Virginia Board of Education Agenda Item

Agenda Item: B **Date:** June 23, 2016

Title	Final Review of Recommendation of the Advisory Board on Teacher Education and Licensure (ABTEL) for a Passing Score for the Praxis Braille Proficiency Test as a Professional Teacher's Assessment for the Special Education Visual Impairments PreK-12 Endorsement		
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Purpose of Presentation:
Action required by state or federal law or regulation.

Previous Review or Action:
Previous review and action. Specify date and action taken below:
May 26, 2016: First Review

Action Requested:
Final review: Action requested at this meeting.

Alignment with Board of Education Goals: Please indicate (X) all that apply:

	Goal 1: Accountability for Student Learning
	Goal 2: Rigorous Standards to Promote College and Career Readiness
	Goal 3: Expanded Opportunities to Learn
	Goal 4: Nurturing Young Learners
X	Goal 5: Highly Qualified and Effective Educators
	Goal 6: Sound Policies for Student Success
	Goal 7: Safe and Secure Schools
	Other Priority or Initiative. Specify:

Background Information and Statutory Authority:
Goal 5: The approval of a passing score on the professional teacher's assessment supports the goal of highly qualified and effective educators in Virginia's classrooms and schools.

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

Article VIII, Section 4 of the *Constitution of Virginia states, in part, the following:*

> "The general supervision of the public school system shall be vested in a Board of Education…."

The Board of Education has the statutory authority to prescribe licensure requirements. Section 22.1-298.1 of the *Code of Virginia*, states:

§ 22.1-298.1. **Regulations governing licensure.**

A. As used in this section:

"Alternate route to licensure" means a nontraditional route to teacher licensure available to individuals who meet the criteria specified in the regulations issued by the Board of Education.

"Industry certification credential" means an active career and technical education credential that is earned by successfully completing a Board of Education-approved industry certification examination, being issued a professional license in the Commonwealth, or successfully completing an occupational competency examination.

"Licensure by reciprocity" means a process used to issue a license to an individual coming into the Commonwealth from another state when that individual meets certain conditions specified in the Board of Education's regulations.

"Professional teacher's assessment" means those tests mandated for licensure as prescribed by the Board of Education.

"Provisional license" means a nonrenewable license issued by the Board of Education for a specified period of time, not to exceed three years, to an individual who may be employed by a school division in the Commonwealth and who generally meets the requirements specified in the Board of Education's regulations for licensure, but who may need to take additional coursework or pass additional assessments to be fully licensed with a renewable license.

"Renewable license" means a license issued by the Board of Education for five years to an individual who meets the requirements specified in the Board of Education's regulations.

B. The Board of Education shall prescribe, by regulation, the requirements for the licensure of teachers and other school personnel required to hold a license. Such regulations shall include requirements for the denial, suspension, cancellation, revocation, and reinstatement of licensure. The Board of Education shall revoke the license of any person for whom it has received a notice of dismissal or resignation pursuant to subsection F of § 22.1-313 and, in the case of a person who is the subject of a founded complaint of child abuse or neglect, after all rights to any appeal provided by § 63.2-1526 have been exhausted. Regardless of the authority of any other agency of the Commonwealth to approve educational programs, only the Board of Education shall have the authority to license teachers to be regularly employed by school boards, including those teachers employed to provide nursing education.

The Board of Education shall prescribe by regulation the licensure requirements for teachers who teach only online courses, as defined in § 22.1-212.23. Such license shall be valid only for teaching online courses. Teachers who hold a five-year renewable license issued by the Board of Education may teach online courses for which they are properly endorsed.

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

1. Complete professional assessments as prescribed by the Board of Education;
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.

