

Formative Peer Assessment of Teaching

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Introduction

Teaching assessment in American institutions of higher education is often viewed as a high-stakes endeavor with the potential to impact faculty promotion and tenure decisions. Despite the important role teaching assessment plays in a university setting, it is often carried out in a perfunctory manner and relies only on student evaluations.^{1,2}

Teaching assessment can also fulfill a second, frequently-overlooked objective: the improvement of teaching and learning, also known as the formative assessment of teaching.³ However, rarely are formative assessments prioritized institutionally over the summative forms of such.⁴ This is due, in part, to the tension that often exists between summative and formative forms of teaching evaluations.² For example, student evaluation of teaching (SET)—the most commonly used form of teaching evaluation—are frequently acknowledged among faculty as potentially useful feedback for improving their teaching. However, many faculty question their use in personnel decisions, in part due to suspicions about the validity of SET and frequently whispered myths regarding SET.² This conflict results in student evaluations being ignored by faculty who perceive them as potentially unreliable or useless, while they are overemphasized by administrators looking to them as the sole representation of an instructor's ability in the classroom. Research into the validity of student evaluations has been occurring for nearly a century,⁵ and is likely to continue as long as universities continue to rely on students' evaluations. However, administrators and faculty alike are often unfamiliar with best-practices in the literature about how to analyze and utilize SET.

Thus, there are common calls for additional forms of teaching assessment, and for improved means of utilizing data from student evaluations of teaching.⁶ To respond to these perceived needs and to emphasize the formative assessment of teaching, faculty in the Electrical Engineering and Computer Science (EECS) Department at the Colorado School of Mines ("Mines") have adopted and developed a program of peer assessment of teaching called Teaching Triangles. Participation in the Teaching Triangles is entirely voluntary, and the results of the assessment are not used for promotion, tenure, or job performance measures. Rather, the program has been designed to be purely formative, focused on improving the teaching and learning in the department. Furthermore, the program has been faculty-initiated and faculty-driven from its initiation. It is seen as complementary to the existing summative assessment of teaching at CSM, which currently remains based on SET.

This paper sets out to share the Teaching Triangles program with faculty and administrators at other universities who might similarly be interested in improving faculty teaching through peer evaluations. We will describe the formation and evolution of the program, and results from its first two years of implementation.

Background

Teaching evaluations play myriad roles on university campuses today. They are used to make teaching assignments and other curricular decisions, to assist faculty members as they strive to

improve their teaching, and as a part of tenure and promotion decisions. Given their wide-ranging impact, there is little wonder that the form and utility of teaching evaluations are oft debated.

The prevalence of student evaluations of teaching (SET) far outweighs that of any other form of teaching evaluations, in part due to the (assumed) ease of implementing student evaluations and in part due to the belief by some administrators that student evaluations of teaching are the most important and accurate measure of teaching ability.⁷ Because of their wide-spread use, there has been extensive research into all aspects of SET: whether they can be directly related to learning outcomes;^{1,7} the validity of the survey instruments used;^{2,8,9} faculty responses to SET;² potential bias in SET.

Though the findings of such studies are rarely definitive, a few themes emerge. Researchers acknowledge that while no single measure of effective teaching completely captures the entire teaching process, students are well-positioned to judge certain aspects of teaching (for example, an instructor's attitude towards his or her students and their ability to inspire and motivate students).³ Furthermore, student feedback has been shown to focus more on the quality of teaching rather than instructor characteristics,¹⁰ disproving a myth that is commonly repeated in academia and showing that students can be quite reliable evaluators of teaching quality.

However, while faculty acknowledge that SET can be useful, instructors are frequently suspicious about the accuracy of SET.² This is perhaps in part due to the important role such evaluations play on university campuses and in part due to the rumors that abound surrounding SET and a lack of familiarity with the research surrounding SET. Thus, while SET has great potential for impacting the quality of teaching on a campus, they are rarely leveraged for such by instructors.

When SET are used, administrators often do not know how to properly interpret data. They focus on overall measures while failing to consider statistical and methodological matters, despite research showing the need to make such surveys multidimensional (measuring multiple diverse aspects of teaching) and not focusing on a single number.¹¹ At Mines, there is indeed a single question on student evaluations regarding, "the overall efficacy of the instructor," which is quoted far above any other institutionally in annual reviews and promotion cases.

