

## **Learner Development**

Standard #1 Learner Development: The teacher understands how students learn and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

*During this course we created a unit based around a CCSS within a course of our choice. My unit was based on Geometry—furthermore—conic sections and how to complete the square to find the equations for circles and parabolas. Throughout the unit we were able to differentiate instruction frequently by providing different opportunities for the multiple intelligences as well as several different instructional models to provide a variety of exposure to instruction. Ultimately students will be challenged by the unit and be able to grow and learn the material effectively.*

Standard #2 Learning Differences: The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that allow each learner to reach his or her full potential.

*We created avatars to simulate the different cultures and learning differences that might be in our classroom. These differences ranged from background, home life, religion, culture, disabilities, and more that could make up a classroom. We were responsible for providing specific modifications/accommodations for these students in our unit. The accommodations included how we will work with students in special education, students who are absent, students who are gifted and talented, etc...*

Standard #3 Learning Environments: The teacher works with learners to create environments that support individual and

collaborative learning, encouraging positive social interaction, active engagement in learning, and self-motivation.

*During the middle school presentation our geometry group was able to create a positive learning environment where students were willing to take chances in the classroom. Groups of three worked together to try and answer questions related to volume of three dimensional objects, and were actively engaged in the lesson and how it related to Google SketchUp.*

### **Content**

Standard #4 Content Knowledge: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners.

*By completing the Number Theory presentations, we learned about some of the basic mathematical operations that many students have misconceptions about. Through having everyone present a chapter in the book we were able to experience what to teach and how to teach it.*

Standard #5 Innovative Applications of Content: The teacher understands how to connect concepts and use differing perspectives to engage learners in critical/creative thinking, and collaborative problem solving related to authentic local and global issues.

*During this course we worked almost exclusively in groups of three in a particular subject. My subject was Geometry and we were responsible for learning a technology that would be useful for students in the course. Google SketchUp was a tool we chose to use that allowed students to use their creativity and construct nearly anything using the program. We found that this application*

*was wonderful because it could be used for a myriad of Geometry lessons.*

### **Instructional Practice**

Standard #6 Assessment: The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to document learner progress, and to guide the teacher's on-going planning and instruction.

*Through the use of four formative assessments, four summative assessments, a performance task, and an exam throughout the course of a unit, students will be able to show their knowledge in several different ways. This includes posters, iMovies, artwork, etc... that can let students express their creativity.*

Standard #7 Planning for Instruction: The teacher draws upon knowledge of content areas, cross-disciplinary skills, learners, the community and pedagogy to plan instruction that supports every student in meeting rigorous learning goals.

*During the time of EDU 361 I was also taking MAT 363—Problem Solving. In this class we considered math problems that covered a vast array of mathematical concepts. In this class we also had the opportunity to make 3D prints that could help enhance a lesson. I printed the four different cross sections of a cone as a puzzle/manipulative for my unit in EDU 361. Because I was able to take one class' expectations to another's I helped to meet students' learning goals through bettering the instruction they would receive.*

Standard #8 Instructional Strategies: The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to access and appropriately apply information.

*By using several different instructional models, students will be exposed to different types of approaches that and may find one or more that works well for them. Not every instructional strategy can work well for every student; however, by providing variety, students will have the best chance to succeed.*

## **Professional Responsibility**

Standard #9 Reflection and Continuous Growth: The teacher is a reflective practitioner who uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (students, families, and other professionals in the learning community), and adapts practice to meet the needs of each learner.

*After each presentation (technology presentation, number theory presentation, middle school presentation) there was feedback provided whether it was from colleagues, professors, or students who received instruction. Getting feedback on teaching practices can really help to improve future strategies and methods. After reading evaluations from each presentation I learned something new that I could work on or something specifically that went well.*

Standard #10 Collaboration: The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

*Because we worked with fellow colleagues for the semester, we were able to work together and enhance our teaching abilities through collaboration. In addition, due to how the class was set up, we were able to have good conversations with our other peers*

*in the class about their technologies and their content they had been studying to help widen our understandings of mathematics.*

## **Technology**

Standard #11 Technology Standards for Teachers – (NETS-T):  
Effective teachers model and apply the National Educational Technology Standards for Students (NETS-S) as they design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community.

*By presenting about Google SketchUp with the Geometry team we were able to get a great understanding of an awesome technology. In addition, we were able to listen to the Algebra team present on GeoGebra and the Probability team present on Tinker Plots.*

## **NETS-T Standard:**

Through the two presentations with students in EDU 361 (middle school/ELL presentations), our geometry group had the opportunity to inspire students' learning and creativity with technology. This technology was Google SketchUp, and although it was difficult to learn at first, our students picked it up quickly and had a lot of fun using all of the tools and gadgets involved.

Students in the middle school group were tasked with the responsibility to create a pool, find the volume of it, and share it with their peers. The ELL students were given the challenge of using SketchUp to determine the formulas for interior and exterior angles of regular polygons with the protractor tool.

By incorporating real world scenarios such as being a carpenter and creating a pool, students were able to be creative and have plenty of autonomy in their creations. Many were proud of their work at the end of the lesson as they should have been. We fostered a learning environment where they could have a meaningful experience with the lesson.

### **1. Facilitate and inspire student learning and creativity**

Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments.

- a. Promote, support, and model creative and innovative thinking and inventiveness
- b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources
- c. Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes
- d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments