

TEACHING STATEMENT

LAURA J. STEVENS

CONTENTS

1. Teaching Philosophy	1
1.1. Orienting My Teaching Within a Theoretical Framework	2
1.2. Equity, Diversity, and Inclusion	3
1.3. Online Teaching	6
2. Evidence of Consistent and Sustained Excellence in Teaching	7
2.1. Awards and Honors	7
2.2. Statistical Data from CAPE Surveys	7
2.3. Student Feedback from MATH 87 Spring 2021	8
2.4. Student Feedback from MATH 95 Spring 2021	8
2.5. Student Feedback from MATH 121A Winter 2021	8
2.6. Student Feedback from MATH 95 (EDS 30) Winter 2021	9
2.7. Student Feedback from MATH 18 Fall 2020 Lecture B	9
2.8. Student Feedback from MATH 18 Fall 2020 Lecture A	11
2.9. Student Feedback from MATH 95 (EDS 30) Spring 2020	14
2.10. Student Feedback from MATH 20B Winter 2020 Lecture C	14
2.11. Student Feedback from MATH 95 (EDS 30) Winter 2020	15
2.12. Student Feedback from MATH 121A Winter 2020	15
2.13. Student Feedback from MATH 18 Summer Session One 2019	15
2.14. Student Feedback from MATH 121B Spring 2019	16
2.15. Student Feedback from MATH 18 Winter 2019 Lecture B	17
2.16. Student Feedback from MATH 121A Winter 2019	17
References	17

1. TEACHING PHILOSOPHY

My mouth is dry. My heart is racing. My stomach is fluttering. A hot flash pours over my body, and then I suddenly feel cold. My hands are shaking as I pick up the chalk.

That was me the first time I ever taught an undergraduate mathematics class; it was 1998, and I was a first year PhD student at UNC Chapel Hill. That was also me on the first day of the first class I ever taught at UCSD; it was Math 20D in Fall quarter 2006. That is still me on the first day of every math class that I teach. I used to wonder if I would ever stop being so nervous when meeting my new students for the first time, but then I realized that the reason I am so nervous is because I deeply care about teaching. I never want to stop being nervous, because I never want to stop caring this much. And I never want to stop improving and growing as a teacher. Below, I will describe three fundamental ways in which I have

grown and learned about teaching since beginning my dream job as a Teaching Professor in the UCSD Mathematics Department.

1.1. Orienting My Teaching Within a Theoretical Framework. In 2006, the University of California embarked on a system-wide initiative to help meet the critical need for secondary science and mathematics teachers in the state of California; the initiative is now called the CalTeach Program. The UCSD Mathematics Department hired me as part of this initiative, and I was tasked with assisting Professor Guershon Harel in the creation of a minor in mathematics education. For the minor, we developed four new mathematics courses; these courses are oriented within Professor Harel's theory of mathematics education, *DNR-based instruction* (Harel, 2008a, 2008b, and 2008c). Learning about mathematics education from Professor Harel has been a great privilege and one of the highlights of my teaching journey. Studying DNR and observing Professor Harel's teaching have greatly impacted my teaching philosophy and methodology.

DNR-based instruction in mathematics is a theoretical framework which provides a language and tools to formulate and address critical curricular and instructional concerns such as:

- (1) What is the mathematics we should teach?
- (2) How can we teach mathematics effectively? How can we ensure that we preserve the mathematical integrity of what we teach as well as ensure that our students internalize and retain the mathematics which they learn?

According to DNR, the answer to question (1) comprises two categories of knowledge: *Ways of Understanding (WoU's)* and *Ways of Thinking (WoT's)*. In (2008a), Harel defines a Way of Understanding as *a cognitive product of a mental act* and a Way of Thinking as *a cognitive characteristic of a mental act*. In practical terms, WoU's are content, e.g. definitions, problems and their solutions, theorems, algorithms, proofs, etc., whereas WoT's are conceptual tools necessary to develop understanding of subject matter. For example, the *PGA Way of Thinking* is the ability to fluently connect the physical/perceptual aspects of a problem situation with the geometric aspects (e.g. graph) and the algebraic aspects (e.g. formulas and equations). One who possesses the PGA WoT searches for and exploits the correspondences between the physical, geometric, and algebraic aspects of a mathematical topic. Another example of a WoT is the *Deductive Proof Scheme*, which is the ability to produce deductive proofs and, in particular, the ability to conjecture, apply mental operations that are goal oriented, and understand that all justification must be ultimately based on inference rules. Examples of less sophisticated proof schemes are the *Authoritative Proof Scheme* and the *Empirical Proof Scheme* (Harel, 2008b). Additional examples of WoT's include algebraic invariance, algorithmic reasoning, proportional reasoning, and definitional reasoning.

