Mathematics Teaching Performance Assessment 2018

by COE Administrator

Teaching Performance Assessment

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Mathematics Teaching Performance Assessment

School of Education

The College of New Jersey

Clinical Practice II

Instructions:

Please select the performance level in each criteria below that best describes the Teacher Candidate's (TC) teaching performance to date. If you feel you cannot fairly rate the TC on any item, please select "not applicable."

Standards

NCTM-CAEP-2012.SEC.2.a Use problem solving to develop conceptual understanding, make sense of a wide variety of problems and persevere in solving them, apply and adapt a variety of strategies in solving problems confronted within the field of mathematics and other contexts, and formulate and test conjectures in order to frame generalizations.

NCTM-CAEP-2012.SEC.2.b Reason abstractly, reflectively, and quantitatively with attention to units, constructing viable arguments and proofs, and critiquing the reasoning of others; represent and model generalizations using mathematics; recognize structure and express regularity in patterns of mathematical reasoning; use multiple representations to model and describe mathematics; and utilize appropriate mathematical vocabulary and symbols to communicate mathematical ideas to others.

NCTM-CAEP-2012.SEC.2.d Organize mathematical thinking and use the language of

	mathematics to express ideas precisely, both orally and in writing to multiple audiences.
NCTM-CAEP-2012.SEC.2.e	Demonstrate the interconnectedness of mathematical ideas and how they build on one another and recognize and apply mathematical connections among mathematical ideas and across various content areas and real-world contexts.
NCTM-CAEP-2012.SEC.3.a	Apply knowledge of curriculum standards for secondary mathematics and their relationship to student learning within and across mathematical domains.
NCTM-CAEP-2012.SEC.3.b	Analyze and consider research in planning for and leading students in rich mathematical learning experiences.
NCTM-CAEP-2012.SEC.3.c	Plan lessons and units that incorporate a variety of strategies, differentiated instruction for diverse populations, and mathematics-specific and instructional technologies in building all students conceptual understanding and procedural proficiency.
NCTM-CAEP-2012.SEC.3.e	Implement techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions, identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies.
NCTM-CAEP-2012.SEC.3.f	Plan, select, implement, interpret, and use formative and summative assessments to inform instruction by reflecting on mathematical proficiencies essential for all students
NCTM-CAEP-2012.SEC.4.a	Exhibit knowledge of adolescent learning, development, and behavior and demonstrate a positive disposition toward mathematical processes and learning.
NCTM-CAEP-2012.SEC.4.d	Demonstrate equitable and ethical treatment of and high expectations for all students
NCTM-CAEP-2012.SEC.4.e	Apply mathematical content and pedagogical knowledge to select and use instructional tools such as manipulatives and physical models, drawings, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies (e.g., graphing tools, interactive geometry software, computer algebra systems, and statistical packages); and make sound decisions about when such tools enhance teaching and

learning, recognizing both the insights to be gained and possible limitations of such tools.

NCTM-CAEP-2012.SEC.5.a Verify that secondary students demonstrate conceptual understanding; procedural fluency; the ability to formulate, represent, and solve problems; logical reasoning and continuous reflection on that reasoning; productive disposition toward mathematics; and the application of mathematics in a variety of contexts within major mathematical domains.

NCTM-CAEP-2012.SEC.5.b Engage students in developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology in building new knowledge.

NCTM-CAEP-2012.SEC.5.c Collect, organize, analyze, and reflect on diagnostic, formative, and summative assessment evidence and determine the extent to which students mathematical proficiencies have increased as a result of their instruction.

NCTM-CAEP-2012.SEC.6.b Engage in continuous and collaborative learning that draws upon research in mathematics education to inform practice; enhance learning opportunities for all students mathematical knowledge development; involve colleagues, other school professionals, families, and various stakeholders; and advance their development as a reflective practitioner.

NCTM-CAEP-2012.SEC.6.c Utilize resources from professional mathematics education organizations such as print, digital, and virtual resources/collections.

NCTM-CAEP-2012.SEC.7.c Develop knowledge, skills, and professional behaviors across both middle and high school settings; examine the nature of mathematics, how mathematics should be taught, and how students learn mathematics; and observe and analyze a range of approaches to mathematics teaching and learning, focusing on tasks, discourse, environment, and assessment.

