



VIRGINIA BOARD OF EDUCATION

AGENDA ITEM

Agenda Item: I

Date: June 21, 2024

Title: Final review of the Advisory Board on Teacher Education and Licensure's Recommendation to Replace Technology Education (5051) with Technology and Engineering Education (5053) with a cut score of 157.

Presenter: Rob Gilstrap, Assistant Superintendent for Education Preparation

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® Technology and Engineering Education (5053)** Test for the Technology Education endorsement. The Praxis® Technology and Engineering Education (5053) test will replace the Praxis® Technology Education (5051) test. The **new** assessment was designed and developed through work with practicing CTE and Technology Teachers, teacher educators, and higher education content specialists to reflect the science knowledge teachers need to teach the Technology Education curriculum and to reflect state and national standards, including International Technology and Engineering Educators Association, Standards for Technological Literacy 2020. This test will be required for individuals seeking initial licensure unless exempted by holding a full, clear out-of-state license with no deficiencies and can be taken and passed to add an endorsement in Technology Education by individuals holding a valid renewable teaching license.

Educational Testing Service (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 Technology and Engineering Education test, the recommended passing score is 65 out of a possible 100 raw-score points. The scale score associated with a raw score of 65 is **157** on a 100–200 scale.

The current Praxis® Technology Education (5051) Test has a Board prescribed passing score of 159 on a 100–200 scale. The Praxis® Technology and Engineering Education (5053) test is a **new** assessment, and the previous passing score was not a consideration of ETS or ABTEL when establishing this test's passing score. Because this is a **new** assessment, ABTEL is also recommending that a data review be conducted

after one year to determine if the passing score is providing for the greatest opportunity of teachers entering the profession while maintaining rigor.

On March 4, 2024, information regarding the multistate standard-setting process was presented to ABTEL 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 that the Board approve the passing score of 157 (the standard setting panel's recommendation).

Attached are the Multistate Standard-Setting Technical Report - Praxis® Technology and Engineering Education (5053) Test and the Praxis® Study Companion.

This item supports Priority 3 of the Board's [Comprehensive Plan 2024–2029](#): to ensure that every K-12 student has a high-quality, licensed teacher.

Action Requested

Final review: Action requested at this meeting.

Superintendent's Recommendation

The Superintendent of Public Instruction recommends that the Board of Education approve the recommendation of the Advisory Board on Teacher Education and Licensure to replace Technology Education (5051) with Technology and Engineering Education (5053) with a cut score of 157. Individuals may take either the currently prescribed assessment for Technology Education, Praxis® (5051) or the new Praxis® Technology and Engineering Education (5053) test through July 2024.

Rationale for Action

As required by the Regulations governing licensure, the Board will prescribe qualifying scores on professional assessments for educators seeking licensure in the relevant content area.

Previous Review or Action

The board received this recommendation for first review at the April 2024 Board meeting.

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
- Praxis® Teaching Reading: Elementary (5205) 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 technology is the Praxis® Technology Education (5051).

The Praxis® Technology and Engineering Education (5053) test will replace the Praxis® Technology Education (5051) test. This **new** assessment is designed and developed through work with practicing CTE and Technology teachers, teacher educators, and higher education content specialists to reflect the knowledge teachers need to teach the technology and engineering curriculum and to reflect state and national standards, including the International Technology and Engineering Educators Association (ITEEA) and International Society of Technology in Education (ISTE). Content and practices measured reflect the International Technology and Engineering Educators Association, Standards for Technological Literacy 2020.

In February 2024, 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 Praxis® Technology and Engineering Education (5053) test. Panelists from 10 states including Maryland and Pennsylvania participated on the panel. The education agencies recommended panelists with (a) experience as either Technology teachers or college faculty who prepare those CTE and Technology teachers and (b) familiarity with the knowledge and skills required of beginning Technology teachers.

A detailed summary of the study, Multistate Standard-Setting Technical Report - Praxis® Technology and Engineering Education (5053) is attached. 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® Technology and Engineering Education Study Companion is also attached. This document describes the purpose and structure of the test. In brief, the test measures whether entry-level technology and engineering teachers have the knowledge/skills believed necessary for competent professional practice as a technology teacher. The 2-hour assessment contains 120 selected-response items covering five content areas: *Fundamentals of Technology and Engineering* (approximately 30 items), *Design and Application of Products and Systems* (approximately 25 items), *Technology Contexts 1: Energy, Materials, and the Built Environment* (approximately 19 items), *Technology Context 2: Information, Computation, and Technological* (approximately 19 items), and *Pedagogy and Professional Responsibilities* (approximately 27 items). The reporting scale for the Praxis Technology and Engineering Education test ranges from 100 to 200 scale-score points

Multistate Standard-Setting Study

The Multistate standard-setting study for the Praxis® Technology and Engineering Education (5053) 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® Technology and Engineering Education (5053)**

	Raw Score	Scale Score Equivalent
<i>Recommended passing Score (CSEM)</i>	65	157
-2 CSEM	56	144
-1 CSEM	61	151
+1 CSEM	70	164
+2 CSEM	75	171

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 Technology and Engineering Education test, the recommended passing score is 65 out of a possible 100 raw-score points. The scale score associated with a raw score of 65 is **157** on a 100–200 scale.

The current Praxis® Technology Education (5051) Test has a Board prescribed passing score of 159 on a 100-200 scale. The Praxis® Technology and Engineering Education (5053) test is a **new** assessment, and the previous passing score was not a consideration of ETS or ABTEL when establishing this test’s passing score. Because this is a **new** assessment, ABTEL is also recommending that a data review be conducted after one year to determine if the passing score is providing for the greatest opportunity of teachers entering the profession while maintaining rigor.

On March 4, 2024, information regarding the multistate standard-setting process was presented to ABTEL 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 that the Board approve the passing score of 157 (the standard setting panel’s recommendation).

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

Section [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 5 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.

Stakeholder Engagement

During the March 4, 2024, meeting, ABTEL members reviewed the standard-setting report and recommended that the Board approve the establish a passing score of 157 for the Praxis® Technology and Engineering Education (5053) Test. Additionally, the Board received this proposal for first review during the April 2024 board meeting.

Implementation and Communication

Upon adoption by the Board, a written communication will notify school divisions and educator preparation programs of the approval of the new passing score of 157 for the Praxis® Technology and Engineering Education (5053). The new passing score will be updated on the Professional Educator's Assessment Resource document on the VDOE's website.

Impact on Fiscal and Human Resources

The individuals taking the Praxis® Technology and Engineering Education (5053) Test will incur the costs for the test.