While all forms of teaching evaluations are in some respects imperfect, it has been shown that, on the whole, student ratings are just as imperfect as the others. Instructors who are rated highly using one method of teaching evaluations (such as SET) are also rated highly using other available methods.^{1,3} However, instead of giving up on the exercise of teaching evaluation altogether or treating all methods as unreliable, a better alternative exists: to rely on data from multiple sources rather than solely SET to generate a more complete picture of teaching effectiveness.^{2,12}

In the literature, an array of alternatives to SET are discussed, though they get a fraction of the attention that SET garners. Peer review has been proposed as a possibility for both formative and summative assessment,^{12,13} in part because fellow faculty members are often able to evaluate an instructor in ways that students are not able (for example, the instructor's familiarity with the

course material and whether the course is meeting its curricular goals). However, such evaluation programs require a fair amount of planning and discussion amongst the faculty. One of the greatest challenges is that all faculty do not hold identical views about what effective teaching is, leading to potential conflicts in assessment.

Another alternative to SET is classroom observations by a so-called “expert,” frequently an administrator or member of a Center for Teaching and Learning.¹ One common argument against such a system is that a single classroom visit is often not an accurate reflection of the learning that occurs over an entire class, an argument which can also be made against peer evaluations, depending on the format of such programs. Expert evaluation can also be a very resource-intensive undertaking if it is to be done for all faculty at a university.

Finally, some propose tracking student and student outcomes to assess teaching. This can be done in a range of ways: following a student’s performance in more advanced courses to see the impact of prior instruction; alumni surveys to ask which teaching they found impactful or particularly instructive; or administering the same exam to all students to compare outcomes amongst different instructors. While such approaches at least appear to support the ideal of good teaching leading to great learning, they also have methodological flaws and inherent assumptions about effective teaching and demonstrations of learning.¹

When it comes to student feedback, it is important for faculty to be able to consult with others and actively reflect on their teaching with colleagues in order to respond in a meaningful way and make impactful changes to their teaching.² For example, Penny and Coe present best-practices for engaging in so-called peer consultative feedback.⁶ It is suggested that, for such feedback to be useful, it must have the following characteristics: (a) active involvement of teachers in the learning process, (b) use of multiple sources of information, (c) interaction with peers, (d) sufficient time for dialogue and interaction, (e) use of teacher self-ratings, (f) use of high-quality feedback information, (g) examination of conceptions of teaching, and (h) setting of improvement goals.

As will be described in the sections to follow, at Mines we set out to develop a peer teaching assessment program which relied heavily on the research described above, with the singular aim of improving teaching.

Institutional Context

The Colorado School of Mines is a small, public, engineering-focused university, with approximately 4200 undergraduate students and 1200 graduate students. The university has two tracks for faculty: tenure/tenure-track faculty, which have a higher research expectation and a lower teaching load (2-4 courses/year, spread across two semesters), and teaching faculty, who teach an average of 6 courses/year.

The Electrical Engineering and Computer Science Department has approximately 25 full-time faculty, eight of whom are teaching faculty. The Teaching Triangles emerged from a faculty committee tasked with tackling overarching issues or needs within the department. In the 2013-2014 academic year, the committee observed teaching evaluations at Mines are very one-

dimensional, relying solely on student course evaluations. From these evaluations, typically only the single overall ranking on the effectiveness of the instructor is reported in annual reviews and tenure/promotion packages. The committee decided that teaching evaluations in the university were lacking at best, and that another perspective of teaching was required. A decision was made to focus on formative evaluations of teaching rather than summative, because we wanted the program to remain voluntary and to hold the purpose of improving one's teaching, qualities discussed in the following section.

Structure of the Assessment Program

As the peer teaching evaluation program (later named the Teaching Triangles) was being established, there were two characteristics that emerged as important for the fledgling program, based on discussions among the faculty:

- 1) Faculty-driven: The Teaching Triangles were entirely initiated and implemented by the EECS faculty, without the department or university administration playing any role. The program continues in this spirit today.
- 2) Voluntary: The program began as completely voluntary, and remains so in its second year of operation. This means that the results from the evaluations are not used for any formal summative assessment, such as tenure or promotion procedures. If a faculty member decides to include the results from this peer assessment in any documentation or promotion/tenure package, that is at their discretion.

