



VIRGINIA BOARD OF EDUCATION

AGENDA ITEM

Agenda Item: I

Date: March 17, 2022

Title: Final Review of the Advisory Board on Teacher Education and Licensure’s Recommendation for a Passing Score for the Praxis® Mathematics (5165) Test for the Mathematics Endorsement

Presenter: Dr. Johnson, Assistant Superintendent for Teacher Education and Licensure

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Purpose of Presentation:

Action required by state or federal law or regulation.

Executive Summary

The proposed recommendation from the Advisory Board on Teacher Education and Licensure (ABTEL) is to set a passing score for the Praxis® Mathematics (5165) Test for the Mathematics endorsement. This test will be required for individuals seeking initial licensure unless exempted by holding a full, valid out-of-state license with no deficiencies and can be taken and passed to add an endorsement in Mathematics by individuals holding a valid renewable teaching license.

ETS provides a recommended passing score from the multistate standard-setting study to help education agencies determine an appropriate operational passing score. For the Praxis Mathematics test, the recommended passing score is 39 out of a possible 60 raw-score points. The scale score associated with a raw score of 39 is 159 on a 100–200 scale.

On October 27, 2021, information regarding the multistate standard-setting process was presented (Attachment A) to the Advisory Board members by Malik K. McKinley, Sr., Director of Client Relations, Professional Educator Programs, Office for Teacher Licensure and Certification, Student and Teacher Assessment Division, Educational Testing Service. ABTEL members reviewed the standard-setting report and recommended to the Virginia Board of Education (Board) the passing score of 152 (-1 CSEM below the standard setting panel’s recommendation) for approval. Following discussion by the advisory board regarding the lack of

trend data from this new regenerated assessment to inform potential barriers for test takers in Virginia, a lower passing score was selected. The advisory board will review future pass rates for those in Virginia and surrounding states to evaluate the success rates of test takers.

Since the Board's January 2022 meeting, additional state results for ETS assessments associated with math, English, social studies, and science have been included to provide context of subject area assessment for Virginia test takers, as well impact data given various CSEM cut scores for the current and proposed math assessments. This information is included in Attachment B.

Attached are the Multistate Standard-Setting Technical Report - Praxis® Mathematics (5165) Test (Attachment C), the Virginia Study Summary Report (Attachment C), and the Praxis® Study Companion (Attachment D).

This item supports Priority 2 of the Board's [Comprehensive Plan: 2018-2023](#).

Action Requested:

Final review: Action requested at this meeting.

Superintendent's Recommendation

The Superintendent of Public Instruction recommends that the Board of Education establish a cut score of 159 for the Praxis® Mathematics (5165) test. Individuals may take either the currently prescribed assessment for mathematics, Praxis® Mathematics: Content Knowledge (5161) test or the new Praxis® Mathematics (5165) test through August 2022; in September 2022, only the new Praxis® Mathematics (5165) test will be offered in Virginia. Beginning September 2022, the Praxis® Mathematics: Content Knowledge (5161) test will be accepted only for those individuals who took and passed the test during the period it was prescribed by the Board of Education.

Rationale for Action:

The Board prescribes assessments for licensure. The current prescribed assessment for the mathematics endorsement, Praxis® Mathematics: Content Knowledge (5161), has been updated, and the regenerated Praxis® Mathematics (5165) test will be offered by the Educational Testing Service (ETS). A cut score needs to be established for the revised test.

Previous Review or Action:

Previous review or action. Specify date and action taken below:

Date: November 18, 2021

Action: First Review

Date: January 27, 2022

Action: Final Review

Background Information and Statutory Authority:

Currently, the Board requires the following assessments for initial licensure:

- Virginia Communication and Literacy Assessment (VCLA);
- Praxis Subject Assessments; and
- Reading for Virginia Educators (RVE) for specified endorsements.

The Board prescribes the [Praxis Subject Assessments as a professional teacher's assessment](#) requirement for initial licensure in Virginia. The current Board of Education's prescribed assessment for mathematics is the Praxis® Mathematics: Content Knowledge (5161).

Furthermore, the Board established the following passing score for the Praxis Mathematics: Content Knowledge (5161): 32 raw-score points (160 scaled score on a 100 to 200 scale {passing score 160}).

The new Praxis® Mathematics (5165) test will replace the Praxis® Mathematics: Content Knowledge (5161) test. This new assessment is designed and developed through work with practicing teachers and teacher educators to reflect the mathematics curriculum as well as state and national standards for mathematics, including the National Governors Association Center for Best Practices and the Council of Chief State School Officers Common Core State Standards for Mathematics (2010), the National Council of Teachers of Mathematics (NCTM) and the Council of the Accreditation of Educator Preparation (CAE) NCTM CAEP Standards (2012), and the NCTM Principles and Standards for School Mathematics (2000).