DNR addresses question (2) via its *Necessity Principle*, which states, "In order for students to learn the mathematics we intend to teach them, they must have an *intellectual need* for it" and its *Repeated Reasoning Principle*, which states, "Students must practice reasoning in order to organize, internalize, and retain what they learn" (Harel, 2008a). In DNR, the term intellectual need refers to a perturbational state resulting from an individual's encounter with a problematic situation or problem which is unsolvable by their current knowledge. Two examples of categories of intellectual need are (Harel, 2008c):

- *The Need for Certainty*: the need to prove, to remove one's doubts.

- *The Need for Causality*: the need to explain, i.e. to determine the cause of a phenomenon, to understand what makes a phenomenon the way it is.

Prior to learning about DNR and observing Professor Harel's mathematics classes, my lesson plans consisted of a few pages of notes containing the worked examples and statements of definitions, theorems, and proofs that I planned to present in lecture. Although I made connections between different parts of the courses I was teaching, I was not very reflective of how each interaction with my students could contribute to their overall growth as mathematicians. I did not set any of my instructional goals in terms of problem solving approaches or reasoning skills or proof schemes, etc. And just like it is rather difficult to prove a conjecture which has not been stated, it is rare to achieve an instructional goal which has not been well thought out or specified. Learning about DNR revolutionized my teaching because it provided me with a language to articulate instructional goals in terms of Ways of Thinking, and not just pieces of content. Today my lesson plans still contain examples, definitions, theorems, and proofs, but these WoU's are complemented by WoT's and copious notes about how to necessitate this knowledge. I design my in-class problems, lecture examples, and homework questions according to the Repeated Reasoning Principle. As I have learned from my classroom observations of Professor Harel, in my interactions with my students, I attempt to demystify mathematics and to identify and highlight desirable mathematical practices and habits of mind. When my students produce an algebraic proof of a conjecture, I ask the class if anyone has a geometric proof, hence advancing the PGA WoT. When my students make conjectures based on empirical evidence, I necessitate the proofs of these conjectures via the Need for Causality as well the Need for Certainty; in particular, I've learned to ask my students to explain the reason for the pattern rather than just asking them how they can be sure that the pattern will continue.

There is no question that the DNR framework has positively impacted my students' learning; explicitly identifying and modeling desirable mathematical practices and problem solving strategies facilitates the internalization of these ways WoT's so that they become spontaneous habits of mind for my students. During class discussions and office hours, I hear my students telling one another to "use PGA on that problem" or "try changing the form without changing the value" (algebraic invariance). Last quarter, my Math 121B student, Richard, spent his Memorial Day weekend figuring out a lovely geometric proof of a homework problem that he had already solved algebraically, just because "it had to be possible"; I know this because he excitedly emailed me three times on the school holiday. Watching my students like Richard grow as mathematicians reminds me how lucky I am to be a mathematics teacher and inspires me to keep working to improve my teaching practices.

1.2. Equity, Diversity, and Inclusion. The second way I have grown and continue to grow as an educator is in regard to my efforts to address inequity in the teaching and learning of mathematics. Since starting my job at UCSD, I have been privileged to serve as an invited speaker at several events designed to improve equity, diversity, and inclusion at the University, including the UCSD Envision Program, the Jacobs School of Engineering IDEA Scholars Program, the UCSD Summer Bridge Program, the Triton Sophomore Scholars Program, OASIS Learning Community Faculty Panels, and TRiO Outreach Student Support Services Faculty Panels. I have also had the honor of mentoring female undergraduate STEM students through the Revelle College Next Step Program and female graduate STEM students through the UCSD Summer Graduate Teaching Scholars Program. But I was not

doing enough in my own classroom, nor was I realizing the indirect effect that my courses in the mathematics education minor could have on my own students' future K-12 students.

Professor Harel once told me that the only axiom of mathematics education is that *Teachers teach the way they are taught*. When I first heard that statement, I considered its implications exclusively in terms of the approach to the subject matter. But I have since realized that one of the greatest contributions I can make to creating a more equitable learning environment in the education community outside of UCSD is to model a truly equitable learning environment in my courses for aspiring STEM teachers.

During a typical academic year, I teach four courses in the mathematics education minor, so I have the opportunity to interact with at least 80 UCSD students who are interested in the possibility of becoming mathematics teachers. Three years ago, I began to restructure these courses to improve equity, diversity, and inclusion in my own classroom, and so far I have made three major changes. I will describe the details of the changes for my Math 95 course; the changes for the other courses are similar.

Math 95 is a seminar-style course in which we discuss pedagogy in the context of mathematics. Each week, my students work on a math problem, first individually, and then in small groups, after which the whole class engages in large group discussion of both mathematics and pedagogy. The enrollment is limited to 36, and the small size is well suited to student participation and affords me the opportunity to get to know each student personally. Prior to restructuring the course, I did learn each student's name and major, I strongly encouraged all enrolled students to volunteer to present in their small and large groups, and I welcomed the opportunity to further engage with and even mentor the students who sought me out after class or in office hours. But when I scrutinized the structure from the EDI perspective, I realized that despite my attempts to create an inclusive classroom culture, the majority of the students who were volunteering during class and reaching out to me outside of class came from a rather homogeneous high performing subgroup. It was clear that I needed to do more to create a classroom culture in which all students felt welcome, appreciated, and involved, so I implemented the following three changes.