The structure and name of the Teaching Triangles program were adapted from a teaching certificate program offered for graduate students at Duke University.¹⁴ The Duke Teaching Triangles are composed of a trio of graduate students who take turns evaluating each other's teaching over the course of a semester. The program is focused around classroom observations, during which a pre-made form is used to provide feedback. Following the classroom observations, meetings are set up to communicate the observations to the Triangle partners. Each Triangle sets its own rules for operating, though suggestions are made by the organizers based on their previous experience.

At Mines, we have built upon the Duke program by incorporating other best-practices for peer teaching evaluations from the literature. Specifically, the EECS Teaching Triangle program set out to combine two of the suggested alternatives to student evaluations of teaching described previously in *Background*: peer evaluation and consultative feedback. To do this, it models itself after the Duke program by relying on a trio of faculty members who take turns evaluating and providing feedback to each other throughout the year. The assessment cycle, used for each person being assessed, is also designed as a triangle, consisting of three parts: a classroom observation, feedback on course materials (syllabus, forms of assessment such as exams and homework assignments, etc.), and a reflection meeting with the three members of the triangle to provide feedback and opportunities for discussion. This cycle is illustrated in Figure 1.

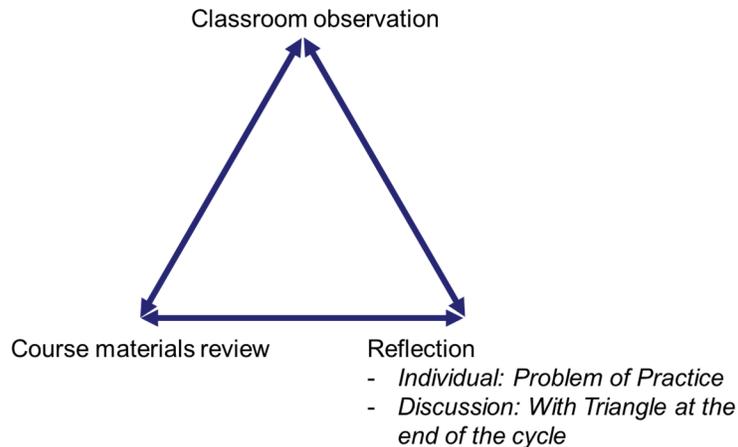


Figure 1: The assessment triangle, which features reviews of both the course materials and classroom teaching, as well as a reflection meeting with the entire Triangle following feedback. This meeting is an opportunity for consultative feedback and the development of improvement goals.

One key difference between how we have implemented this program at Mines and the original format of Duke’s program is the added emphasis on review of the course materials and on the consultative feedback that occurs during the reflection meeting.^{2,6} Another is the degree of prescription that occurs in the EECS version. We have borrowed the theme of flexibility from the Duke program: each Triangle is empowered to adopt a format that works best for its members. However, unlike the Duke program, the feedback instruments have been developed collaboratively by participating faculty during an initial kickoff meeting at the beginning of each fall, with the faculty collectively deciding on what constitutes “good” teaching and how feedback should be communicated.¹² The development of these instruments will be further discussed below.

The peer review cycle for the evaluation of one Triangle member consists of the following:

One week before first classroom observation: The instructor being observed sends the reviewers a set of classroom materials for review (syllabus, example assignments and example assessments). These materials are used both to familiarize the observer with the course, and for review by the observer (using the Course Materials Feedback instruments in Appendices 1 and 2, used in Years 1 and 2, respectively).

Classroom observation: The observer visits the class on a pre-determined date, and uses the Classroom Observation instrument (Appendices 3 and 4) to record their feedback.

Reflection meeting: Once both observers have visited the classroom and evaluated the course materials for the course, all three members of the Teaching Triangle meet to discuss the teaching of the faculty member being evaluated. This meeting is **key**, and can be used to discuss the individual feedback, as well as the instructor’s specific needs and past student evaluations. For example, the instructor could request input from the two observing members of their Triangle on why students seem to have a specific complaint about the course or teaching. The Teaching

Triangle then collaboratively work to generate a list of action items, based on the feedback given by the observers and the discussion.