D. In addition, such regulations shall include requirements that:

1. Every person seeking initial licensure or renewal of a license demonstrate proficiency in the use of educational technology for instruction;
2. Every person seeking initial licensure and persons seeking licensure renewal as teachers who have not completed such study shall complete study in child abuse recognition and intervention in accordance with curriculum guidelines developed by the Board of Education in consultation with the Department of Social Services that are relevant to the specific teacher licensure routes;
3. Every person seeking initial licensure or renewal of a license shall receive professional development in instructional methods tailored to promote student academic progress and effective preparation for the Standards of Learning end-of-course and end-of-grade assessments;
4. Every person seeking renewal of a license shall complete all renewal requirements, including professional development in a manner prescribed by the Board, except that no person seeking renewal of a license shall be required to satisfy any such requirement by completing coursework and earning credit at an institution of higher education;
5. Every person seeking initial licensure or renewal of a license shall provide evidence of completion of certification or training in emergency first aid, cardiopulmonary resuscitation, and the use of automated external defibrillators. The certification or training program shall be based on the current national evidence-based emergency cardiovascular care guidelines for cardiopulmonary resuscitation and the use of an automated external defibrillator, such as a program developed by the American Heart Association or the American Red Cross. The Board shall provide a waiver for this requirement for any person with a disability whose disability prohibits such person from completing the certification or training;
6. Every person seeking licensure with an endorsement as a teacher of the blind and visually impaired shall demonstrate proficiency in reading and writing Braille; and
7. Every teacher seeking an initial license in the Commonwealth with an endorsement in the area of career and technical education shall have an industry certification credential in the area in which the teacher seeks endorsement. If a teacher seeking an initial license in the Commonwealth has not attained an industry certification credential in the area in which the teacher seeks endorsement, the Board may, upon request of the employing school division or educational agency, issue the teacher a provisional license to allow time for the teacher to attain such credential.

E. The Board's regulations shall require that initial licensure for principals and assistant principals be contingent upon passage of an assessment as prescribed by the Board.

F. The Board shall establish criteria in its regulations to effectuate the substitution of experiential learning for coursework for those persons seeking initial licensure through an alternate route as defined in Board regulations.

G. Notwithstanding any provision of law to the contrary, the Board may provide for the issuance of a provisional license, valid for a period not to exceed three years, pursuant to subdivision D 7 or to any person who does not meet the requirements of this section or any other requirement for licensure imposed by law.

H. The Board's licensure regulations shall also provide for licensure by reciprocity:

1. With comparable endorsement areas for those individuals holding a valid out-of-state teaching license and national certification from the National Board for Professional Teaching Standards or a nationally recognized certification program approved by the Board of Education. The application for such individuals shall require evidence of such valid licensure and national certification and shall not require official student transcripts;
2. For individuals who have obtained a valid out-of-state license, with full credentials and without deficiencies, that is in force at the time the application for a Virginia license is received by the Department of Education. The individual must establish a file in the Department of Education by submitting a complete application packet, which shall include official student transcripts. An assessment of basic skills as provided in § 22.1-298.2 and service requirements shall not be imposed for these licensed individuals; however, other licensing assessments, as prescribed by the Board of Education, shall be required; and
3. The Board may include other provisions for reciprocity in its regulations.

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 2009 Virginia General Assembly enacted the following House Bill 2224, Chapter 202, regarding Braille certification:

§ 1. That by December 31, 2009, the Advisory Board on Teacher Education and Licensure, in consultation with the Department for the Blind and Vision Impaired, shall make recommendations to the Board of Education and the Chairmen of the House Committee on Education and the Senate Committee on Education and Health regarding the certification of Braille instructors.

In consultation with the Department for the Blind and Vision Impaired, the Advisory Board on Teacher Education and Licensure (ABTEL) began discussions regarding Braille instruction, certification, and licensure. On April 20, 2009, the Advisory Board approved a committee to research the policy issues and make recommendations to the full Advisory Board. ABTEL's committee on Braille convened July 8 and August 5, 2009. At the meeting on August 5, 2009, Dr. Edward C. Bell, director of the Professional Development and Research Institute on Blindness, Louisiana Technology University, and Mr. Michael Kasey, National Federation of the Blind, met with the committee.

On September 20-21, 2009, the Advisory Board on Teacher Education and Licensure unanimously recommended to the Board of Education that a reliable, valid, and legally defensible assessment available statewide (to be determined) demonstrating Braille proficiency prescribed by the Virginia Board of Education be required for individuals seeking an initial license with an endorsement in Special Education Visual Impairments PreK-12. The Board of Education approved the Advisory Board on Teacher Education and Licensure's recommendation on Braille certification in response to the 2009 Virginia General Assembly House Bill 2224 on November 17, 2009.

