SECTION IV – EVIDENCE FOR MEETING STANDARDS

Assessment 5
EdTPA

a. Description of the assessment

The state of New Jersey requires the performance-based assessment, edTPA, of all teacher candidates in order to obtain certification. It was first implemented in the fall of 2017 and there was no passing score for the academic years 2017-18 and 2018-19. Our teacher candidates complete the edTPA portfolio during Clinical Practice II.

b. Alignment of NCTM Standards and Indicators with this assessment

Program Standard	Elements Addressed
Standard 3: Content Pedagogy	3b, 3c, 3d, 3e, 3f, 3g
Standard 4: Mathematical Learning Environment	4b
Standard 5: Impact on Student Learning	5a, 5c

Please see a more detailed alignment in part f and Appendix A.

c. Data findings

The year 2017-18 was the first year in which edTPA was a requirement for certification in New Jersey, so that was the first year the assessment was implemented for all of our teacher candidates during Clinical Practice II. For the years 2017-18 and 2018-19, there was no passing score.

As seen in Data Table B, in both years the average total score was a little over 40 out of the 75 possible points. In both years, the highest average rubric scores were seen in Rubric 6 (Learning Environment), Rubric 9 (Subject-specific Pedagogy: Using Representations), and Rubric 12 (Providing Feedback to Guide Learning). Also in both years, the lowest average rubric score was on Rubric 2 (Planning to Support Varied Student Learning Needs).

However, none of the rubrics mentioned previously are in direct alignment with NCTM Standard elements. Data Table A shows a summary of the candidate performance on the rubrics that are aligned with NCTM elements. This table shows that the rubric in which candidates scored the highest on average across both years is Rubric 5 (Planning Assessments – aligned with element 3f), with 81% of the candidates meeting minimum expectations in 2017-18 and 70% of candidates meeting minimum expectations in 2018-19. The rubric in which candidates scored the lowest on average is Rubric 13 (Student Use of Feedback – aligned with element 5c), with only 48% and 50% of candidates meeting minimum expectations in years 2017-18 and 2018-19, respectively. Interestingly, Rubric 8 (Deepening Student Learning – aligned with 3d) had the largest

difference between the two years, with only 57% meeting minimum expectations in 2017-18 and 80% meeting minimum expectations in 2018-19.

d. Data Interpretation

According to the 2017 - 2018 edTPA National Performance Summary, the national average for the Secondary Mathematics exam was 40.4. Our candidates are in line with the national average. Our candidates perform better than the state average of 38 from 2017 - 2018. We are pleased with this initial performance given that there was no passing score requirement and this performance-based assessment is new to all of us. One might suspect that when there is a passing score in place, candidates will put more effort into scoring higher and that average will go up.

It is disappointing that our candidates scored so low on Rubric 13, which involves analyzing and reflecting on assessment evidence and helping students to understand and use the feedback they are provided. However , this also seems to be in line with the state and national means for that rubric, which are 2.3 and 2.5, respectively, Ironically, the highest scoring rubric across both years is Rubric 12, which involves giving providing the feedback to guide learning.

We have spent the last few years since we learned about the state's implementation plans for edTPA figuring out how to support our teacher candidates to succeed on this performance-based assessment. This evidence of candidate performance in 2017-18 and 2018-19 will inform our future plans to put supports in place for edTPA.

e. Assessment tool

edTPA is the performance-based assessment required for New Jersey state licensure. For the years 2017-18 and 2018-19, there was no passing score. As a performance-based assessment, edTPA is designed to engage candidates in demonstrating their understanding of teaching and student learning in authentic ways.