In January 2021, a multistate standard-setting study was designed and conducted by the Educational Testing Service (ETS) to support the decision-making process of education agencies establishing a passing score (cut score) for the Praxis® Mathematics (5165) test. Panelists from 13 states and Washington, D.C., participated on the panel. The education agencies recommended panelists with (a) experience as either secondary mathematics teachers or college faculty who prepare secondary mathematics teachers and (b) familiarity with the knowledge and skills required of beginning secondary mathematics teachers.

Virginia did not participate in the multi-state standard study. Instead, ETS facilitated a panel discussion with five Virginia educators that mirrored the multi-state standard study in April 2021. The Virginia report reflects that the panel agreed with the recommended cut score of the multi-state study.

A detailed summary of the study, Multistate Standard-Setting Technical Report -- PRAXIS® MATHEMATICS (5165) is attached, as well as the Virginia report. The technical report contains three sections. The first section describes the content and format of the test. The second section

describes the standard-setting processes and methods. The third section presents the results of the standard-setting study.

The [Praxis® Mathematics Study Companion](#) document describes the purpose and structure of the test. In brief, the test measures knowledge and competencies that are important for safe and effective beginning practice as a secondary mathematics teacher. The three-hour assessment contains 66 selected-response items covering four content areas: Number & Quantity and Algebra (approximately 20 items), Functions and Calculus (approximately 20 items), Geometry (approximately 13 items), and Statistics & Probability (approximately 13 items). The reporting scale for the Praxis Mathematics test ranges from 100 to 200 scale-score points.

Multistate Standard-Setting Study

The Multistate standard-setting study for the Praxis® Mathematics (5165) test is detailed in the attached report.

The following table presents the estimated conditional standard error of measurement (CSEM) around the recommended passing score. A standard error represents the uncertainty associated with a test score. The scale scores associated with one and two CSEM above and below the recommended passing score are provided. The conditional standard error of measurement provided is an estimate*.

**Conditional Standard Error of Measurement Summaries
PRAXIS® MATHEMATICS (5165)**

	Raw Score	Scale Score Equivalent
<i>Recommended passing score (CSEM)</i>	39 (3.73)	159
- 2 CSEM	32	143
- 1 CSEM	36	152
+1 CSEM	43	168
+2 CSEM	47	177

**Note. CSEM = conditional standard error of measurement.*

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Since the review in January 2022 by the Board, additional state results for ETS assessments associated with math, English, social studies, and science have been included to provide context of subject area assessment for Virginia test takers, as well impact data given various CSEM cut scores for the current and proposed math assessments. This information is included in Attachment B.

The *Code of Virginia* provides the authority for the Board to promulgate *Licensure Regulations for School Personnel*.

[22.1-298.1](#) of the *Code of Virginia*, states in part, the following:

[§ 22.1-298.1 Regulations governing licensure](#).

C. The Board of Education's regulations shall include requirements that a person seeking initial licensure:

1. Demonstrate proficiency in the relevant content area, communication, literacy, and other core skills for educators by achieving a qualifying score on professional assessments or meeting alternative evaluation standards as prescribed by the Board;
2. Complete study in attention deficit disorder;
3. Complete study in gifted education, including the use of multiple criteria to identify gifted students; and
4. Complete study in methods of improving communication between schools and families and ways of increasing family involvement in student learning at home and at school.

- *Code of Virginia*, Section [22.1-16. Bylaws and regulations generally](#).
- *Code of Virginia*, Section [22.1-299. License required of teachers](#).
- *Code of Virginia*, Section [22.1-305.2. Advisory Board on Teacher Education and Licensure](#).

The [Licensure Regulations for School Personnel](#) state, in part, the following:

8VAC20-22-40. Conditions for Licensure.

- ...B. All candidates who hold at least a baccalaureate degree from a regionally accredited college or university and who seek an initial Virginia teaching license shall obtain passing scores on professional teacher's assessments prescribed by the Virginia Board of Education. With the exception of the career switcher program that requires assessments as prerequisites, individuals shall complete the professional teacher's assessment requirements within the three-year validity of the initial provisional license....

8VAC20-22-70. Additional Endorsements.

- A. An individual who holds a teaching license may add an additional teaching endorsement to the license by passing a rigorous academic subject test for endorsements in which a test is prescribed by the Virginia Board of Education. This testing option does not apply to individuals (i) who are seeking an early/primary education preK-3 or elementary education preK-6 endorsement, special education endorsements, or a reading specialist endorsement or (ii) who hold a Technical Professional License, Vocational Evaluator License, Pupil Personnel Services License, School Manager License, or Division Superintendent License.

Timetable for Further Review/Action:

Upon Board approval, information regarding the Praxis® Mathematics (5165) test will be disseminated to Virginia educational agencies and posted on the Department of Education's website.

Impact on Fiscal and Human Resources:

The individuals taking the Praxis® Mathematics (5165) Test will incur the costs for the test.