

Philosophy of Teaching

Whether I am teaching K-12 students, pre-service teachers, or in-service teachers I have quality methods that I use to maximize student learning. In general my philosophy of teaching is based on social constructivism and I believe that mathematics teachers should strive to give students an exposure to greatness through learning mathematics.

In my interactions with teachers and students I work at giving timely feedback through formative assessment, building on prior knowledge, having high expectations, having my teaching aligned with standards and modeling this for students, giving clear explanations, knowing capabilities and misconceptions of my students or teachers, integrating technology and real world connections, having students or teachers justify their thinking, writing for reflection, implementing cooperative learning, and quality questioning techniques.

I structure my classroom so that students can use their unique talents, experiences, and backgrounds to collaboratively construct new knowledge. This involves showing students and teachers the excitement in mathematics or STEM content and teaching with a variety of teaching methods. Mathematics classrooms should have the sense of a community of learners. Students should feel free to question the teacher, give explanations of thinking and mathematical reasoning, and respect others. Mathematics teachers can accomplish quality class community by creating a social environment in which students have fun, cooperate, are reflective, are challenged, have choices in their learning, and do work that is applicable to them.

My passion for improving the teaching and learning of mathematics for all developed from my high school teaching experience where I saw how properly structured mathematics classes could empower students to achieve great success and have

confidence in their abilities. I taught high school mathematics for four years with three years of teaching in urban schools.

I am in my fifth year at UNLV and I have taught elementary, middle school, and secondary methods classes; master's level classes, and a doctoral class with evaluations averaging a 4.4 out of 5. I have also led and developed professional developments for in-service teachers, advised students, and wrote a white paper for legislators to inform them about K-12 educational funding. The white paper was well received by state legislators and the past legislative session led to the single largest increased investment in education in Nevada's history. While at UNLV I have also taught elementary and middle school students for a Saturday STEM program. The program is a series of inquiry experiences designed to provide interesting and exciting opportunities in STEM education. My methods of teaching are based on best teaching practices for great outcomes in that they work at different grade levels and with students, pre-service teachers, and in-service teachers.

My methods that I use in my teaching are connected well to my research. Many of my publications involve the use of Model-Eliciting Activities (MEAs). These are in-demand activities that more teachers are implementing with the Common Core State Standards for Mathematics focus on mathematical modeling. MEAs enable teachers to implement best practices in teaching that I have described. My research informs my teaching and both students and teachers are excited and engaged while participating in MEAs.

In my classes I strive to have meaningful assignments. For example, in the doctoral mathematics education class that I taught I had the students help me with a

research study that led to a published journal article. Publications are of great importance for doctoral students as they seek employment. The students were able to get practical research experience while being in the class and build their curriculum vitae to make them more marketable for a job.

Another idea I incorporate in my classes is to have one big overarching question that students can structure all of the work that we do in class around. For example, in my secondary methods class the overarching question is *Many people often say I never got mathematics, how can you teach mathematics to empower all students to learn mathematics deeply?* To help answer this students use their prior knowledge, class discussions, assignments and readings and we collaboratively develop a framework of good mathematics teaching. I believe strongly in building on prior knowledge and making learning a social and collaborative endeavor where the teacher is more of a facilitator but still holds strong content knowledge of the subject to guide and inform student learning.