic might be particularly relevant. For example, when students raised concerns about lab courses across multiple departments, a discussion lunch around lab courses was organized and all lab instructors were specifically invited and encouraged to attend. Ideas and potential solutions were shared across departments that might otherwise have been siloed.

This mid-semester feedback program requires a significant effort from MTEI, but is very efficient with faculty time. It is incrementally improving teaching across a wide range of courses. We have seen an increase in the use of active learning as reported by students following several semesters of tips including active learning suggestions and instructions. In conclusion, we believe that the mid-semester student feedback surveys paired with individual emails with targeted teaching tips have been effective at extending the reach and impact of MTEI to a much broader pool of faculty and courses than we could reach with other methods.

This mid-semester feedback process, and the individualized observations on strengths and improvement opportunities, is a win/win: students are better served, and faculty self-confidence in delivering a superior educational experience is bolstered.

Next steps

There are several directions for next steps. A version of the survey for large CS coding classes is being developed and piloted. MTEI is also creating a Python program to take the Qualtrics data from a department-wide survey and automate generating drafts of the reports. With the new reporting tool, we will also be able to sum responses across a department or type of course and look for trends in problem areas that can then perhaps be addressed more generally rather than just at the course level.

Measuring the results of our diversity initiatives by identifying micro-aggressions and larger issues in classes is the first step towards addressing them. This is an ongoing process we are working on to make our classes more inclusive and increase student success. The data revealed will be used to inform trainings and workshops and share with academic circles.

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