At the request of the Advisory Board on Teacher Education and Licensure, a committee was convened on March 29, 2010, to recommend a Braille assessment to be considered as a requirement for individuals seeking an initial license with an endorsement in Special Education Visual Impairments PreK-12. On April 19, 2010, the Advisory Board on Teacher Education and Licensure voted unanimously to recommend that the Virginia Board of Education approve the Praxis Braille Proficiency Test administered by the Educational Testing Service as the required assessment for individuals seeking an initial Virginia license with an endorsement in Special Education Visual Impairments PreK-12. The committee's rationale included the following: (1) the Praxis Braille Proficiency Test developed by the Educational Testing Service is a reliable, valid, and legally defensible assessment; (2) the test appears to cover the appropriate knowledge and skills for Braille; (3) the test would be available after a state-specific standard setting study; and (4) the test is accessible across the state.

On July 22, 2010, the Board of Education approved ABTEL's recommendation that the Praxis Braille Proficiency Test (0631) administered by the Educational Testing Service be the required assessment for individuals seeking an initial Virginia license with an endorsement in Special Education Visual Impairments PreK-12. The Board also authorized Department of Education staff to begin the standard-setting process for the test. On March 24, 2011, the Board approved a passing score for the Praxis Braille Proficiency (0631) test effective July 1, 2011, except for teachers completing the approved Virginia Visual Impairments Consortium Program who were required to meet the requirement effective July 1, 2012.

The Educational Testing Service (ETS) has developed the revised Praxis Braille Proficiency (0633) test. The test revision process was prompted as a result of changes that have occurred by the Braille Authority of North America (BANA). In 2012, the United States members of the BANA voted to adopt Unified English Braille (UEB) to replace English Braille American Edition (EBAE) and add it as an official code along with the Nemeth code, Music Braille, and the International Phonetic Alphabet (IPA). UEB was officially implemented in the United States on January 4, 2016. Recently, the BANA Board members representing United States organizations approved the following statement regarding Braille mathematics and technical materials as it relates to the adoption of UEB in the United States:

> *"The Braille Authority of North America (BANA) recognizes and appreciates the genuine concerns from the Braille community regarding the transition to Unified English Braille (UEB). BANA stands by our original motion to adopt UEB as a complete code as well as the implementation statement issued in 2014 in which we expressed that the Nemeth Code remains integral to Braille in the United States. The Board of BANA could not reach consensus regarding the establishment of a single standard code for technical materials for Braille in the United States. The decision to use UEB or the Nemeth Code within UEB context for technical materials should be made based on Braille readers' individual needs."*

Currently, individual states are determining whether to implement UEB as a single/complete code for all literary and technical (mathematics, computer, science, and technology) materials or to implement UEB for literary content only with Nemeth Code embedded within UEB for technical materials. The transition to UEB for literary content appears to be occurring consistently across the United States; however, concerns and challenges exist for the utilization of multiple Braille codes among states for technical materials.

The full transition to UEB in the United States will occur over several years. Likewise, teachers will be required to facilitate students' transition to UEB for several years. The Virginia Department of Education

is collaborating with the Department for the Blind and Vision Impaired, George Mason University, the Virginia School for the Deaf and the Blind, and stakeholders during the development of an implementation plan for Virginia.

To address the need for teachers of the visually impaired to be prepared for the changes to the Braille code, the Virginia Consortium for Teacher Preparation in Vision Impairment through George Mason University (GMU), in consultation with the Virginia Department of Education, began teaching EBAE with paralleled instruction in UEB to graduate students in the fall of 2014. Participating institutions of higher education in the consortium are George Mason University, James Madison University, Norfolk State University, Old Dominion University, and Radford University. The current GMU faculty Braille instructor participated in the review of the regenerated Braille Praxis examination. The GMU Braille courses now include instruction in UEB (literary and technical) and Nemeth Code. Training in UEB is also offered for teachers of the visually impaired working in Virginia schools through Department of Education-sponsored Braille and literacy workshops and online courses.

Summary of Important Issues:
A multistate standard-setting study was conducted by ETS in January 2016 for the Praxis Braille Proficiency (0633) test. Participants from seven states served on the multistate study panel. Virginia was represented by three Virginia educators who were nominated by Virginia school divisions and Higher Education Institutions. A detailed summary of the study, *Multistate Standard-Setting Technical Report – Praxis Braille Proficiency* (0633) is attached (Appendix A) and includes participants, methodology, and recommendations. The purposes of the study were to: (a) recommend the minimum passing score for the Praxis Braille Proficiency (0633) test and (b) confirm the importance of the Praxis content specifications for entry-level special education visually impairment teachers. To pass the Praxis Braille Proficiency (0633) test, a candidate must meet or exceed the passing score established by the Virginia Board of Education.