- (1) I created a survey to send to my students one week before classes start. In addition to gathering practical information, the survey includes optional questions giving my students the opportunity to identify with racial/ethnic groups and describe their gender identity. In the survey, I also ask my students if there is any additional information they would like to share with me in order to help create the best possible learning environment for them.

My students have been extremely forthcoming in their responses to the surveys, and these responses have helped me to get to know each of my students as individuals and to create a more culturally sensitive classroom in which I know all of their preferred pronouns. [REDACTED]

[REDACTED] I am so grateful that [REDACTED] chose to share this information with me because it opened the lines of communication between us, and I was able to support her and check in on her mental health throughout the quarter. Last quarter, more than one-third of my female students wrote in their surveys that they suffer from imposter syndrome in their mathematics classes, and over two-thirds of this group of respondents identified as Black, African American, Hispanic, or Latina. Because these students shared with me, I was able to follow

up by scheduling individual appointments with them to continue the conversation, encourage them and offer them support, and share my own experiences as a female mathematician.

Office hour attendance has also increased significantly over the past three years, although I have not attempted to measure if this increase is correlated to the surveys.

- (2) Prior to restructuring the Math 95 course, I broke the students into small groups each week, but I did not assign roles within the groups. In an attempt to rectify the unbalanced participation within the small groups, I began to pre-assign roles within the small groups; in particular, each student in each small group has a pre-assigned role of “Discussion Director”, “Scribe”, or “Summarizer”. On the first day of class, I provide the students with definitions of each role and the tasks associated with each role; we also discuss the reasons for establishing group roles. I switch the small group and role assignments throughout the quarter so that each student is assigned to each role three times. Through my observations of the group work (both in person and in Zoom breakout rooms) as well as through student feedback, I have found that providing the supportive structure of the pre-assigned roles within the small groups helps the students to stay on task, decreases the potential for students to feel left out or unengaged, and most importantly, increases interaction from all of my students.
- (3) Student participation has always been the cornerstone of Math 95, but prior to restructuring the course, I relied on students to volunteer to present their approaches to the weekly problems in their small groups and to the class as a whole. One of the main goals of the course is for the students to become more effective communicators of mathematics – to correctly use vocabulary, to fluently communicate their ideas, and to become more confident in their mathematical abilities and speaking skills. Despite my attempts to encourage all students to volunteer to present their ideas to their classmates, I noticed my students slipping into what seemed to be their stereotypical role assignments: listener, explainer, strong student, weak student, etc. Thus, I attempted to disrupt these patterns by *requiring* that each student present their ideas to their small group every week and to the entire class at least once during the quarter. It is important to note that the classroom culture of Math 95 is to recognize the value of learning varied approaches to mathematical problems and to learn from studying erroneous and incomplete approaches to problems as well as correct approaches. Thus, the students are not pressured to solve the problems correctly or according to a certain template, but rather they are encouraged to be curious, try new approaches, and focus on practicing communicating and discussing mathematics in an environment where mistakes are welcomed as opportunities to recognize and ultimately clarify underlying misconceptions. Since I made the change to require each student to present, I have gone from witnessing approximately one-third of students succeed in collaborative learning to witnessing one hundred percent of my students succeed in collaborative learning.

We are fortunate that the courses in our mathematics education minor actually do attract a relatively heterogeneous group of students, and I am committed to keep working to build an equitable and inclusive classroom culture for this diverse group of aspiring teachers. If we can succeed in realizing the opportunity for all of them to be leaders in the classroom, then this culture has the potential to take root and grow in their future classrooms in the greater

education community. We need students of every racial, ethnic, and gender identity to look at their mathematics teacher and see themselves. *Teachers teach the way they are taught.*

1.3. Online Teaching. The third fundamental way in which I have grown as an educator is that I have learned about teaching mathematics online. Although it is my preference to teach in person, my experiences in the virtual classroom during 2020 and 2021 have been extremely valuable, and I intend to use them to benefit all of my future students. In my Fall quarter 2021 sabbatical project, I will engage in a detailed study of online teaching practices utilized by myself and my colleagues during the pandemic, but even prior to this more in-depth analysis, I have identified three practices which I plan to incorporate into my future UCSD math courses, whether in-person, online, or hybrid.