The edTPA Secondary Mathematics assessment is composed of three tasks:

1. Planning for Instruction and Assessment
2. Instructing and Engaging Students in Learning
3. Assessing Student Learning

f. Scoring guide

Rubrics from edTPA that are either strongly or moderately aligned with Standard elements (element number in parentheses):

Rubric 3: Using Knowledge of Students to Inform Teaching and Learning (3b, 3c, 4b)

How does the candidate use knowledge of his/her students to justify instructional plans?				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Candidate's justification of learning tasks is either **missing OR represents a deficit view** of students and their backgrounds.	Candidate justifies learning tasks with **limited attention to students'** • **prior academic learning OR** • **personal, cultural, or community assets**.	Candidate **justifies** why learning tasks (or their adaptations) **are appropriate using examples of students'** • prior academic learning **OR** • personal, cultural, or community assets. **Candidate makes superficial connections to research and/or theory.**	Candidate justifies why learning tasks (or their adaptations) are appropriate using examples of students' • prior academic learning **AND** • personal, cultural, or community assets. Candidate makes **connections** to research and/or theory.	**Level 4 plus:** Candidate's justification is **supported by principles from** research and/or theory.

Rubric 5: Planning Assessments to Monitor and Support Student Learning (3f)

How are the informal and formal assessments selected or designed to monitor students' conceptual understanding, procedural fluency, AND mathematical reasoning and/ or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
The assessments **only provide evidence** of students' **procedural skills and/or factual knowledge**. **OR** **Candidate does not attend to ANY ASSESSMENT requirements in IEPs and 504 plans.**	The assessments **provide limited evidence to monitor students'** • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills **during the learning segment**.	The assessments **provide evidence** to monitor students' • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills during the learning segment.	The assessments provide **multiple forms of evidence** to monitor students' **progress** toward developing • conceptual understanding, • procedural fluency, **AND** • mathematical reasoning and/or problem-solving skills **throughout** the learning segment.	**Level 4 plus:** **The assessments are strategically designed to allow individuals or groups with specific needs to demonstrate their learning.**

Rubric 7: Engaging Students in Learning (3e)

How does the candidate actively engage students in developing conceptual understanding, procedural fluency, AND/OR mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
Students are participating in tasks that are vaguely or superficially related to the central focus.	Students are **participating** in learning tasks **focusing primarily on mathematical procedures with little attention to** understanding of • mathematical concepts **OR** • mathematical reasoning and/or problem-solving skills.	**Students are engaged** in learning tasks **that address** understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	Students are engaged in learning tasks that **develop** understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	Students are engaged in learning tasks that **deepen and extend** their understanding of • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.
There is little or no evidence that the candidate **links students' prior academic learning or personal, cultural, or community assets with new learning**.	Candidate makes **vague or superficial links** between **prior academic learning and new learning**.	Candidate **links prior academic learning to new learning**.	Candidate links prior academic learning **AND personal, cultural, or community assets** to new learning.	Candidate **prompts students to link** prior academic learning **AND** personal, cultural, or community assets to new learning.

Rubric 8: Deepening Student Learning (3d)

How does the candidate elicit responses to promote thinking and to develop conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate does most of the talking and students provide few responses. **OR** Candidate responses include **significant content inaccuracies** that will lead to student misunderstandings.	Candidate **primarily asks surface-level questions** and evaluates student responses as **correct or incorrect**.	Candidate **elicits student responses related to** understanding • mathematical concepts, • procedures, **OR** • mathematical reasoning and/or problem-solving skills.	Candidate **elicits and builds on students' responses to develop understanding of** • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.	**Level 4 plus: Candidate facilitates interactions among students so they can evaluate their own abilities to understand and apply** • mathematical concepts, • procedures, **AND** • mathematical reasoning and/or problem-solving skills.

Rubric 11: Analysis of Student Learning (5a)

How does the candidate analyze evidence of student learning of conceptual understanding, procedural fluency, AND mathematical reasoning and/or problem-solving skills?

Level 1	Level 2	Level 3	Level 4	Level 5
The analysis is **superficial or not supported** by either student **work samples or the summary of student learning**. **OR** The evaluation criteria, learning objectives, and/or analysis are **not aligned with each other**.	The analysis **focuses on what students did right OR wrong**. **OR** The analysis **focuses solely on** students' ability to apply **procedures and/or their factual knowledge**.	The analysis focuses on what students did right **AND** wrong. **AND** Analysis includes **some differences in whole class learning**.	Analysis uses specific examples from work samples to **demonstrate patterns of learning consistent with the summary**. **AND** **Patterns of learning are described for whole class.**	Analysis uses specific evidence from work samples to demonstrate the connections between quantitative and qualitative patterns of **learning for individuals or groups**.

