

Teaching Statement

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September 27, 2024

1 Introduction

Every student who enters my classroom has the potential for conceptual mastery and academic success. As an educator, my main focus in the classroom is humanizing the mathematical learning process through transparency. I use regular assessment as a key component to measuring student progress toward course goals and fulfillment. Through these techniques and others, I strive to make my classroom an equitable learning environment for all.

I have four years of wide-ranging sole-instructor undergraduate mathematics teaching experience at the University of Oregon. I have experience with traditional lecture classes with active learning components as well as the flipped classroom. During the pandemic, I had the opportunity to gain experience teaching synchronous online classes. Additionally, I have participated in the UO math department's Directed Reading Program for two years and intend to participate this coming winter as well. In order to enhance my skills, I'm currently working on the UO Graduate Teaching Initiative's certificate program.

My main teaching goals are to revisit the concept of the flipped classroom with transparency as the main tenet and to make the resource of assessment a more tangible and down-to-earth tool for my students. Teaching mathematics allows me to introduce others to the kind of exploratory thinking that brought me to study math in the first place.

2 Transparency

Increasing my transparency more generally as an instructor is one of my main teaching goals for this academic year. By transparency, I mean leveling out preexisting knowledge imbalances between instructor and students. I'd like to thoroughly substantiate both mathematical and non-mathematical claims that I make as a teacher. For example, I'm interested in providing short level-appropriate "proofs" for otherwise black-boxed facts that appear in lecture or showcasing data supporting study techniques that I recommend to my students. Mathematical transparency and personal transparency help make the subject and myself more approachable, while policy transparency helps create a learning space in which students recognize the intention behind course practices. Understanding my decisions as an instructor will help students to not feel as though the obstacles they may face in the course are artificial.

Since I am not infallible I make mistakes while teaching, both mathematically and otherwise. I do not try to obscure slip-ups from my students. Students seeing my mistakes and corrections humanizes both myself and the mathematical process. Students value my authenticity when I do this: it has been mentioned positively in comments from my student evaluations. Of course, I make an honest effort to teach without errors, but when they do happen, I find that reacting genuinely allows me to grow and provides my students a model to emulate when they find themselves in similar situations.

Transparency fosters an environment where students and instructor are on equal intellectual footing and in which common comfort zone retaining barriers are ameliorated. This is one way in which I can make my classroom a more equitable space and a growth-centered learning environment.

2.1 Transparency Objectives

The main issue that I faced when teaching a flipped-classroom course was lack of in-class engagement from students. This surprised me as I described the classroom time as "in-class homework group work time"

which I thought would be a sufficient motivator. In future renditions of this course style, I would like to spend part of one day during the first week of the course describing the idea of a flipped classroom and the reasoning behind the technique, as students may be more engaged during class time once the knowledge imbalance on this topic is leveled. Moreover, students deserve to have this background information so that they know that I'm not simply inventing barriers for them; rather, I'm employing a legitimate pedagogical technique.

I do not require attendance in my classes; however, when I mention this to students, I make a point to explain that students who attend class regularly have better outcomes on average. In future classes, I'd like to show students data on outcomes as they relate to class attendance during the first week of the course.

3 Assessment

Since regular assessment is beneficial to student success, in most of my classes I give students a short weekly quiz that has minimal impact on their grade with the main purpose of helping them have an idea of where they stand with the material and secondarily helping me judge their mastery. It's very useful to me, since interpreting these results helps me know which course objectives are being retained and which aren't on an individual student level as well as a class-wide level. Moreover, students are able to evaluate their own mastery against the course standards with minimal penalty for falling short on quizzes far before more potent grade determinations like exams. This gives students a chance to correct course when they notice that they might be falling behind.

In order to gauge how my students feel about the courses I teach, I administer an anonymous survey through our LMS at the midpoint of the term for each course. Unlike end-of-term feedback, the results of this survey help me decide what immediate changes could be made to the class for my current students so that I can make their experience as enriching as possible.

3.1 Assessment Ambitions

I have found that students have not used weekly quizzes in the ways that I have expected and instead don't appear to attribute significant value to this practice. In the future, I'd like to explain my thought process on these quizzes to level out the knowledge imbalance on this topic (assessments in general, and my quizzes specifically). A further goal is to create and administer daily "micro-quizzes" on the topic of the day. These assessments would be one to two questions that are multiple choice through our LMS, so that I need not grade them by hand, but the students get the benefit of testing their understanding regularly. This establishes a steady stream of data about student progress.

4 Conclusion

I am a teacher who puts a high value on transparency in the classroom and strives to create an equitable learning environment for all who enter my class. I incorporate the tool of assessment widely in my pedagogy to evaluate several facets of the learning process for both myself and my students. My teaching objectives are directed towards assuring that my students leave my course successful and armed with new skills that they learn along the way. I have several plans for growing pedagogically as an instructor, including providing students with resources that verify my claims and establishing a culture of regular assessment. Putting these ideas into practice will get students to be more genuinely engaged in the content and open them up to wider possibilities of the kind of critical thinking I'd like them to develop while in my courses.