- (1) **Online Office Hours:** Prior to my online teaching, I held three to six office hours per week. My in-person office hours were always well attended, and my students reported that these office hours were valuable for their learning. But there were barriers to office hour attendance for students who did not live on campus or did not have flexible schedules. Virtual office hours have allowed us to overcome these barriers and dramatically increase access to office hours for all students; indeed, due to the flexibility and convenience of virtual office hours, I was able to offer at least fifteen office hours every week, and there was no question of increased access, with an average of ten students in attendance per office hour. Students with one short question were happy to pop into a Zoom meeting for a few minutes, but I highly doubt they would have walked all the way across campus for a five minute conversation. In addition to the convenience of online office hours, several of my students who characterized themselves as shy told me that they had never asked questions at in-person office hours but were instead comfortable asking questions and participating in virtual office hours. Given that virtual office hours are so clearly beneficial to student learning, in my future teaching, I will hold both in-person and online office hours.
- (2) **Student Participation via the Chat:** For all of my online courses, I chose to lecture live via Zoom and then make the lecture recordings available on Canvas. When I was deciding how to structure the courses, I was unsure of whether or not to allow students to publicly chat with one another during class; my main concern was that students would distract one another from the lesson by blowing up the chat with irrelevant comments. But my students never once abused their chat privileges, and we realized several ways in which the use of the chat contributed to an effective and supportive learning environment. For one, the chat facilitated greater participation; I have always considered my lectures to have a high level of student participation, but my online students asked considerably more questions about the theorems and examples than my in-person students. These student questions served as a very efficient mechanism for gauging student understanding and uncovering misconceptions; since the questions were not spoken, I could choose which to answer out loud and leave the remainder to be answered in the chat by my SI Leaders or other students. In addition to helping each other learn in the chat, classmates praised one another's ideas, and during the designated social chat period (the five minutes before and after class), students invited one another to online study groups and class discords; I can honestly say that I've never felt a greater sense of community in a large (100+) lecture than during my online classes.

Given that the Zoom chat has proven to be a valuable tool for my students' learning, I plan to research apps for use in the live classroom with similar functionalities and incorporate them into my in-person teaching.

- (3) **In-Class Polls:** In-class polling is not new, and its pedagogical benefits are well documented, but unfortunately it took a pandemic for me to try it. Once I became comfortable with Zoom polls, I used them at least twice during every lecture. I am now a huge advocate of in-class polling, and I use polls to encourage participation and maintain active student engagement, check in on the pace of the lecture, gauge my students' understanding, and help me adapt my lesson plan as necessary. I will most certainly continue to use classroom response systems upon my return to in-person teaching.

2. EVIDENCE OF CONSISTENT AND SUSTAINED EXCELLENCE IN TEACHING

2.1. Awards and Honors. Since I began teaching at UCSD in Fall quarter 2006, I have been consistently recognized with several awards and other acknowledgements of excellent teaching, as listed below.

- *Legacy Lecture Award*, UCSD Scholars Society (2018–2019)
- *Outstanding Professor Award*, UCSD Panhellenic Council (2015–2016)
- *Above and Beyond Certificate of Appreciation*, UCSD Office of Student Disabilities (2015–2016)
- Invited Lecture: *Pat Ledden Memorial Faculty Luncheon Series*, UCSD Faculty Club (2015)
- *UCSD Academic Senate Distinguished Teaching Award*, UCSD (2014–2015)
- *Faculty Appreciation Award*, UCSD Office of Academic Support and Instructional Services (2009–2010, 2010–2011, 2011–2012, 2012–2013, 2013–2014)
- *Best Mathematics Professor*, UCSD Guardian student newspaper (2010–2011)
- *Outstanding Professor Award*, UCSD Panhellenic Council (2009–2010)

I was honored with the Legacy Lecture Award during the period under review. The UCSD Scholars Society is a student organization whose purpose is to foster service, academic development, and leadership among UCSD academic scholarship recipients. The Legacy Lecture Award recognizes one faculty member each year; all UCSD students are eligible to participate in the nomination and voting processes.

2.2. Statistical Data from CAPE Surveys. During the period under review, I taught twenty Mathematics courses.¹ These courses ranged in size from an enrollment of 17 to an enrollment of 279, with an average enrollment of 90 students. Six of the courses were upper division courses, and the remaining fourteen courses were lower division courses.

My instructor approval ratings on the CAPE surveys for twelve of the twenty courses are 100%. The other seven ratings are 93.75%, 98.4%, 98.6%, 98.8%, 99%, 99%, 99.3%, 99.32%, and 99.6%.² My average approval rating for this period is 99.32%.

For eleven of the twenty courses, my students unanimously recommend the class. For the remaining courses, the percentage of students recommending the courses are 88.3%, 92.3%,

¹Please note that Math 95, Math 121A, and Math 121B are cross-listed as EDS 30, EDS 121A, and EDS 121B, respectively. Thus, courses with the EDS designation should not be counted as separate courses.

²Please note that for the courses which are cross-listed, these percentages were calculated by combining the data from the EDS listing and the Math listing.

93.2%, 93.75%, 94.7%, 95.2%, 95.3%, 98%, and 98.5%.² These statistics are further evidence of my ability to connect with, inspire, and generate enthusiasm for mathematics within my students.

2.3. Student Feedback from MATH 87 Spring 2021. This was an online course. There were 17 enrolled students, and 12 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Professor Stevens is definitely super invested in her students, and it shows. I’ve never seen a professor that’s more excited to come to class and teach than Professor Stevens. Plus, the way she teaches and talks encourages everyone to be a part of the conversation. Overall, I think Professor Stevens is a *wonderful* professor. She knows what she’s talking about, she can explain it in a very clear way, and she enjoys teaching what she’s teaching. 10/10.”