The Praxis *Test at a Glance* document (Appendix B) describes the purpose and structure of the assessment. The four-hour assessment measures a candidate's understanding of Unified English Braille (UEB) and Nemeth code. The Praxis Braille Proficiency test contains 40 selected-response items covering Reading (approximately 40 items), and four (4) constructed-response items covering Production (approximately 4 items). The reporting scale for the Praxis Braille Proficiency test ranges from 100 to 200 scale-score points.

Prospective teachers seeking an initial Virginia license with an endorsement in Special Education Visual Impairments PreK-12 will be required to pay the registration and test fees.

Multistate Standard-Setting Study

To support the decision-making process for education agencies establishing a passing score (cut score) for the Praxis Braille Proficiency (0633) test, research staff from ETS designed and conducted a multistate standard-setting study in January 2016 in Princeton, New Jersey. Education agencies recommended panelists with (a) experience as either teachers of visually impaired students or college faculty who prepare those teachers and (b) familiarity with the knowledge and skills required of beginning teachers of visually impaired students. The attached *Multistate Standard-Setting Technical Report – the Praxis Braille Proficiency* (Appendix A) 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 Braille Proficiency *Test at a Glance* document describes the purpose and structure of the assessment.

The panel's passing score recommendation for the Praxis Braille Proficiency test is 50.08 (out of a possible 73 raw-score points). The value was rounded to the next highest whole number, 51, to determine the functional recommended passing score. The scale score associated with 51 raw points is 169.

The multistate standard-setting study provides the estimated conditional standard error of measurement (CSEM). The CSEM is a statistical phenomenon and is unrelated to the accuracy of scoring. All test results are subject to the standard error of measurement. If a test taker were to take the same test repeatedly, with no change in his level of knowledge and preparation, it is possible that some of the resulting scores would be slightly higher or slightly lower than the scores that precisely reflect the test taker's actual level of knowledge or ability. The difference between a test taker's actual score and his highest or lowest hypothetical score is known as the standard error of measurement.

The table below 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
Braille Proficiency (0633)

Passing Scores within 1 and 2 CSEM of the Recommended Passing Score

Recommended passing score (CSEM)		**Scale score equivalent**
51 (3.70)		169
-2 CSEM	44	157
-1 CSEM	48	164
+1 CSEM	55	176
+2 CSEM	59	183

At the April 25, 2016, meeting the Advisory Board on Teacher Education and Licensure recommended that the Virginia Board Education approve the Praxis Braille Proficiency (0633) test as the required Braille assessment for individuals seeking an initial Virginia licensure with an endorsement in Special Education Visual Impairments PreK-12 and set a passing score of 157 for the test. The passing score recommended by the Advisory Board is two conditional standard errors of measurement below the multi-state panel recommended passing score. The recommended implementation date is July 1, 2016, allowing for the acceptance of passing scores for the new test if taken prior to July 1, 2016, and accepting the current Praxis Braille Proficiency (0631) test for individuals who passed the assessment during the effective period of the test.

Impact on Fiscal and Human Resources:
Costs associated with the administration of the Praxis Braille Proficiency (0633) test will be incurred by the Educational Testing Service. Prospective teachers are required to pay test fees.

Timetable for Further Review/Action:
Upon approval by the Board of Education, school divisions and institutions of higher education will be notified of the Praxis Braille Proficiency (0633) test requirement.

Superintendent's Recommendation:
The Superintendent of Public Instruction recommends that the Board of Education approve the Advisory Board on Teacher Education and Licensure's recommendation to: (1) use the Praxis Braille Proficiency (0633) test as the required Braille assessment for individuals seeking an initial Virginia license with an endorsement in Special Education Visual Impairments PreK-12; (2) set a passing score of 157 for the test; and (3) implement the requirement effective on July 1, 2016, allowing for the acceptance of passing scores for the test if taken prior to July 1, 2016, and accepting the current Praxis Braille Proficiency (0631) test for individuals who passed the assessment during the effective period of the test.

Rationale:
The Praxis Braille Proficiency was revised to align with the new Braille code. A passing score and an implementation timeline must be approved by the Board of Education.