Mathematics Teaching Performance Assessment

	Exceptional (4.000 pts)	**Proficient** (3.000 pts)	**Developing** (2.000 pts)	**Needs Improvement** (1.000 pt)	**NA** (0.000 pt)
Lesson Reflections	TC consistently seeks feedback from cooperating	TC frequently seeks feedback from cooperating	TC sometimes seeks feedback from cooperating	TC rarely seeks feedback, is not collaborative, and	

NCTM-CAEP-2012.SEC.6.b	teacher(s) and supervisor(s), and initiates and engages in discussion and reflection that draws upon research in mathematics education in order to inform their practice and advance their development as a reflective practitioner.	teacher(s) and supervisor(s), and engages in discussion and reflection that draws upon research in mathematics education in order to inform their practice and advance their development as a reflective practitioner most of the time.	teacher(s) and supervisor(s), and engages in discussion and reflection when asked to do so.	does not seek to advance their development as a reflective practitioner.	
Problem solving NCTM-CAEP-2012.SEC.2.a	TC consistently provides opportunities for students to solve a wide variety of problems within the field of mathematics and other contexts, and helps students to persevere, and to apply and adapt a variety of strategies when solving them.	TC provides many opportunities for students to solve problems within the field of mathematics or other contexts, and helps students to persevere, and to apply and adapt a variety of strategies when solving them.	TC provides some opportunities for students to solve problems within the field of mathematics or other contexts.	TC rarely provides problem solving opportunities for students.	
Development of Conceptual Understanding NCTM-CAEP-2012.SEC.2.a	TC consistently teaches through problem solving; that is, uses problem solving to help students build new mathematical knowledge and develop conceptual understanding, and helps students to develop and test conjectures in order to frame generalizations.	TC teaches through problem solving most of the time; that is, uses problem solving to help students build new mathematical knowledge and develop conceptual understanding, and helps students to develop and test conjectures in order to frame generalizations.	TC sometimes teaches through problem solving; that is, uses problem solving to help students build new mathematical knowledge and develop conceptual understanding, and helps students to develop and test conjectures in order to frame generalizations..	TC rarely teaches through problem solving.	
Reasoning and Proof NCTM-CAEP-2012.SEC.2.b	Opportunities for student engagement in reasoning (abstract, quantitative, and reflective) with attention to units, as well as construction of viable arguments	Opportunities for student engagement in reasoning (abstract, quantitative, and reflective) with attention to units, as well as construction of viable arguments	Opportunities for student engagement in reasoning are implicit in the lessons or mostly guided by the TC.	TC provides minimal opportunity for student engagement in reasoning.	

	and proofs, and critique of others' reasoning are integrated throughout the lessons.	and proofs, and critique of others' reasoning are explicitly present at some point in the lessons.			
Reasoning and Proof: part 2 NCTM-CAEP-2012.SEC.2.b	Discussions, activities, and tasks guide students throughout the lessons to represent and model generalizations using mathematics, to recognize structure, and to express regularity in patterns of mathematical reasoning.	Discussions, activities, or tasks explicitly guide students at some point during the lessons to represent and model generalizations using mathematics, to recognize structure, and to express regularity in patterns of mathematical reasoning.	Some discussions, activities, or tasks guide students to represent and model generalizations using mathematics, to recognize structure, or to express regularity in patterns of mathematical reasoning.	Discussions, activities, or tasks minimally guide students to represent and model generalizations using mathematics, to recognize structure, or to express regularity in patterns of mathematical reasoning.	
Communicatio NCTM-CAEP-2012.SEC.2.b	TC consistently uses appropriate mathematical vocabulary and symbols to communicate mathematical ideas, uses multiple representations to model and describe mathematics, and implements strategies to help students do the same throughout the lessons.	TC uses appropriate mathematical vocabulary and symbols to communicate mathematical ideas, uses some representation to model and describe mathematics, and implements strategies to help students do the same.	TC uses appropriate mathematics vocabulary, symbols, and representation, but may not direct student attention to vocabulary, symbol, and representation meaning consistently or effectively. Student communication of mathematical ideas and symbols to others and use of multiple representations is sporadic.	TC uses appropriate mathematics vocabulary, symbols, and representations inconsistently or ineffectively. Student communication of mathematical ideas and symbols to others and use of multiple representations is minimal.	
Content precision NCTM-CAEP-2012.SEC.2.d	TC consistently uses the language of mathematics to express ideas precisely, and communicates mathematical thinking coherently and clearly.	TC uses the language of mathematics to express ideas precisely, and communicates mathematical thinking coherently and clearly most of the time.	TC mostly uses the language of mathematics to express ideas precisely, but does not always communicate mathematical thinking coherently and clearly.	TC does not use the language of mathematics to express ideas precisely, and does not communicate mathematical thinking coherently and clearly.	
Making Connections	TC consistently demonstrates the interconnectednes	TC often demonstrates the interconnectednes	TC sometimes demonstrates the interconnectednes	Connections among mathematical	

