

SEE MATH (SUPPORT AND ENRICHMENT EXPERIENCES IN MATHEMATICS) PROGRAM

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Teacher candidates (TCs) can learn how to teach complex skills when teacher education programs (namely methods courses and field experiences) provide clear and purposeful experiences (Grossman et al., 2009). The following poster describes one such innovation, a complementary field experience called SEE Math (Support and Enrichment Experiences in Math) that is paired with a mathematics methods course. SEE Math aims to support TCs as they learn to teach mathematics through problem solving while promoting equity over multiple iterations with a single child.

The SEE Math program is an extension of the TEACH Math module called “Learning Case Study Module” (Drake et al., 2015; Turner et al., 2012). In the TEACH Math module, TCs conduct a series of interviews with a child about their funds of knowledge and mathematical knowledge through a series of Cognitively Guided Instruction (Carpenter et al., 1999; Carpenter et al., 2015) tasks. The Learning Case Study module is one way in which TC can learn how to elicit children’s thinking and make small adjustments to existing curricula in ways that are relevant to children and their lives.

During our eight-week program of SEE Math, TCs are also paired with an elementary-aged student in a case-study setting. TCs learn to craft and implement tasks that promote problem-solving in the context of a case study of a child’s thinking while they collect and analyze student data to inform future instructional moves. For example, the TCs conduct a Getting to Know You Interview (as is outlined in the TEACH Math module) and create a Venn Diagram about the connections and individual interests of the TC and the child. The bulk of the SEE Math activities support TCs to leverage existing curricula (such as the book by Kazemi & Hintz, 2014) to adapt tasks and create new tasks in ways that is relevant to their child based on the first interview.

There are multiple culminating outcomes of the program. For the children, SEE Math culminates in a final experience where children and TCs engineer a tower or a catapult out of normal materials found in a home. For the TCs, their experience with SEE Math Program culminates in a mock parent-teacher conference that they conduct with their elementary mathematics teacher at the conclusion of the semester. Examples of student work in the poster will show how SEE Math builds on the TEACH Math module and offers TCs an opportunity to focus on the nuances of children’s strengths rather than traditional measure of achievement and skill. In addition to the theoretical foundations of SEE Math, we also intend to include examples of work from the TCs’ case studies and experiences from TCs, students, and parents who participated in the program.

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