APPENDICES

APPENDIX A

Multistate Standard-Setting Technical Report

Praxis® BRAILLE PROFICIENCY (0633)

January 2016

APPENDIX B

Test at a Glance

Praxis® BRAILLE PROFICIENCY (0633)

Measuring the Power of Learning.™

Multistate Standard-Setting Technical Report

Praxis® BRAILLE PROFICIENCY (0633)

Licensure and Credentialing Research

ETS

Princeton, New Jersey

January 2016

EXECUTIVE SUMMARY

To support the decision-making process of education agencies establishing a passing score (cut score) for the *Praxis*® Braille Proficiency (0633) test, research staff from Educational Testing Service (ETS) designed and conducted a multistate standard-setting study.

PARTICIPATING STATES

Panelists from 7 states were recommended by their respective education agencies. The education agencies recommended panelists with (a) experience as either teachers of visually impaired students or college faculty who prepare those teachers and (b) familiarity with the knowledge and skills required of beginning teachers of visually impaired students.

RECOMMENDED PASSING SCORE

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* Braille Proficiency test, the recommended passing score is 51 out of a possible 73 raw-score points. The scale score associated with a raw score of 51 is 169 on a 100–200 scale.

To support the decision-making process for education agencies establishing a passing score (cut score) for the *Praxis*® Braille Proficiency (0633) test, research staff from ETS designed and conducted a multistate standard-setting study in January 2016 in Princeton, New Jersey. Education agencies[1] recommended panelists with (a) experience as either teachers of visually impaired students or college faculty who prepare those teachers and (b) familiarity with the knowledge and skills required of beginning teachers of visually impaired students. Seven states (Table 1) were represented by 12 panelists. (See Appendix A for the names and affiliations of the panelists.)

Table 1
Participating States and Number of Panelists

Colorado (1 panelist)	Utah (3 panelists)
Mississippi (1 panelist)	Virginia (3 panelists)
Rhode Island (2 panelists)	West Virginia (1 panelists)
South Dakota (1 panelist)	

The following 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.

ETS provides a recommended passing score from the multistate standard-setting study to education agencies. In each state, the department of education, the board of education, or a designated educator licensure board is responsible for establishing the operational passing score in accordance with applicable regulations. This study provides a recommended passing score, which represents the combined judgments of a group of experienced educators. Each state may want to consider the recommended passing score but also other sources of information when setting the final *Praxis* Braille Proficiency passing score (see Geisinger & McCormick, 2010). A state may accept the recommended passing score, adjust the score upward to reflect more stringent expectations, or adjust the score downward to reflect more lenient expectations. There is no *correct* decision; the appropriateness of any adjustment may only be evaluated in terms of its meeting the state's needs.

Two sources of information to consider when setting the passing score are the standard error of measurement (SEM) and the standard error of judgment (SEJ). The former addresses the reliability of the

[1] States and jurisdictions that currently use *Praxis* tests were invited to participate in the multistate standard-setting study.

Praxis Braille Proficiency test score and the latter, the reliability of panelists' passing-score recommendation. The SEM allows a state to recognize that any test score on any standardized test—including a *Praxis* Braille Proficiency test score—is not perfectly reliable. A test score only *approximates* what a candidate truly knows or truly can do on the test. The SEM, therefore, addresses the question: How close of an approximation is the test score to the *true* score? The SEJ allows a state to gauge the likelihood that the recommended passing score from the current panel would be similar to the passing scores recommended by other panels of experts similar in composition and experience. The smaller the SEJ, the more likely that another panel would recommend a passing score consistent with the recommended passing score. The larger the SEJ, the less likely the recommended passing score would be reproduced by another panel.

In addition to measurement error metrics (e.g., SEM, SEJ), each state should consider the likelihood of classification errors. That is, when adjusting a passing score, policymakers should consider whether it is more important to minimize a false-positive decision or to minimize a false-negative decision. A false-positive decision occurs when a candidate's test score suggests that he should receive a license/certificate, but his actual level of knowledge/skills indicates otherwise (i.e., the candidate does not possess the required knowledge/skills). A false-negative decision occurs when a candidate's test score suggests that she should not receive a license/certificate, but she actually does possess the required knowledge/skills. The state needs to consider which decision error is more important to minimize.