Each member of the Triangle evaluates the course materials and performs a classroom visit for the other two members of their Triangle, and in turn is evaluated twice (once by each of their other Triangle partners).

Years 1 and 2: Change in structure

In Year 1 (2014-2015) of this project, the evaluations included an assessment of overall teaching ability, which sometimes led to vague feedback and unfocused observations. It also left little room for improvement of faculty who were considered satisfactory. This format lacked a path for continuous improvements.

Thus, in Year 2 we have asked individual faculty to identify a single “problem of practice” that they would each like to focus on this year. At the beginning of the academic year, prior to the kickoff meeting that is held each year, each participant was encouraged to reflect on an aspect of their teaching that they would like to focus on for the year, called a problem of practice (see Appendix 5). This was identified based on student evaluations, the instructor’s past experience, or responses from their Teaching Triangle the previous year.

The identification of a problem of practice for each participating individual plays two important roles in the assessment cycle. By having each instructor identify a single aspect of their teaching that they want to improve upon, their Teaching Triangle partners are able to focus their attention when they review the instructor’s course materials and classroom. This also serves to structure the reflection meeting, which can focus on addressing this aspect of teaching. But more importantly, we hypothesize that this also serves to ground the conversation about what effective teaching is. Frequently in the literature, such identification is put forth as a prerequisite for any teaching evaluations: if we are not in agreement about what “good” teaching looks like, how can we possibly determine if we have achieved it?^{1,7} The problem of practice facilitates this conversation.

We are in the process of assessing the efficacy of this change in the 2015-2016 academic year. In addition, we altered the feedback forms used for both the classroom observation and the course materials, to make them more flexible and suitable for stimulating discussion among the Teaching Triangle members. Rather than using specific prompts for the feedback instruments, we instead created space for “noticings and wonderings.” Appendices 1-4 contain both versions of the instruments.

Year 1: Participation and Results

Participation in this program has been high, especially considering its voluntary nature. In Year 1 (2014-2015), 48% of the faculty in the department (12/25) participated. Of the participants, half were from the teaching faculty and half from the tenure/tenure-track faculty; 42% (5/12) had achieved the highest rank in their respective faculty track (Teaching Professor or Professor). This supports the aim that this program is intended to improve faculty teaching rather than merely for evaluation purposes. Figure 2 breaks down participation in the program by faculty rank.

Evaluation of the program in its first year was done via a short, qualitative feedback form. Thus, there is not extensive data on its impact. The feedback that was provided was positive, especially with respect to the “flexibility” and “informal” format of the program. The faculty enthusiastically requested continuing the program the following year.

Year 2: Participation and Results

In Year 2 of the program, participation rose to 13 faculty, though the department also grew, leading the overall participation rate to stay approximately level (46%, 13/28 faculty). The

