Classroom Interactions

The Classroom Interactions course continues the process of preparing students to teach mathematics and science in upper elementary and secondary settings. The specific objectives of this course are to:
- Demonstrate to students how learning theories (from the Knowing and Learning course) manifest themselves in instructional settings (usually classrooms), allow students to design and implement instructional activities from their own understanding of knowing and learning mathematics and science, and evaluate the outcomes of those activities based on evidence from student artifacts
- Provide students with frameworks for thinking about equity issues in the classroom and larger school settings and their effects on learning and provide students with strategies for teaching diverse students equitably

Classroom Interactions begins with the assumption that students have conducted and analyzed a number of clinical interviews in science and mathematics as part of Knowing and Learning. Students must understand that the process of concept acquisition must encompass learners' prior formal and informal knowledge, the importance of task construction in eliciting student thinking, and the critical role of reflection and language in the construction of knowledge. Whereas in Knowing and Learning, students study the meaning behind understanding a particular content area from an individual perspective, in Classroom Interactions, the perspective shifts to studying how classroom events might promote or discourage learning mathematics and science and student equity.

In Classroom Interactions, students typically participate in several learning activities and consider how the activities reveal and change their own understanding before implementing similar activities in high school classrooms. These activities allow students to evaluate their own learning and understanding of a subject. Bringing together students from different disciplines (for example, science, math, and computer science) allows them to see their subjects from the perspective of a novice and to consider how different perspectives might affect the same curriculum. Participating in learning activities also allows students to consider equity issues. For example, is it fair for only the fastest students to contribute to an activity? How would learning be different if all students were not only allowed but required to participate? Is it fair that some students are learning in a language that is not their first? The class considers the implications of deficit thinking (for example, blaming the student) in classroom outcomes.

The culminating activities of the course are the opportunities for students to teach in a high school and to learn whether they enjoy and are good at it. A major component of the Classroom Interactions course is the opportunity for students to reflect on and evaluate their own work as teachers.

Course Objectives: Classroom Interactions

Students Will Be Able To:	Evidence (Student Products)
Compare models of teaching and use various models of teaching, including direct instruction, inquiry, and cooperative groups, as appropriate, to design three high school lessons	Written justification of lesson plans Participation in discussions evaluating teaching Use of various models (both in class and during field teaching) Observations by mentor teacher and class instructor
Plan (with a partner or partners) multiple-day lesson plans on assigned subjects in high school math and science	Lesson plans, including essays justifying the plans and responses to reviewer comments Peer and instructor evaluations of practice teaching in the Classroom Interactions class Completion of appropriate sections of the preliminary portfolio
Teach (with a partner or partners) multiple-day lessons in high school math or science classes	Videotapes of teaching Observer (i.e., classroom teacher, Classroom Interactions instructor, Classroom Interactions teaching assistants, and master teachers) comments on teaching
Analyze their own and others' teaching in terms of how the instruction develops the content understanding of the students involved	Written analyses of teaching with video samples and other student artifacts Presentation and discussion of video samples and other student artifacts in the Classroom Interactions class Development of a knowledge map for assigned lessons in high school math and science classrooms Completion of appropriate sections of the preliminary portfolio
Analyze their own and others' ability to address equity issues in their teaching (e.g., effects of instruction on all students, including those learning in a second language, those with disabilities, those from minority cultures)	Written analyses of teaching with video samples and other student artifacts with regard to equity issues Presentation and discussion of video samples and artifacts of teaching Completion of appropriate sections of the preliminary portfolio
Become familiar with policies and classroom strategies regarding students of all kinds, in particular the Texas Essential Knowledge and Skills and	Participation in discussion and Internet postings regarding policies concerning students who have diverse needs

national science and math standards	
Read selected articles documenting theory and research regarding classroom interactions and broader educational policies and their effects on content understanding and equity for all students	Participation in discussions of readings Posting of commentaries on the Internet Written analyses of readings
Become familiar with relevant types of teaching technology and analyze how technology can affect classroom interactions	Artifacts produced by the use of such technology in the Classroom Interactions classroom Participation in discussions of the effectiveness of technology Written analyses of the uses of technology Completion of appropriate sections of the preliminary portfolio