

# Teaching Evaluations

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*You make decisions, take actions, affect the world, receive feedback from the world, incorporate it into yourself, then the updated “you” makes more decisions, and so forth, 'round and 'round.*  
– Douglas Hofstadter

As an instructor, I strongly feel that I must continuously adjust my teaching. I accomplish this by attending workshops and conferences, seeking advice from colleagues, and learning from formal evaluations – both from students and from colleagues.

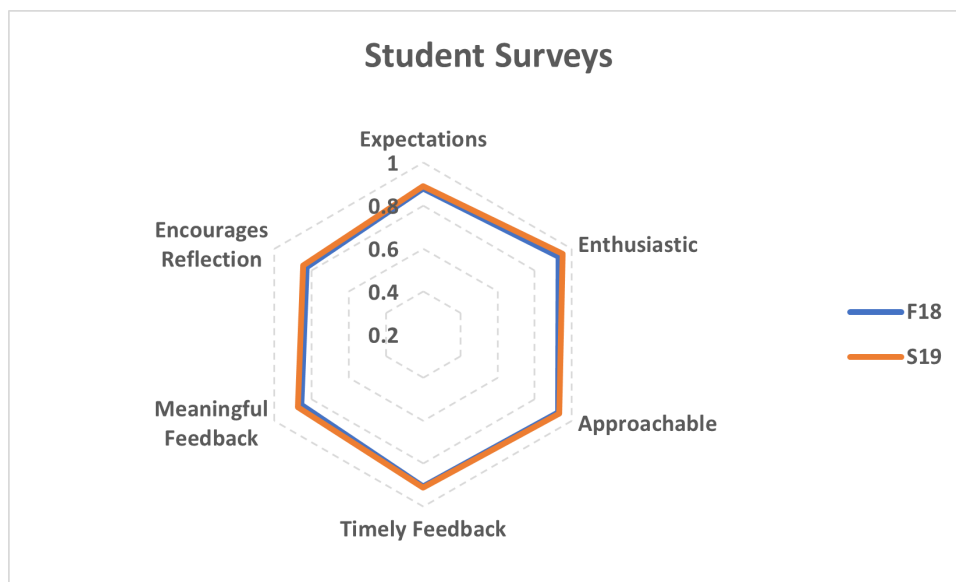
## Illinois Mathematics & Science Academy

New teachers at IMSA participate in a 2-3 year onboarding program known as “CADRE”. (CADRE is an acronym for CAreer Development Reinforcing Excellence.) The process is designed to evaluate new faculty members and encourage their professional growth. One aspect of CADRE is student surveys that are given in each section of each course during each semester. The survey consists of many parts with multiple questions each; however only one section is teacher-specific. IMSA’s Office of Institutional Research provides each teacher with their own raw data. Using that information, I have compiled the results of the teacher-specific section across all of my courses during each semester, computed the weighted average as a percentage of the maximum value, and then included graphical summaries of the results. Notably, OIR has not compiled the institution-level data to be publically available – which obviously makes comparison difficult. However anecdotally, I have been told that my student survey numbers are “very high”.

Halfway through my CADRE experience, the survey questions were altered. As such, I’ve divided the summary of the results into two separate charts. In my first year, the students were asked to rank the following six statements on a scale from 1 to 5 (Strongly Agree=5, Agree=4, Neither Agree nor Disagree=3, Disagree=2, Strongly Disagree=1):

- The teacher clearly communicates expectations in this course.
- The teacher is enthusiastic about the subject matter.
- The teacher is approachable and open to meet with students outside of class.
- The teacher provides timely feedback on assignments and assessments.

- The teacher provide meaningful feedback on assignments and assessments.
- The teacher encourages me to reflect on my own work.