Rubric 13: Student Understanding and Use of Feedback (5c)

How does the candidate support focus students to understand and use the feedback to guide their further learning?				
Level 1	**Level 2**	**Level 3**	**Level 4**	**Level 5**
Opportunities for understanding or using feedback are not described. **OR** Candidate **provides limited or no feedback to inform student learning**.	Candidate **provides vague description of how focus students will understand or use feedback**.	Candidate **describes** how focus students will understand or use feedback **related to the learning objectives**.	Candidate describes how **s/he will support** focus students to understand **and** use feedback **on their strengths OR weaknesses** related to the learning objectives.	Candidate describes how s/he will support focus students to understand and use feedback on their strengths **AND** weaknesses related to the learning objectives.

Rubric 15: Using Assessment to Inform Instruction (3g)

How does the candidate use the analysis of what students know and are able to do to plan next steps in instruction?

Level 1	Level 2	Level 3	Level 4	Level 5
Next steps **do not follow** from the analysis. **OR** Next steps are **not relevant to the learning objectives** assessed. **OR** Next steps are **not described in sufficient detail** to understand them.	Next steps primarily **focus on changes to teaching practice that are superficially related to student learning needs, for example, repeating instruction, pacing, or classroom management issues**.	Next steps **propose general support that improves student learning related to assessed learning objectives**. Next steps are **loosely connected with research and/or theory**.	Next steps **provide targeted support to individuals or groups to improve their learning relative to** • conceptual understanding, • procedural fluency, **AND/OR** • mathematical reasoning and/or problem-solving skills. Next steps are **connected** with research and/or theory.	Next steps provide targeted support to individuals **AND** groups to improve their learning relative to • conceptual understanding, • procedural fluency, **AND/OR** • mathematical reasoning and/or problem-solving skills. Next steps are **justified with principles from** research and/or theory.

g. Data Charts

Data Table A

Rubric number and element(s)	2017-18 (N = 21)			2018-19 (N = 20)		
	Mean Rubric score and (range)	**Number of Completers meeting minimum expectation (3 or above)**	**% of Completers meeting minimum expectation (3 or above)**	**Mean Rubric score and (range)**	**Number of Completers meeting minimum expectation (3 or above)**	**% of Completers meeting minimum expectation (3 or above)**
Rubric 3: Instructional plans (3b, 3c, 4b)	2.60 (2 - 3)	13	62%	2.70 (2 – 4)	13	65%
Rubric 5: Planning Assessments (3f)	2.88 (2 – 4)	17	81%	2.68 (1 – 4)	14	70%
Rubric 7: Engaging Students (3e)	2.55 (2 – 4)	12	57%	2.60 (2 – 3)	12	60%
Rubric 8: Deepening Student Learning (3d)	2.71 (2 – 4)	12	57%	2.90 (2 – 4)	16	80%
Rubric 11: Analysis of Student Learning (5a)	2.67 (1 – 4)	15	71%	2.80 (1 – 4)	13	65%
Rubric 13: Student Use of Feedback (5c)	2.45 (2 - 3)	10	48%	2.50 (1 – 4)	10	50%
Rubric 15: Using Assessment (3g)	2.60 (2 – 3)	13	62%	2.58 (2 – 4)	11	55%