2.4. Student Feedback from MATH 95 Spring 2021. This was an online course. There were 24 enrolled students, and 16 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Professor Stevens is very humble, kind, approachable, and extremely cognizant of the fears and stigmas that someone might have when presenting and doing math in front of others. She made mathematics an extremely fun, engaging, and intellectual activity. She provided so much comfort and encouragement in this new setting of learning. The way she constructed this course made me learn math in I think the most efficient and fun way I have ever learned math before. I learned many profound concepts here thanks to her class and teaching style, such as how to translate problems mathematically, how to learn from other people’s approaches, math skills in general, different views to approaching a problem, and appropriate terminology when communicating math. These skills I don’t think I have been introduced to before, but I see how they will be extremely important when communicating math to others at a professional level. There was a great balance of technical and soft skills, pertaining to a mathematical profession, being taught to us in an active form, as well as perspectives and habits to keep in mind as mathematicians and teachers. My appreciation and understanding of what math is about really grew as a result of how she constructed this class and also as a result of her welcoming positive attitude. It was evident that she constructed this class with the intention of removing fear and stress as much as possible which made me love math and learn more than before. Her office hours provided even more profound insight about how to learn, think, and communicate math. She is very approachable, patient, and understanding. I was really blessed to have met Professor Stevens. I think more classes should be run this way.”

2.5. Student Feedback from MATH 121A Winter 2021. This was an online course. There were 23 enrolled students, and 18 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“I learned SO MUCH. It wasn’t about memorization at all, it was all about deep understanding. Every math class should be like this!”

“Professor Stevens is just incredible. Without a doubt the best professor I’ve had at UCSD. Though I came into the class with a sufficient understanding of the math to be discussed, I left every lecture feeling like I learned something new. Professor Stevens demonstrates how to be an effective educator at every moment and she truly cares about her students’ success and understanding.”

“Professor Stevens is hands down the best math professor in the math department. Not only is she superb at teaching but she’s also very friendly and welcoming. I always wanted to be in lecture and I always felt like my voice mattered. If I could have Professor Stevens as a professor for all my math classes, I definitely would!”

2.6. Student Feedback from MATH 95 (EDS 30) Winter 2021. This was an online course. There were 24 enrolled students, and 19 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“The professor was very encouraging to a broad range of students with different mathematical knowledge and backgrounds. She encouraged everyone to try their best.”

“Made sure to give all students a chance to present their work and gave good feedback on the work even if the answer was wrong. Never made any students feel bad about their work.”

“Professor Stevens is so kind and energetic in every class. She always brings so much light to the room and affirms each and every one of her students. She provides a safe space for students to make mistakes and to learn from them.”

2.7. Student Feedback from MATH 18 Fall 2020 Lecture B. This was an online course. There were 207 enrolled students, and 194 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“I don’t think I have ever had a professor like Dr. Stevens, who so emotionally and passionately cares about every remote student as if they were her own child. Her command and knowledge of the material is like the highest most esteemed professor, taught like as if you were teaching 1st graders in terms of simplicity (which I NEEDED!!!, math 18 is not an easy subject). I would take another class of hers in a heartbeat and have already recommended her for so many. The best decision of my fall quarter was taking her class.”

“Honestly probably one of the best lecturers I’ve had the pleasure of encountering at UCSD. Although I didn’t attend live lectures, Dr. Stevens’ energy and excitement for the material jumped out across the screen even through a recording, and made what I thought would be another painful math class into a manageable experience. She is very fair with grades, she is super accessible outside of lectures offering many many office hours, and is fair about upholding academic integrity. One of the best professors I’ve ever learned from.”

“Dr. Stevens, out of all my years as a student, I can safely say you are the best instructor I have ever had. I honestly could not change a thing about your class or style. As a shy person, you made it easy for me to reach out and ask questions and learn when I was confused. You’ve made me so confident in my capabilities throughout this course. I think I can speak for most students when I say you made this quarter a hell of a lot smoother. Thank you!”

“Dr. Stevens has definitely made my time here at UCSD enjoyable. She is absolutely kind and truthfully cares about her students. This is my first year here at UCSD and I think that if I didn’t have her as my professor I would have been scared of what university was going to be like for the next four years. I love how she takes so much time out of her day to help us out. She makes sure everyone’s questions get answered. She also screen shares to show us how to do the work something that my other professors do not do. I find her way of teaching almost perfect. I truly love this class and I did not think I would enjoy it as much as do [sic] if it wasn’t for her. Having Dr. Stevens as my professor definitely provided me with the warm welcome to the school. She is really motivated everyday and that makes me feel like I want to learn. THE BEST professor at UCSD. She deserves a raise! 10/10 amazing.”

“Far and above the best professor I have had in 3 years at UCSD (across 10 departments). Prof Stevens’ enthusiasm for teaching, incredible command of course content, and example-focused lecture style set me up for success and made for an incredibly enjoyable quarter. Thanks professor.”