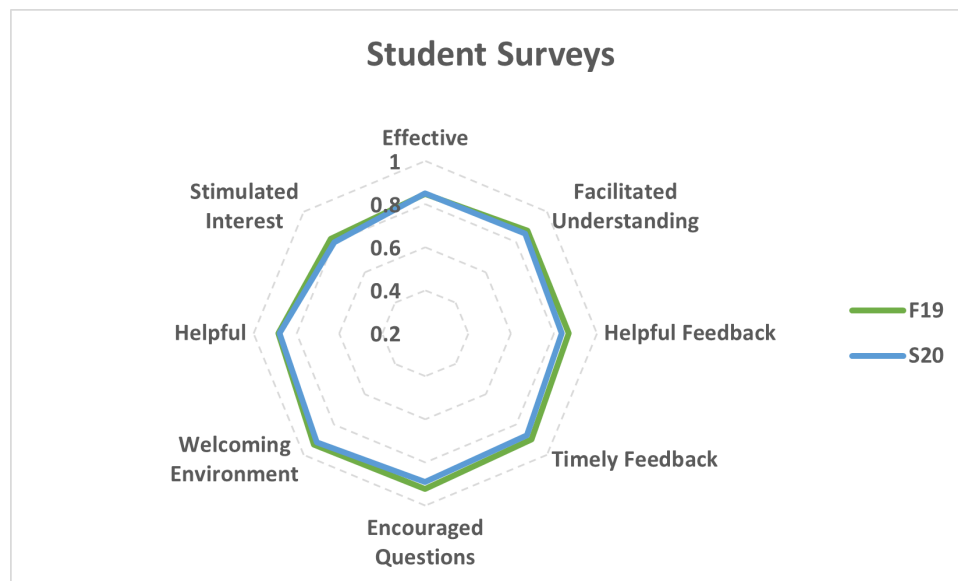
**Figure 1:** *Student Surveys, First Year at IMSA. The results from each statement were totalled, and then divided by the maximum value to give a percent.*

In my second year, the students were asked to rank the following eight statements on a scale from 1 to 4 (Strongly Agree=4, Agree=3, Disagree=2, Strongly Disagree=1):

- The teacher’s teaching methods were effective.
- The teacher presented course material in a clear manner that facilitated understanding.
- The teacher provided helpful feedback on assignments and assessments.
- The teacher provided feedback on assignments and assessments in a timely manner.
- The teacher encouraged student questions and participation in class.
- The teacher created a welcoming and inclusive learning environment.
- The teacher was helpful when I had difficulties or questions.
- The teacher stimulated my interest in the subject matter.

In the survey, the students are also asked for qualitative feedback. Here are some selected responses:

- “Dr. Davis is the only math teacher I have ever had at IMSA who has never made me feel dumb for asking a question or belittle me for not knowing something. He makes sure that we all understand, he doesn’t speed through knowing some kids are being left



**Figure 2:** *Student Surveys, Second Year at IMSA. The results from each statement were totalled, and then divided by the maximum value to give a percent.*

behind. He is nice to us and makes the environment open so we all feel comfortable in his class and more free to ask questions and share work on the board because it's not competitive."

- "It's nice to work at our own pace but sometimes our table goes off topic which causes us to fall a little behind but Dr. Davis does a good job get us back on track without needing to use force."
- "Dr. Davis was very good at getting students to ask questions and write their own answers on the board."
- "Often times there are problems selected by the teacher set up at the board that might not have been the most difficult at first glance, but they did help ensure a good grasp of the concepts."
- "Dr. Davis is an excellent teacher; I understand his style really well. He breaks things down in an intuitive way, especially for more abstract concepts."
- "I love Dr. Davis's teaching so much. He is so good at explaining things, especially with geogebra. I can feel my brain increasing knowledge in this class."
- "I think Dr. Davis is a really fun teacher and 'gets' students. I think I'm generally happier and more engaged in this class compared to other classes. I also like that Dr. Davis is really open to meeting with students and spending more time on what students don't understand as opposed to going through curriculum rapidly just to finish

the syllabus. I really enjoy seeing the 3d graphs in geogebra as well.”

- “This teacher encourages investigation into why principles work and why they are intuitive, which helps make the material feel more welcoming and applicable to the real-world.”
- “He is very enthusiastic about the subject matter and he makes each class enjoyable with his jokes and makes the atmosphere comfortable. He also reviews the concepts that we learned the previous day multiple times so they stick in our brains which is very helpful.”
- “collaborative approach is really helpful, it was successfully done in this class”
- “Problems which involve talking with classmates or real-world application problems like the Olympic swimming problem are really fun and at the same time, it lets the student discover things themselves.”

Another aspect to CADRE is the Colleague Support Team (CST). Four established faculty members are designated as the new teacher’s CST; and throughout each semester, they make a series of in-class observations (2-3 observations per CST member per semester). Below are some selected quotes from those observations:

- “The students were engaged in the discussion and Patrick asked the students to define continuity. Problems and graphical answers were on the whiteboards around the room. Patrick worked well with the students in groups and with individual questions. The students were very comfortable asking Patrick questions.”
- “While Patrick is new to [Mathematical Investigations], his deep understanding of mathematics allows him to field questions that the lesson may not directly provoke. Today, it was a question about the term ‘cofunction.’ He made an appropriate attempt to be sure that the student’s query was satisfied while stretching her to make the necessary connection in the work at hand that would allow her to reach the appropriate conclusion more or less on her own/with her peers.”
- “Overall, the class was run well. Patrick answers questions easily and has a good intuitive sense of where the students will need a little more of a nudge or affirmation (as evidenced by his selection of board problems).”
- “No suggestions here. In the 30 min that I was in class 11 of the 12 students participated. Great work Patrick!”
- “Patrick has been working on making more of an effort in how he asks students questions, who he asks them of, how he works around the room. This was clearer towards

the end of my observation because he was strategic about who he called on because he knew what students had brought up points in their smaller group conversations.”