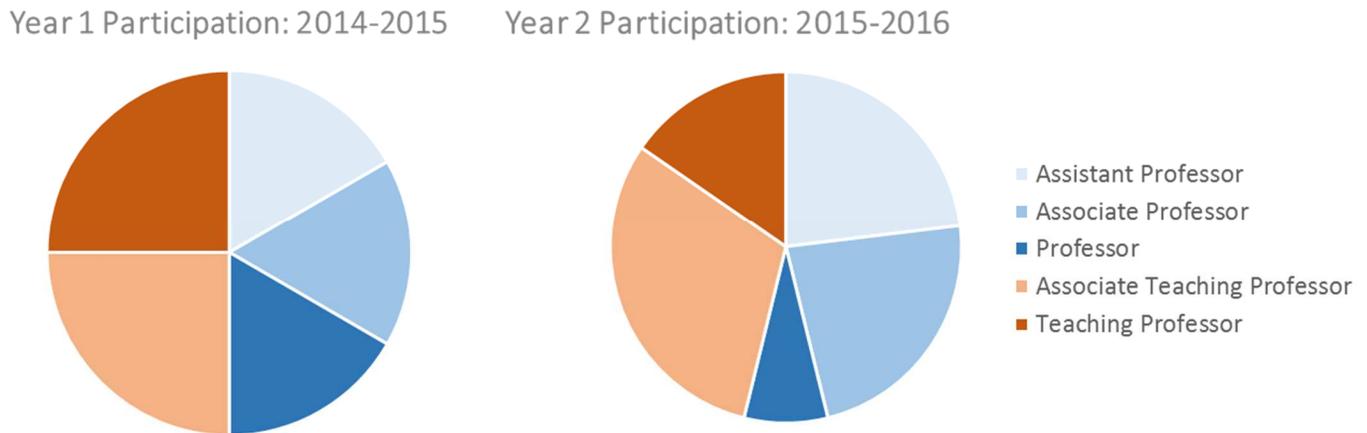


Figure 2: Participation in the Teaching Triangles program in Years 1 and 2. Note that in both years, faculty from the teaching track made up only half or less than half of the participants. Furthermore, participation was very evenly distributed among faculty rank in both years.

proportion of faculty from the tenure/tenure-track rose slightly, though the percentage of participants who are senior faculty (Teaching Professor or Professor) dropped to 23% (3/13). Overall, we are considering these as variations that will happen naturally in a program like this, and remain pleased with the level of participation and diversity of the faculty who are electing to join.

This year, we are carrying out a more rigorous evaluation of the program. We have pre-data related to participants’ chosen problems of practice. The problems of practice from the 13 participants for the 2015-2016 academic year were coded to understand the general themes of the responses. Table 1 summarizes which aspects of teaching were mentioned the most frequently. (Note that the percentages do not sum to 100%, since some responses were mentioned multiple items.)

The most frequently mentioned problem of practice focused on in-class exercises. For example, one faculty member wrote,

I would like to spend less time talking each class and provide more opportunities for student participation, interaction, etc.

Another described the need for improved use of class time in a flipped classroom:

Problem of practice	Percentage of participating faculty who mentioned this practice
In-class exercises/clicker questions	38% (5/13)
Student motivation/engagement	31% (4/13)
Asking questions	23% (3/13)
Board usage	15% (2/13)
Student preparation for class	15% (2/13)
Assessments/assignments	15% (2/13)
Pacing of lecture	8% (1/13)
Did not identify a problem of practice	15% (2/13)

Table 1: Themes mentioned in the problems of practice identified by faculty participants as areas where they want to focus their efforts in the 2015-2016 academic year.

I am running the class in primarily a "flipped" mode. For the in-class activities, I am concerned that the students are not sufficiently engaged, or find the activities helpful. I would like to find ways to improve these activities.

Faculty also frequently cited a general desire to increase student engagement or motivation. For example,

I would like to improve student engagement in the course, i.e. asking questions, working on in-class exercises, attending class.

Participating faculty were surveyed again at the end of the program in April, 2016 to understand how they did or did not leverage the Teaching Triangle to impact their teaching and the perceived utility of the program. Unfortunately, of the seven faculty who responded to the survey, only two reported that their Triangle completed a full assessment cycle for the year. This is an immediate sign that any assessment of the program at this point will be incomplete. However, we found this to be an important result in and of itself, demonstrating that while faculty have strong motivation to improve their teaching (shown by their initial willingness to participate in such a program), there are barriers to their completion of such a formative program. This issue is explored in more detail in the *Conclusions* section below.

Faculty reported that the program had more of an impact on their classroom teaching (2/7 reported that it had "A great deal" or "A lot" of impact, and 5/7 reported that it had "A moderate amount" or "A little") than on the development of their course materials, such as creation of the syllabus or assessments. Only 1/7 reported that it had "A great deal" of impact on their course materials, 4/7 reported "A moderate amount" or "A little" and 2/7 reported "None at all." The identification of a problem of practice had little reported impact, with 1/7 reporting it had "A lot" of impact, 3/7 reporting that their Triangle had "A little" impact on addressing their problem of practice, 2/7 reporting that it had "None at all," and 1/7 reporting that they did not identify a problem of practice.

When asked to describe any changes that participants made to their teaching because of this year's Teaching Triangle program, two pointed to changes they made during their classes which stemmed directly from observing another instructor's class:

I tried to make my own changes based on observing someone else's class. I am more conscientious of students needing a break. So I try not to lecture for more than 20 minutes straight after which I give them a 30-60 second stretch break or a design problem to engage them.