“You’re the best math professor I’ve had. I never understood a math class so well through in person learning, let alone online. Your overwhelming positive attitude also helps. Thank you!!”

“I have a hard time giving up this spot, but from the way the class is organized, the way the material is taught and tested, to the teaching style and general energy and enthusiasm brought to this course, I would have to say Stevens has been the best professor I have had so far at UCSD. I could not recommend her higher. The quiz format instead of a midterm was an excellent idea, and she did a great job of promoting academic integrity by being very transparent with the quiz process, was clear with her expectations, was good about reminding about deadlines and was overall a supportive and positive influence in an otherwise strange and stressful quarter. Every other professor should strive to be like Stevens. Without her, this course simply would not be anywhere near the same. Additionally, the energy she brought was excellent at holding my attention, and keeping me motivated and interested in the topic at hand. She regularly stopped to ensure any questions were answered and gave reasonable questions during class time to check for understanding along the way. As I said before, best professor EVER.”

“Professor Stevens is the best math professor I have had in my career at UCSD thus far. She is engaging, she is direct, and she is very good at simplifying course material and connecting the course content to prior material. She has no shame about her love for math and that makes her classes worth attending. She clearly teaches because of her love for math. She wants her students to love math just as she does, and this is clear in her teaching skills. She focusses on making math achievable and easy to understand, so that it isn't something that students dream, but rather something they can excel in.”

2.8. Student Feedback from MATH 18 Fall 2020 Lecture A. This was an online course. There were 274 enrolled students, and 247 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“I absolutely loved having professor Stevens. Her teaching style is definitely the best I've had since elementary school. She really cares about the students and you know that there will be a lot to learn which the professor covers adequately with examples. She promotes our usage of the vocab which instills in us their definition and usage. I'm a math major and I know if I do well in college it will have a lot to do with the foundation Professor Stevens instilled in me. I also loved the weekly quizzes since it forced me to review the material even after we have covered it.”

“Dr. Stevens is hands down the most caring and approachable instructor I've ever had. Having an instructor like her makes the coursework more engaging and enjoyable. If it weren't for her, I feel that I would've lost interest in the subject down the line. She is available via office hours, and is willing to help any student. She is able to make a 200 person class feel as though there are 20 people, and is communicative with students about how things are running in the course.”

“Just an *absolutely* excellent instructor! Every instructor should take notes from her! What I’m about to say was actually written two weeks into the quarter because I was so amazed that instructor [sic] could be so good and I just had to write everything down to prepare for this moment (and these feelings have *stayed* consistent throughout the quarter):

Professor Stevens has truly raised my standards in viewing how all instructors are supposed to handle their class, from lectures, assignments, and exams and even to office hours. Before the class even started, she created a pact of the highest academic integrity with her students for not just us pupils to uphold, but for herself to absolutely honor as well. She promised fair and straightforward assignments and exams and *consistently* kept that promise to us. I believe that anyone who broke this pact by cheating simply did not even try – because her lectures and assignments are so clear and doable that it is ridiculous anyone would even try (even I who experienced many hardships surrounding the COVID situation).

She has such a masterful grasp of the content (and even an intuition for what parts might trip up a student’s understanding) that she can simplify the concepts in a way that students can visualize and keep up with. She knows how to ground your understanding of explanations and concepts by giving appropriate examples such that build learning blocks – step by step (i.e. builds understanding from what you know into more complex things – many instructors I’ve had actually don’t do this). She writes down even the smallest details to augment and clarify understanding of her words. She knows how to summarize the key points of what we learned and highlights what we should pay attention to for tests and assignments. She gives examples from the assignments to help us familiarize ourselves with the vocabulary and wording of the questions. (This emphasis on using and learning the vocabulary is something I actually found quite interesting as no other math instructors have ever tried to do this even when the class was entry-level.) She gives alternate examples of how they might frame a statement, claim, or question. She makes sure to leave no corner of your understanding in doubt. She cares about how the students feel about the pace of the class.

Overall, you can genuinely feel just how much she cares about her students’ learning and is always concerned about her own effectiveness as a teacher. She is so happy to handle *any* question even when they may seem dumb but whose answers are actually a students’ lifeline. (She’s so joyful in general and it’s really refreshing.) I love how she is so empathetic to the student struggle. She (gratefully) remembers what it was like to learn something new for the first time. (Many instructors so often forget and often graze over specifics, assuming students understand their line of thought when some just need that extra clarification.) I’m so forever grateful for an instructor like Professor Stevens who has helped me learn to love learning again.”

“Dr. Stevens is such an exceptional professor which I hope to get again. She’s so inspiring and enthusiastic that she actually makes me want to learn the material very well, rather than just skipping through it like most of the other math professors. As a second year math major, it gets really hard out there and some professors are very uncaring of whether you understand the material and it isn’t until now that I have found someone who inspiring me to keep going in the math major, but Dr. Stevens really makes me want to continue it. I am so grateful I came across her as my professor, she’s the best.”

