ADOLESCENCE AND YOUNG ADULTHOOD MATHEMATICS STANDARDS

Standard I: Commitment to Mathematics Learning of All Students

Accomplished mathematics teachers acknowledge and value the individuality and worth of each student, believe that every student can learn and use mathematics, and are dedicated to their success. Accomplished mathematics teachers are committed to the fair and equitable treatment of all students— especially in their learning of mathematics.

Standard II: Knowledge of Mathematics

Accomplished mathematics teachers have a deep and broad knowledge of the concepts, principles, techniques, and reasoning methods of mathematics, and they use this knowledge to inform curricular goals and shape their instruction and assessment. They understand significant connections among mathematical ideas and the applications of these ideas to problem solving in mathematics, in other disciplines, and in the world outside of school.

Standard III: Knowledge of Students

Accomplished teachers use their knowledge of human development and individual students to guide their planning and instructional decisions. They understand the impact of prior mathematical knowledge, home life, cultural background, individual learning differences, student attitudes and aspirations, and community expectations and values on students and their mathematics learning.

Standard IV: Knowledge of the Practice of Teaching

Accomplished mathematics teachers use their knowledge of pedagogy along with their knowledge of mathematics and student learning to inform curricular decisions; select, design, and develop instructional strategies and assessment plans; and choose materials and resources for mathematics instruction. Accomplished mathematics teachers stimulate and facilitate student learning by using a wide range of practices.

Standard V: Learning Environment

Accomplished mathematics teachers create environments in which students are active learners, show willingness to take intellectual risks, develop self-confidence, and value mathematics. This environment fosters student learning of mathematics.

Standard VI: Ways of Thinking Mathematically

Accomplished mathematics teachers develop their own and their students' abilities to reason and think mathematically—to investigate and explore patterns, to discover structures and establish mathematical relationships, to formulate and solve problems, to justify and communicate conclusions, and to question and extend those conclusions.

Standard VII: Assessment

Accomplished mathematics teachers integrate a range of assessment methods into their instruction to promote the learning of all students by designing, selecting, and ethically employing assessments that align with educational goals. They provide opportunities for students to reflect on their strengths and weaknesses in order to revise, support, and extend their individual performance.

Standard VIII: Reflection and Growth

To improve practice, accomplished mathematics teachers regularly reflect on what they teach, how they teach, and how their teaching impacts student learning. They keep abreast of changes and learn new mathematics and mathematical pedagogy, continually improving their knowledge and practice.

Standard IX: Families and Communities

Accomplished mathematics teachers collaborate with families and communities to support student engagement in learning mathematics. They help various communities, within and outside the school building, understand the role of mathematics and mathematics instruction in today's world.

Standard X: Professional Community

Accomplished mathematics teachers continually collaborate with other teachers and education professionals to strengthen the school's mathematics program, promote program quality and continuity across grade levels and courses, and improve knowledge and practice in the field of mathematics education.

WHAT ARE THE STEPS TO ▶ CERTIFICATION? ◀

Component 1: Content Knowledge

-Computer-based assessment of 45 selected response questions.
-3 short essays / constructed responses on:

I. Families of Functions
II.Geometry
III. Data Analysis and Statistics

Component 2: Differentiation in Instruction

-Choose two instructional activities and two student responses to each activity that demonstrate how you are able to design a sequence of learning experiences that builds on and gives you insight into students' conceptual understanding of a substantive idea in mathematics, within the context of instruction that enhances students' abilities to think and reason mathematically.
-Submit a Written Commentary that provides a context for your instructional choices and describes, analyzes, and reflects on your teaching.

Component 3: Teaching Practice and Learning Environment

-Provide a brief overview of the content of your overall submission.
-Submit two 10–15 minute videos of your teaching practice, showcasing different instructional units, content, and strategies in each.
-Submit information about the instructional context for each video.
-Describe your instructional planning for the lesson featured in each video and submit supporting materials.
-Submit a commentary for each video that includes analysis and reflection on your teaching practice; that communicates your pedagogical decision making before, during, and after the lesson shown in the video; and that focuses on your impact on student learning.

Component 4: Effective and Reflective Practitioner

-Provide a profile or description of one entire class of current students developed from and supported by information you collect about the students.
-Provide evidence that you collect relevant information about your group of students to prove you base assessment practices on your knowledge of the students and understanding of sound assessment principles. Show you use assessments and other data sources to positively impact students' learning. You must link the assessment data to your practice.
-Submit evidence you use accumulated knowledge about students from the current year and/or previous school year to analyze the effectiveness of your own practice and to initiate or contribute to collaborative efforts designed to support students' learning and growth.
-Reflect on your practice of gathering and using information about students and how you can best contribute to positive changes for students and your practice in the future.

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