The use of in class exercises was really great, which I started early on in the semester after I made a class observation.

Others reported that they plan to make changes in the following semester or year. Given the late date at which many Triangles completed their assessment, it is not surprising that many did not make immediate changes to their teaching.

When asked what they liked best about the Teaching Triangle program, participants reported most frequently that they liked the interactions and feedback that they received from colleagues. For example, respondents wrote

[I like being f]orced to talk with other faculty about teaching.

[I like g]etting someone else's perspective on how I am doing. Learning from what others are doing.

The second most-frequent response was that participants like observing other's classes and then discussing that person's teaching. This is an important finding: participants seem to value the feedback they receive which is tailored to their own teaching as much as they value drawing their own conclusions and lessons from observing the teaching of others.

Finally, when prompted about what could be improved or changed about the Teaching Triangles program, half the respondents discussed the challenges of scheduling or a lack of follow-up or commitment among the members. This is likely directly related to the fact that so many of the Triangles did not complete an assessment cycle, and will be discussed more fully in the *Conclusions* section.

Practical Lessons Learned

The goal of this paper was to disseminate the structure of our program and what we have learned to other institutions who may also be interested in developing forms of teaching assessment to complement student evaluations of teaching. To support this aim, we summarize here a few lessons that we have learned from implementing this program.

Formation of the Triangles: The formation and scheduling of the Triangles is often one of the most challenging aspects of the program organization. For example, for classroom observations to be possible, two members have to be available during the time window when their third member is teaching, and vice versa. This unexpectedly proved to be a very challenging requirement to accommodate, especially because spring teaching assignments at Mines are not finalized until midway through the fall semester, and this program has been designed in the past to extend throughout the entire academic year.

In an ideal Teaching Triangle program, Triangles would be formed not just based on scheduling needs, but also on other characteristics (for example, faculty who teach in similar sub-fields may desire to assess each other). This has generally not been possible to accommodate.

Currently, the Triangles are formed by hand, in an iterative process. However, we plan to work with a team of Computer Science students over the next year to create a simple program that will assist with the formation of the Triangles based on scheduling constraints (and, when possible, other desirable traits, like composition of the triangles). This program will be shared with other departments on-campus or other institutions who are interested in implementing a similar program of peer evaluation of teaching.

Accommodating diverse faculty desires: With a voluntary program, some faculty will not want to participate, or will only participate if certain demands are met. For example, in Year 2, a faculty member voiced his displeasure with the suggestion of reflecting on a problem of practice and refused to be a part of a Triangle that followed through with this part of the program.

We have aimed to create a program which is flexible and able to meet faculty members' diverse needs. While we acknowledge this occasionally means not all participants adopt what we have determined are best-practices from the literature, we believe that participation of some form is the most important objective.

Faculty hierarchy concerns: A common concern with peer evaluations of teaching is the power dynamic that may come into play when senior faculty are observing junior faculty, or junior faculty observing senior.

We have not yet heard any concerns regarding this. The Triangles are diverse by academic rank, again in large part because we are limited by scheduling in how they are formed. We hypothesize that, due to the formative aims of the program, faculty rank has not been reported to influence the dynamics of the Triangle interactions.

Conclusions

Two years ago, faculty in the Electrical Engineering and Computer Science Department at the Colorado School of Mines set out to develop a program of peer assessment of teaching with the objective of improving teaching in the department. While the assessment of the program is on-going, faculty participation remains high and attitudes towards the program are positive. Because the program is voluntary, we consider these two important metrics.

Though the program reported here has served a formative purpose, a slightly modified form could be also be used as summative assessment.¹² At Mines, the Teaching Triangles serve the purpose of supplementing the institutional summative assessment of teaching which already occurs in the form of student evaluations.

We conclude with a discussion of two of the most important findings from the 2015-2016 assessment of the program. The first is the observation that many Triangles struggled this year to

complete a full cycle of assessment; this fact was supported by data from faculty surveys of the program. The reason for this was largely reported to be due to time constraints, even though we estimate that it should only be a maximum of an eight hour commitment spread over the entire year. We suspect that the program may have been de-prioritized as compared to other commitments, in part due to its voluntary and formative nature.