“I very much love this professor. She puts so much effort into her course, it’s admirable. I can tell she has a passion for teaching and wants the students to learn and be happy. I’m not confident any of my other professors this quarter will remember me at all, my face or my name, but I genuinely feel that Laura Stevens could pick me out of a crowd and remember that I am her Math 18 student.”

“Professor Stevens was amazing and a model professor. She was provided [sic] unwavering encouragement throughout the class. She provided constant communication and contact via email of what assignments were due, which made it all so much easier for me as a student to stay on schedule. She was brilliantly candid and always presented the material in a digestible way. Every time whenever the content seemed to become increasingly difficult she would be sure to tie it into concepts we’ve learned prior in the course and emphasize that she believed in our ability to solve these problems. Overall, I think Professor Stevens really tackled this challenging quarter with grace and optimism. She was a breath of fresh air.”

“I love Professor Stevens! She is one of the best professors I’ve ever had at UC San Diego. She really is so attentive, detailed, considerate, and basically every other good adjective there is out there! She truly cares about her students, puts so much time, thought, and effort into this class and her students, and really tries her best to help us learn. She’s fair, a great lecturer, a sweet person, and overall amazing. I would take ANY class with her. I really hope to have her again in the future. Her classes were always fun and engaging and I learned so much. This was a fantastic quarter with her and I’m sad for it to end.”

“Dr. Stevens is one of the best teachers I’ve ever had. She shows her students that she cares about them and their success through her words and actions. I really appreciate her commitment to our learning and understanding the material rather than just throwing readings at us and testing us on them. I appreciate that she checks in with her students to see how we feel about the material and adjusts her teaching style accordingly. She offers kindness, compassion, and encouragement to her students and I think that that has been crucial in my success in this class. She makes us feel as if she is an ally rather than an obstacle in our achievement of good grades.”

“Thank you so much for a great quarter. I thought I was bad at math until I had you. The quizzes and the 3blue1brown videos and lecture videos all made sense and connected together and I’ve never felt so prepared. I really enjoyed your lectures and seeing you get excited about math made me excited about math too. You are always so encouraging and thoughtful in your emails to us and your responses to our emails, and checking in to make sure we were on a good pace with class, and calling us by our names made it really feel like I actually took the class at UCSD. I had a pretty bad quarter (mentally, physically, financially, everything), and your class was one of the only classes that kept me going and actually gave me a sense of schedule haha. Thank you so much!!”

2.9. Student Feedback from MATH 95 (EDS 30) Spring 2020. This was an online course. There were 19 enrolled students, and 12 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Professor Stevens is one of the best professors I’ve ever had. The care and support you have for your students is absolutely amazing. As someone who has struggled with feeling like they don’t belong in the math department at UCSD, your smile and encouragement every week has made me feel supported and welcome in this department. Your kindness and gentleness with students who are unable to solve the problems has made this class a very safe space, and has made me much more open and attentive to learning the right way instead of beating myself up over not knowing how to do the problems. I hope to take another class with you, as you have truly been a defining figure in me feeling welcome as a math major and a math education minor. Thank you so much for everything this quarter, I appreciate you more than I could ever express!”

2.10. Student Feedback from MATH 20B Winter 2020 Lecture C. This was an in-person course. There were 192 enrolled students, and 88 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“She is a SUPER good instructor who can hold students’ attention all the time. I love her class over any math class. The environment she provides for the class really promote us to study.”

“She is the best math teacher I have ever had. Definitely cares for all of her students success. Great positive attitude every day. Love coming to this class once she took over the class.”

“Stevens was an AMAZING professor. She was always very energetic and seemed excited to be teaching her classes. I loved how much she engaged her students and tried her best to make sure everyone understood.”

2.11. Student Feedback from MATH 95 (EDS 30) Winter 2020. This was an in-person course. There were 28 enrolled students, and 15 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Very enthusiastic professor who clearly cares about the well-being and understanding of the students. Makes everyone feel welcomed and encourages everyone to participate.”

2.12. Student Feedback from MATH 121A Winter 2020. This was an in-person course. There were 29 enrolled students, and 15 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Dr. Stevens is the best professor I’ve had in my 4 years at UCSD. I wish I could take every class with her. She demonstrates a strong command of course material, is enthusiastic about teaching math, and truly cares about her students. She encourages her students to understand the logic behind every step of problems they do. She shows up to every class with an infectious positive attitude and with a well-structured lesson plan.”

“Easily the best professor at UCSD. If you want an idea of what professors should be like then just take any of her classes. I wish she was my professor for all of my math classes.”