Data Table B
2017-2018

Candidates	Test Date	tal Test Sc	Rubric Sc	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	19	20	21
Candidate 1	2018-04-19	36	2.4	3	2	3	2	2	3	2	2	3	2	2	3	2	3	2	-	-	-
Candidate 2	2018-04-19	42	2.8	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3	-	-	-
Candidate 3	2017-11-30	39	2.6	3	3	3	3	3	3	2	2	3	2	3	2	2	3	2	-	-	-
Candidate 4	2017-11-30	46	3.1	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	-	-	-
Candidate 5	2018-04-19	35	2.3	2	2	2	2	3	3	2	3	2	2	3	3	2	2	2	-	-	-
Candidate 6	2018-04-19	41	2.7	3	2	3	3	3	3	2	2	3	3	3	4	3	3	3	-	-	-
Candidate 7	2018-04-19	43	2.9	3	2	3	3	3	3	3	3	3	3	3	3	3	2	3	-	-	-
Candidate 8	2018-04-19	42	2.8	3	2	3	3	3	3	2	3	3	3	3	4	2	2	3	-	-	-
Candidate 9	2018-04-19	43	2.9	3	3	2	2	3	3	3	3	3	2	3	4	3	3	3	-	-	-
Candidate 10	2018-04-19	33	2.2	2	2	2	2	2	3	3	2	3	2	2	3	2	2	2	-	-	-
Candidate 11	2017-11-30	38	2.7	D	3	3	2	3	3	3	2	3	2	3	3	3	3	2	-	-	-
Candidate 12	2018-04-19	43	2.9	2	2	2	3	4	3	3	4	3	3	2	4	3	2	3	-	-	-
Candidate 13	2018-04-19	40	2.7	3	2	3	2	3	3	3	2	3	3	1	4	3	2	3	-	-	-
Candidate 14	2018-04-19	42	2.8	3	3	3	2	2	3	2	3	3	3	3	4	2	3	3	-	-	-
Candidate 15	2018-04-19	42	2.8	3	3	2	3	3	3	3	3	3	3	3	3	2	3	2	-	-	-
Candidate 16	2018-04-19	46	3.1	4	2	3	3	3	3	2	4	4	3	3	3	3	3	3	-	-	-
Candidate 17	2018-04-05	37	2.5	3	3	2	2	3	3	3	2	3	3	1	3	2	2	2	-	-	-
Candidate 18	2018-05-31	47	3.1	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	-	-	-
Candidate 19	2018-05-31	36	2.4	3	2	2	2	3	3	2	2	3	2	2	3	2	3	2	-	-	-
Candidate 20	2018-06-14	37	2.5	3	2	2	2	2	3	2	2	2	3	4	3	2	2	3	-	-	-
Candidate 21	2018-06-14	44	2.9	3	3	3	2	3	3	3	3	3	3	3	4	2	3	3	-	-	-
Average total score		40.57																			
Average for each rubric				2.88	2.43	2.60	2.52	2.88	3.00	2.55	2.71	2.93	2.64	2.67	3.26	2.45	2.57	2.60			
Average for each task								2.66					2.77					2.71			