NCTM-CAEP-2012.SEC.2.e	s of mathematical ideas and how they build on one another, and recognizes and uses connections among mathematical ideas and across various content areas and real-world contexts.	s of mathematical ideas and how they build on one another, and recognizes and uses connections among mathematical ideas and across various content areas or real-world contexts.	s of mathematical ideas and how they build on one another, or sometimes makes connections to real-world contexts.	ideas or real-world contexts are minimal.	
Lesson objectives NCTM-CAEP-2012.SEC.3.a	Lessons address appropriate learning goals that are aligned to the Common Core Mathematics Standards and Practices. Objectives are clear, measurable, performance-based, and relate to important concepts and/or skills.	Lessons address appropriate learning goals that are aligned to the Common Core Mathematics Standards and Practices. Objectives are mostly clear, measurable, and performance-based.	Most lessons address appropriate learning goals that are aligned to the Common Core Mathematics Standards and Practices. Objectives may at times be unclear, or may not be measurable or performance-based.	Lessons do not always address appropriate learning goals or are not aligned to the Common Core Mathematics Standards and Practices. Objectives are often unclear, and may not be measurable or performance-based.	
Strategies and Differentiation NCTM-CAEP-2012.SEC.3.c	TC has explicitly and consistently incorporated a wide variety of mathematics curricula and strategies, including differentiated instruction for diverse populations, in order to build all students' conceptual understanding and procedural fluency.	TC has incorporated mathematics curricula and strategies, including differentiated instruction for diverse populations, in order to build students' conceptual understanding and procedural fluency.	TC has attempted to incorporate some mathematics curricula and strategies, including differentiated instruction for diverse populations, but it is not always clear how it will build all students' conceptual understanding and procedural fluency.	The strategies and differentiated instruction for diverse populations is minimal, and chosen strategies do not build conceptual understanding or procedural fluency.	
Technology NCTM-CAEP-2012.SEC.3.c	TC has consistently incorporated mathematics-specific and instructional technologies where appropriate in order to build all students' conceptual understanding and procedural fluency.	TC has incorporated mathematics-specific and instructional technologies where appropriate in order to build students' conceptual understanding and procedural fluency.	TC has attempted to incorporate some mathematics-specific and instructional technologies, but it is not always clear how it will build all students' conceptual understanding and procedural fluency.	Use of mathematics-specific and instructional technologies is minimal and chosen technology does not build conceptual understanding or procedural fluency.	

Student engagement NCTM-CAEP-2012.SEC.3.e	Lessons consistently engage students in meaningful work by the inclusion of high quality tasks.	Most lessons engage students in meaningful work by the inclusion of high quality tasks.	Tasks used are not always high quality or do not always engage students.	Most lessons do not include high quality tasks or fail to engage students.	
Student misconception NCTM-CAEP-2012.SEC.3.e	TC consistently identifies the key mathematical ideas and student misconceptions and includes plans to address them.	TC identifies the key mathematical ideas and student misconceptions and includes plans to address them, but they may not always successfully be implemented.	TC identifies the key mathematical ideas and student misconceptions.	TC may identify the key mathematical ideas or student misconceptions, but does not address them.	
Questioning NCTM-CAEP-2012.SEC.3.e	TC consistently uses explicit strategies to include all students in mathematical discussions. Questioning strategies are explicitly planned to guide students to higher order thinking about key mathematical ideas.	TC uses strategies to include all students in mathematical discussions. Sometimes uses questioning strategies to guide students to higher order thinking about key mathematical ideas.	TC uses strategies that include some students in mathematical discussions.	Mathematical discussions are mostly teacher-centered.	
Closure NCTM-CAEP-2012.SEC.3.f	Consistently closes lessons effectively to encourage student reflection and uses multiple strategies, including listening to and understanding the ways students think about mathematics, to assess student learning and mathematical proficiencies that are essential for all students.	Closes lessons effectively to encourage student reflection, sometimes using multiple strategies, including listening to and understanding the ways students think about mathematics, to assess student learning and mathematical proficiencies that are essential for all students.	Attempts to close lessons to encourage student reflection or assess student learning.	Does not encourage student reflection or assess student learning at end of lessons.	
Assessment NCTM-CAEP-2012.SEC.3.f	TC consistently plans, implements, and interprets a variety of formative and summative assessments and uses the data to inform instruction.	TC plans, implements, and interprets formative and summative assessments and uses the data to inform instruction most of the time.	TC plans and implements both formative and summative assessments.	TC does not include both formative and summative assessments in lessons.	