2.13. Student Feedback from MATH 18 Summer Session One 2019. This was an in-person course. There were 153 enrolled students, and 105 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Instructor Laura Stevens is by far the best math professor I have had during my time here at UCSD and probably the best professor I have ever had. She really cares about her students success and provides her students with all the tools in order to do well. She heavily encourages hers [sic] students to attend office hours. Her lectures although an hour and fifty, go by extremely fast. She covers a lot of material and regularly checks in with the students for understanding via class feedback. I have never seen another professor do this, so I was in awe. She provides warm-ups before class and halfway through lecture and as students attempt the problem, she roams throughout the class to watch over all of her students and corrects them and/or provide insight on their mistakes. She is very accessible outside of class as well. She is an extremely understanding instructor and provides a positive learning environment. She does well in maintaining academic integrity by constantly reminding students that everyone is capable of doing well in her course with lots of grit and practice.”

“I did my bachelor’s at a small liberal arts college with many great professors, and Prof. Stevens is the only professor I’ve had in ~10 courses at UCSD who teaches at the level I was used to. She is engaging, walks about, is enthusiastic, checks up on students’ progress during class, and tries to make the class interactive. Even though the class size is large, she teaches as if it is a very small class – there’s no incentive to tune out or stop paying attention, and all student inputs are welcome. I particularly like how she interacts with students – she genuinely wants to help them, and never makes anyone feel dumb for asking a silly question or answering incorrectly. I also like how she gives study tips, encourages us to study, and reminds us of due dates. She is clearly the best professor I’ve had at UCSD, and many other professors would do well to learn from her.”

“No professor holds the same energy and charisma like Laura Stevens. Her vibrant attitude and passion for math excels most math professors. She really cares about her students and promotes a great learning environment for all.”

“Absolutely amazing. Her energy and love for math is infectious, since coming to UCSD this is the first math class that has gotten me excited about mathematics again (something that hasn’t happened since high school). Her care about students well being, the time she takes out of her day to talk one on one with students about their individual experience with the course, honesty, and organization all make her the best professor (mathematics or other) I have taken at UCSD so far. If possible, I’d like to take every future math class with her.”

“By far the best professor I have ever had at UCSD. She truly cares for the well being of her students and wants us to succeed, she provides us with all the tools we need to succeed in the class. I failed this class once before, and the only reason I think I’m going to pass is because of her. She has a way of making such complex topics seem easy. It’s clear that she puts a lot of time and effort into this class, and I feel obliged to return the favor by studying my hardest for every test.

“I do not usually write reviews for professors unless they really did have an impact on me. Professor Laura Stevens is one of those professors. Professor Stevens is extremely fair, enthusiastic, and helpful professor that cares about the success of her students. During office hours she would be extremely engaging to the point where you feel comfortable enough to ask her pretty much anything about the course. This professor literally works day and night to help you succeed in the class, and will help you understand the course to the best of her abilities. I 100% recommend taking Professor Stevens class should you need to take her at all.”

2.14. Student Feedback from MATH 121B Spring 2019. This was an in-person course. There were 20 enrolled students, and 14 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Very encouraging and sometimes it amazes me how knowledgeable a person can be. Even though there are times where I am unsure with where I am going with a problem and all the work I’ve been doing seems unrelated, she can always help connect the points so that I can continue to use what I originally planned. It’s a huge learning moment for me as I tend to stick to the first given solution to a problem because it’s the “right way” and I feel comfortable with it, but Professor Stevens has really made me challenge myself to step out of the comfort zone and be more confident in myself.”

“A brilliant mathematician invested in honing and advancing the mathematical knowledge, practice, and enjoyment of her students. She spends a great deal of time thinking about her lectures and how they will play out and putting a great deal of effort into ensuring that every single student has the chance to engage with the discussion. Never have I seen a professor so in love with her teaching than with Professor Stevens. She is truly the best math educator in the department.”

2.15. Student Feedback from MATH 18 Winter 2019 Lecture B. This was an in-person course. There were 279 enrolled students, and 187 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Best Professor in the World. Have great respect for her. She is a perfect role model. She has 1000% motivation even during finals week, everyone is all drained and she is still giving her all.”

“Is truly amazing. She explained things so well that I barely had to look at the book. She is an extremely gifted teacher.”

2.16. Student Feedback from MATH 121A Winter 2019. This was an in-person course. There were 25 enrolled students, and 15 of these students submitted their CAPE surveys. Below is a selection of student feedback from the free response sections.

“Dr. Stevens encouraged us to find our own approaches to problems, and she celebrated every student’s response, whether right or wrong. She turned every moment into a learning opportunity. It was clear that she genuinely cared about the success and understanding of each student in her class, regardless of their identity.”

REFERENCES

- [2008a] Harel, G. (2008) *What is mathematics? A pedagogical answer to a philosophical question*. In B. Gold and R. Simons (Ed.), *Proof and Other Dilemmas: Mathematics and Philosophy* (pp. 265-290). Washington, DC: Mathematical Association of America.
- [2008b] Harel, G. (2008) *A DNR perspective on mathematics curriculum and instruction, part I: Focus on proving*. *Zentralblatt für Didaktik der Mathematik* **40**, 487-500.
- [2008c] Harel, G. (2008) *A DNR perspective on mathematics curriculum and instruction, part II: With reference to a teacher’s knowledge base*. *Zentralblatt für Didaktik der Mathematik*, **40**, 893-907.