Data Table B
2018-2019

Candidates	Test Date	Total Score	Avg Rubric Score	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Candidate 1	2018-11-29	46	3.1	3	3	3	3	3	3	3	3	4	2	3	4	3	3	3
Candidate 2	2018-11-29	42	2.8	3	2	2	3	3	4	3	3	3	2	3	4	3	3	3
Candidate 3	2018-11-29	46	3.1	3	2	3	3	3	3	3	4	4	2	4	4	3	3	2
Candidate 4	2018-11-29	49	3.3	4	3	3	3	3	3	3	3	3	3	4	4	3	4	3
Candidate 5	2018-12-13	44	2.9	3	3	3	3	3	3	3	3	3	3	2	4	2	3	3
Candidate 6	2019-04-18	43	2.9	3	2	3	3	3	3	3	2	3	3	3	4	3	2	3
Candidate 7	2019-04-18	35	2.3	3	1	3	2	2	3	2	3	3	2	3	2	2	2	2
Candidate 8	2019-04-18	34	2.3	2	2	3	2	3	3	2	2	3	2	2	2	2	2	2
Candidate 9	2019-04-18	43	2.9	2	3	2	3	4	3	2	4	4	2	2	3	3	3	3
Candidate 10	2019-04-18	36	2.4	2	2	3	2	3	3	2	3	3	2	1	3	3	2	2
Candidate 11	2019-04-18	37	2.5	3	2	2	3	2	3	2	3	2	2	4	3	2	2	2
Candidate 12	2019-04-18	33	2.2	2	2	2	2	1	3	3	3	2	3	2	2	2	2	2
Candidate 13	2019-04-18	45	3	3	1	4	3	3	3	3	3	3	3	3	3	4	3	3
Candidate 14	2019-04-18	37	2.5	2	2	3	2	2	3	2	2	3	2	3	4	2	2	3
Candidate 15	2019-04-18	43	2.9	3	1	3	3	3	3	3	3	3	2	4	4	3	2	3
Candidate 16	2019-04-18	42	2.8	3	3	2	3	3	3	3	3	3	3	3	4	2	2	2
Candidate 17	2019-04-18	43	2.9	3	3	2	2	3	3	3	3	3	3	3	4	2	3	3
Candidate 18	2019-04-18	45	3	3	2	3	3	3	3	3	3	3	2	3	4	3	3	4
Candidate 19	2019-04-18	38	2.5	3	2	3	2	2	3	2	3	3	3	2	4	2	2	2
Candidate 20	2019-05-16	33	2.2	2	2	2	2	2	3	2	2	3	2	2	3	1	3	2
Average total score		40.7																
Average for each rubric				2.75	2.15	2.70	2.60	2.68	3.03	2.60	2.90	3.05	2.40	2.80	3.43	2.50	2.55	2.58
Average for each task								2.58					2.80					2.77

Appendix A

Alignment of *NCTM CAEP Standards (2012) for Secondary* to edTPA Rubrics

Alignment is based on how well edTPA Secondary Mathematics Operational Handbook 2013-14 rubric criteria, rather than task directions, provide evidence supporting selected elements of the *NCTM CAEP Standards (2012) for Secondary*. Seven of 15 edTPA rubrics provide sufficient evidence (moderate or strong support level) for one or more elements of Standards 3, 4, and 5. edTPA rubrics do not provide evidence for elements of Standards 1, 6, and 7 and provide insufficient evidence (limited support level) for elements of Standard 2. edTPA is designed as a measure of pedagogy and is not intended to measure ALL aspects of effective teaching. Elements of the *NCTM CAEP Standards (2012) for Secondary* not listed below are recognized as beyond the scope of edTPA purpose and composition.

Element	edTPA Rubric # and Level of Support
2a 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.	8 – Limited
2b 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.	9 – Limited
3b Analyze and consider research in planning for and leading students in rich mathematical learning experiences.	3 – Moderate
3c 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.	3 – Moderate
3d Provide students with opportunities to communicate about mathematics and make connections among mathematics, other content areas, everyday life, and the workplace.	8 – Moderate
3e Implement techniques related to student engagement and communication including selecting high quality tasks, guiding mathematical discussions,	7 – Moderate; 8 – Limited

identifying key mathematical ideas, identifying and addressing student misconceptions, and employing a range of questioning strategies.	
3f Plan, select, implement, interpret, and use formative and summative assessments to inform instruction by reflecting on mathematical proficiencies essential for all students.	5 – Strong; 10 – Limited; 11 – Limited; 13 – Limited; 15 – Limited
3g Monitor students' progress, make instructional decisions, and measure students' mathematical understanding and ability using formative and summative assessments.	11 – Limited; 13 – Limited; 15 – Moderate
4b Plan and create developmentally appropriate, sequential, and challenging learning opportunities grounded in mathematics education research in which students are actively engaged in building new knowledge from prior knowledge and experiences.	1 – Limited; 3 – Moderate; 7 – Limited
4c Incorporate knowledge of individual differences and the cultural and language diversity that exists within classrooms and include culturally relevant perspectives as a means to motivate and engage students.	2 – Limited; 4 – Limited
5a 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.	8 – Limited; 11 – Moderate
5b Engage students in developmentally appropriate mathematical activities and investigations that require active engagement and include mathematics-specific technology in building new knowledge.	7 – Limited
5c 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.	10 – Limited; 11 – Limited; 13 – Moderate