- “I was really impressed how Patrick got the whole class to work as a team. Different students would add their contributions to the board and would build on each others knowledge when one student would get stuck. It was awesome to see.”
- “Patrick works well and has an easy rapport with the students based on their body language and response to his questions. They are able to laugh in class and the students really seem engaged the entire time, even though it is 8th mod when students are often struggling because of the long day. This is absolutely a class I would want to sit in on and learn along with the students.”
- “Patrick exhibits a natural rapport with the students which is enhanced by the occasional reference to pop culture that helps bridge the gap between the kids and us. Students find him easy to communicate with, and there is an environment of mutual respect and encouragement in the classroom.”
- “It was clear during this lesson that Patrick provides a safe learning environment for his students that promotes collaborative work and intellectual risk taking. When group work began, I noticed the group in the back of the classroom get right to work. They quickly debated their strategy and divided up tasks, electing one member of the group to do some of the graphing. I noticed several other groups surveying their notes and discussing their solutions animatedly.”
- “The classroom environment was casual yet productive. Patrick takes attendance quickly and gets students looking at the homework sheet. Within minutes, Patrick had the focus of the lesson presented on a powerpoint slide, ‘More about the gradient,’ and posed his first question to the class to help them recall what had been discussed in the previous class meeting. [...] These transitions were seamless and time efficient. Expectations of student conduct and engagement were clearly established and productivity was natural in the room.”
- “During our post conference discussion, Patrick mentioned that this part of the lesson took longer than expected. He mentioned that this might have been due to different groups being more comfortable with this question than others, sensing this Patrick choose to take more time with this problem to not leave anyone behind. I think this shows that Patrick is a very responsive teacher.”
- “The responses to his line of questioning was scattered in response and he had to do a bit of review from [Mathematical Investigations] along the way. He did it smoothly

without making the students feel bad/guilty for not remembering.”

## Central Michigan University

Each semester, the Department of Mathematics at Central Michigan University formally evaluates the graduate Teaching Assistants. This evaluation includes an unscheduled in-class observation. Below are some selected comments from these evaluations:

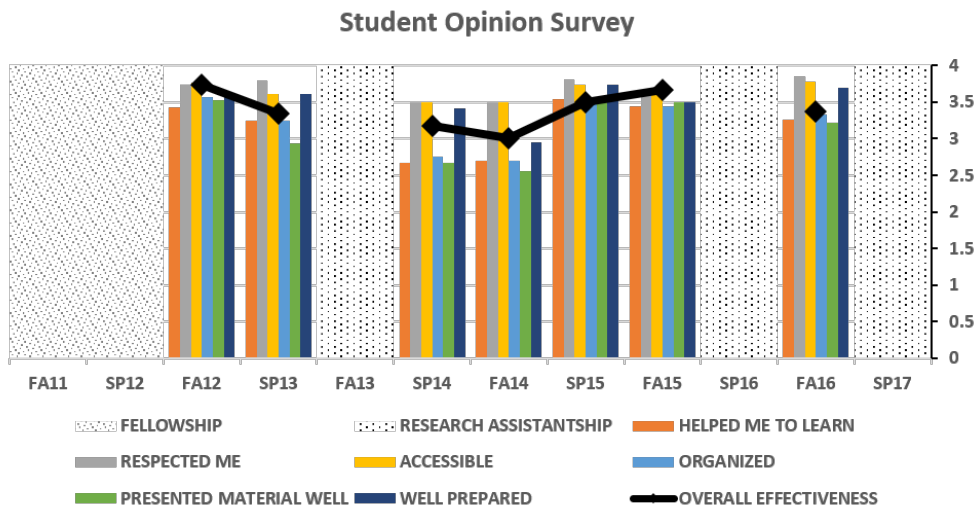
- “Great that you walk around helping – students are helping each other, too! ☺”
- “Nice job bringing in student experiences to the discussion of relations.”
- “Vocals: loud & clear, explanations clear and concise – appropriate use of mathematical terminology”
- “Great job following through using student ideas – following through until solve or ‘stuck’ – showing that you can use previous knowledge.”
- “Students are engaged & asking questions – answered well.”
- “Boardwork: large & legible, great flow – use of colored markers enhances clarity and understanding”
- “Students are exposed to thought processes not just steps to perform.”