Our impression is that this problem could be addressed in one of two means. One is through institutional support: if the administrators in a department, college, or university openly encouraged or even required participation in such a program, it would become a higher priority for faculty. This would come at the cost of it being voluntary and faculty-initiated, however.

The second option could be via better initial organization of the Triangles. For example, the Duke Teaching Triangles encourages the Triangle members to discuss, in their very initial meeting, a timeline of when the class visits and feedback meetings will take place.¹⁴ In the program at Mines, we have always allowed faculty to do this organization following the initial kickoff meeting, once the Triangles are established. In the future, we will aim to form the Triangles before this first meeting, so that tentative dates for the visits can be made when all participants are present at this meeting. We also plan to strongly encourage that the full assessment cycle take place over the fall semester if possible, rather than extending into the spring. We believe that this will increase the likelihood that the full program is implemented, rather than be overtaken by other immediate priorities that inevitably arise towards the end of the academic year.

The second important finding relates to what faculty said in the post-survey was the biggest benefit of the Teaching Triangles. In equal measures, faculty valued the individualized feedback they received from the other members of their Triangle as well as the observations they made of their colleagues' teaching. This outcome was perhaps the most striking from the initial assessment of the program. Using peer observation to drive improvement in one's teaching does not require a formal program. However, the Teaching Triangles seemed to foster these interactions in a way that would not have occurred without the program. Faculty used the Teaching Triangles to devote time to focus on improving their teaching.

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Appendix 2: Course materials feedback instrument used in Year 2 of the Teaching Triangle program.

Course Materials Feedback Instrument (2015-2016)

Instructor: _____ Reviewer: _____

Course Title: _____

Instructor's 2015-2016 Problem of Practice: _____
_____.

To consider as you provide feedback on the course materials: The clarity and appropriateness of the learning objectives and policies; the pace of the schedule; the organization of handouts; if assessment is consistent with and demonstrates achieving learning objectives.

Noticings – Descriptive, not evaluative! Just the facts.	Wonderings – Something worth questioning. Does not judge or assume. Based on your noticings.

Appendix 3: Classroom observation feedback instrument used in Year 1 of the Teaching Triangle program.

Classroom Observation Instrument (2014-2015)

Instructor: _____ Date/Time, Observer: _____

Location: _____ Course Title: _____

Topic(s) of Day: _____

Instructor

- a. Knowledge and Preparation (relevance of content, knowledgeable, appropriate examples, clear goals, confidence)

- b. Clarity and Organization (introduction, coherent presentation, reference materials/readings, answer student questions fully, effective transitions, pace)

- c. Presentation (delivery, speech/voice, gestures, eye contact, mannerisms, use of board or visual aids)

- d. Engagement and Motivation of Students (rapport, ask relevant questions, equitable social interaction, treating students with respect and as individual learners)

The Students

- e. Student Attentiveness and Engagement (beginning, middle, end)

- f. Student Comprehension / Level of Critical Thinking

- g. Overall classroom atmosphere (relationship to peers and instructor)

Appendix 4: Classroom observation feedback instrument used in Year 2 of the Teaching Triangle program.

Classroom Observation Instrument (2015-2016)

Instructor: _____ Date/Time, Observer: _____

Location: _____ Course Title: _____

Topic(s) of Day: _____

Instructor's 2015-2016 Problem of Practice: _____

To consider as you observe the class: The instructor's preparation and organization; the rapport between students and the instructor; how content is presented and motivated; students' attentiveness and engagement; the atmosphere of the classroom; the integration of multiple forms of instruction (lecture, blackboard, handouts, technology, etc.).

Noticings – Descriptive, not evaluative! Just the facts.	Wonderings – Something worth questioning. Does not judge or assume. Based on your noticings.

Appendix 5: Reflection exercise used at the beginning of Year 2 of the Teaching Triangle program.

Teaching Triangles Reflection

Name:

Please consider one aspect of your teaching that you would like to improve during the Teaching Triangle program. Describe it in 2-3 sentences, with as much detail as possible. Examples could include, "I would like to change the way I ask students questions so that they are more engaged," or "I would like to improve the questions that I ask on exams, and how they relate to what we do during class."

Also consider reflecting on your motivation for selecting this point to focus on.