Teacher Disposition NCTM-CAEP-2012.SEC.4.a	TC consistently has a confident teaching presence. Exhibits knowledge of adolescent learning, development, and behavior and consistently demonstrates a positive disposition toward mathematical processes and learning.	TC has a confident teaching presence most of the time. Exhibits knowledge of adolescent learning, development, and behavior and demonstrates a positive disposition toward mathematical processes and learning.	TC is not always confident, but demonstrates a positive disposition toward mathematical processes and learning.	TC does not display a confident teaching presence and does not demonstrate a positive disposition toward mathematical processes and learning.	
Equity NCTM-CAEP-2012.SEC.4.d	Pedagogical and classroom management strategies consistently demonstrate equitable treatment of students. High expectations are held and instruction challenges all learners.	Pedagogical and classroom management strategies demonstrate equitable treatment of students. High expectations are held and instruction challenges most learners.	Pedagogical and classroom management strategies demonstrate equitable treatment of students. Instruction does not challenge all learners.	Pedagogical and classroom management strategies do not demonstrate equitable treatment of students. It is not clear that high expectations are held for all students.	
Instructional tools NCTM-CAEP-2012.SEC.4.e	TC consistently selects and uses appropriate instructional tools such as manipulatives, drawings, physical models, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies. All tools that were chosen enhance the teaching and learning of the mathematics content, and nothing would be clearly enhanced by the inclusion of other tools. The limitations of chosen tools are often explicitly	TC selects and uses appropriate instructional tools such as manipulatives, drawings, physical models, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies. All tools that were chosen enhance the teaching and learning of the mathematics content, but sometimes a lesson would be clearly enhanced by the inclusion of other tools. The limitations of chosen tools are	TC sometimes selects and uses appropriate instructional tools such as manipulatives, drawings, physical models, virtual environments, spreadsheets, presentation tools, and mathematics-specific technologies. Most tools that were chosen enhance the teaching and learning of the mathematics content, but most times the lesson would be clearly enhanced by the inclusion of other tools.	Instructional tools are minimally evident in the lessons. Multiple tools that were not chosen would likely have enhanced the learning opportunities.	

	discussed, including alternate tools to address those limitations.	sometimes discussed.			
Active engagement NCTM-CAEP-2012.SEC.5.b	TC incorporates developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology where appropriate in building new knowledge throughout their lessons.	TC incorporates developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology where appropriate in building new knowledge in their lessons, but sometimes other activities could enhance lessons.	TC incorporates developmentally appropriate mathematical activities and investigations, but they do not always require active engagement or build new knowledge.	Activities and investigations are developmentally inappropriate.	
Reflection on assessment data NCTM-CAEP-2012.SEC.5.c	TC consistently reflects on assessment evidence to determine the extent to which students' mathematical proficiencies have increased as a result of their instruction.	TC reflects on assessment evidence to determine the extent to which students' mathematical proficiencies have increased as a result of their instruction most of the time.	TC does not always reflect on assessment evidence to determine the extent to which students' mathematical proficiencies have increased as a result of their instruction.	TC rarely reflects on assessment evidence.	
Professional resources NCTM-CAEP-2012.SEC.6.c	Resources from professional mathematics education organizations are explicitly integrated throughout the lessons.	Resources from professional mathematics education organizations are incorporated in most lessons.	Connections to resources from professional mathematics education organizations are vague or implicit.	Resources from professional mathematics education organizations are not integrated in lessons.	
Overall performance NCTM-CAEP-2012.SEC.7.c	Candidate has demonstrated exemplary knowledge, skills, and professional behaviors by the end of Clinical Practice II. Candidate thoroughly and thoughtfully examined the nature of	Candidate has demonstrated proficient knowledge, skills, and professional behaviors by the end of Clinical Practice II. Candidate examined the nature of mathematics, how mathematics	Candidate has demonstrated developing knowledge, skills, and professional behaviors by the end of Clinical Practice II. Candidate did not fully examine the nature of mathematics, how mathematics	Candidate has demonstrated limited knowledge, skills, and professional behaviors by the end of Clinical Practice II. Candidate minimally examined the nature of mathematics, how	

	mathematics, how mathematics should be taught, how students learn mathematics, and observed and analyzed a range of approaches to mathematics teaching and learning (e.g., tasks, discourse, environment, and assessment).	should be taught, how students learn mathematics, and observed and analyzed a range of approaches to mathematics teaching and learning (e.g., tasks, discourse, environment, and assessment).	should be taught, how students learn mathematics, or observe and analyze a range of approaches to mathematics teaching and learning (e.g., tasks, discourse, environment, and assessment).	mathematics should be taught, how students learn mathematics, and observed and analyzed a limited range of approaches to mathematics teaching and learning (e.g., tasks, discourse, environment, and assessment).	