At the end of each semester, Central Michigan University issues Student Opinion Surveys (SOS) to each class. In these surveys, students are asked to submit scores for the overall instructor effectiveness (Very Good=4, Good=3, Adequate=2, Poor=1, Very Poor=0) and respond to the following statements (Strongly Agree=4, Agree=3, Agree nor Disagree=2, Disagree=1, Strongly Disagree=0):

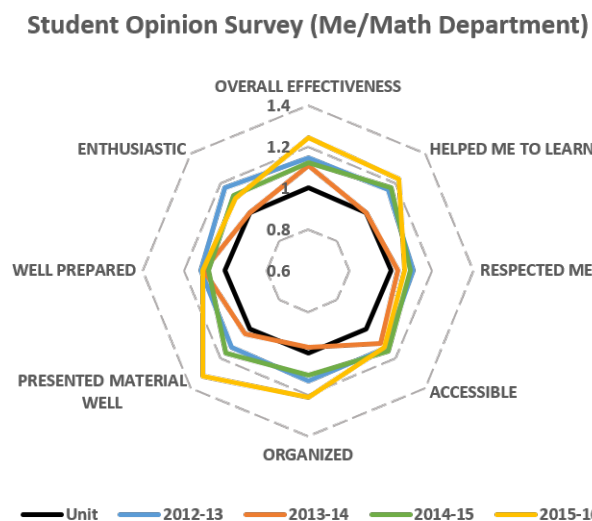
- |   |                                  |
|---|----------------------------------|
| • Instructor’s teaching helped me learn | • Presented course material well |
| • Treated students with respect         | • Seemed well prepared           |
| • Accessible to students                | • Was enthusiastic about subject |
| • Organized course well                 |                                  |

Summarized in the figure below are the results of my SOS evaluations.

For comparison purposes, I have computed the ratio of my SOS scores with the currently available mathematics department annual averages in the same course level I was teaching. For example, during the 2014-15 academic year I taught MTH 217: Business Calculus and MTH 223: Linear Algebra. The reported ratios are the average of my SOS scores in those



**Figure 3: SOS Results.** The multicolored bar graph corresponds the mean responses to the statements above. The superimposed black line corresponds to mean overall instructor effectiveness. MTH 105: College Algebra (FA11, SP12). MTH 217: Business Calculus (SP14, FA14). MTH 223: Linear Algebra (SP15). MTH 334: Differential Equations (FA15).



**Figure 4: SOS Annual Comparison.** The black line indicates where my SOS score would match that of the mathematics department average. Lines outside of this indicate SOS scores higher than that of the department; whereas lines within this indicate lower SOS scores.

two courses divided by the mathematics department average for all 200-level MTH courses that school year. The results are summarized in the figure below.

There is also a separate form for students to submit anonymous qualitative reviews. Here are some selected comments:

- “Can you be my instructor for my other courses[?]”
- “He uses examples & word problems instead of giving just the formula. Also, Mr. Davis ALWAYS asks if we have any questions about what he had just explained.”
- “Everything he does is great.”
- “He does a lot of examples and explains things in different ways for others to learn”
- “Keep using your fun lingo. Makes the class lively and engaged.”
- “Reviews information well, takes time to explain material, well organized, uses color to separate ideas on the board.”
- “Made asking questions in class non threatening [...] Light hearted atmosphere [...] Thanks for being so kind to us this semester especially [sic] to those who don’t understand math as easily as others.”
- “Best math teacher I’ve had so far. Thanks for the explanations + help. Very fair grader.”
- “Very thorough of the content, takes time to break down the examples and doesn’t rush. Very well organized! Awesome ☺”
- “He is willing to stop in the process of a math problem and explain why or how he did something. Also replies to emails quick! ☺”
- “Gives us online tools/visuals”
- “He typically did a good job of explaining concepts, was very enthusiastic, treated students with a lot of respect, encouraged participation, very fair”
- “Always willing to have one on one’s with students and will always politely respond to your email with good feedback. I always enjoyed the GBU problems”
- “Lots of practice questions = ☺ Energetic and passionate about the course. Wanted students to succeed.”
- “Listens to suggestions (such as more concrete examples), actually understands material and can therefore explain things in several different ways, detailed (doesn’t take shortcuts), checks for understanding consistently... He’s an incredible educator”
- “Continue being enthusiastic & making awful jokes”
- “Best MTH teacher I have EVER had!!! Seriously [...] Keep it fun like you do. I love hearing mth [sic] history.”
- “Great idea with the Python projects; they were very helpful for me↔keep doing that”