OVERVIEW OF THE *PRAXIS*® BRAILLE PROFICIENCY TEST

The Praxis® Braille Proficiency *Study Companion* document (ETS, in press) describes the purpose and structure of the test. In brief, the test measures whether entry-level teachers of visually impaired students have the knowledge/skills believed necessary for competent professional practice.

The four-hour assessment measures a candidate's understanding of Unified English Braille (UEB) and Nemeth code. It contains 40 selected-response items covering *Reading* (approximately 40 items), and 4 constructed-response items covering *Production* (approximately 4 items).[2] The reporting scale for the *Praxis* Braille Proficiency test ranges from 100 to 200 scale-score points.

PROCESSES AND METHODS

The design of the standard-setting study included an expert panel. Before the study, panelists received an email explaining the purpose of the standard-setting study and requesting that they review the content specifications for the test. This review helped familiarize the panelists with the general structure and content of the test.

The standard-setting study began with a welcome and introduction by the meeting facilitator. The facilitator described the test, provided an overview of standard setting, and presented the agenda for the study. Appendix B shows the agenda for the panel meeting.

REVIEWING THE TEST

The standard-setting panelists first took the test and then discussed it. This discussion helped bring the panelists to a shared understanding of what the test does and does not cover, which serves to reduce potential judgment errors later in the standard-setting process.

The test discussion covered the major content areas being addressed by the test. Panelists were asked to remark on any content areas that would be particularly challenging for entry-level teachers or areas that address content particularly important for entry-level teachers.

[2] The number of items for each content area may vary slightly from form to form of the test.

DEFINING THE JUST QUALIFIED CANDIDATE

Following the review of the test, panelists described the just qualified candidate. The *just qualified candidate description* plays a central role in standard setting (Perie, 2008); the goal of the standard-setting process is to identify the test score that aligns with this description.

The panel created a description of the just qualified candidate —the knowledge/skills that differentiate a *just* from a *not quite* qualified candidate. To create this description, the panel first split into smaller groups to consider the just qualified candidate. The full panel then reconvened and, through whole-group discussion, determined the description of the just qualified candidate to use for the remainder of the study.

The written description of the just qualified candidate summarized the panel discussion in a bulleted format. The description was not intended to describe all the knowledge and skills of the just qualified candidate but only highlight those that differentiate a *just* qualified candidate from a *not quite* qualified candidate. The written description was distributed to panelists to use during later phases of the study (see Appendix C for the just qualified candidate description).

PANELISTS' JUDGMENTS

The *Praxis* Braille Proficiency test includes both dichotomously-scored (selected-response items) and constructed-response items. Panelists received training in two distinct standard-setting approaches: one standard-setting approach for the dichotomously-scored items and another approach for the constructed-response items.

A panel's passing score is the sum of the interim passing scores recommended by the panelists for (a) the dichotomously-scored items and (b) the constructed-response items. As with scoring and reporting, the panelists' judgments for the constructed-response items were weighted such that they contributed 45% of the overall score.

Dichotomously scored items. The standard-setting process for the dichotomously-scored items was a probability-based Modified Angoff method (Brandon, 2004; Hambleton & Pitoniak, 2006). In this study, each panelist judged each item on the likelihood (probability or chance) that the just qualified candidate would answer the item correctly. Panelists made their judgments using the following rating scale: 0, .05, .10, .20, .30, .40, .50, .60, .70, .80, .90, .95, 1. The lower the value, the less likely it is that the just qualified candidate would answer the item correctly because the item is difficult for the just qualified candidate. The higher the value, the more likely it is that the just qualified candidate would answer the item correctly.

Panelists were asked to approach the judgment process in two stages. First, they reviewed both the description of the just qualified candidate and the item and determined what was the probability that the just qualified candidate would answer the question correctly. The facilitator encouraged the panelists to consider the following rules of thumb to guide their decision:

- Items in the 0 to .30 range were those the just qualified candidate would have a low chance of answering correctly.
- Items in the .40 to .60 range were those the just qualified candidate would have a moderate chance of answering correctly.
- Items in the .70 to 1 range were those that the just qualified candidate would have a high chance of answering correctly.

Next, panelists decided how to refine their judgment within the range. For example, if a panelist thought that there was a high chance that the just qualified candidate would answer the question correctly,

the initial decision would be in the .70 to 1 range. The second decision for the panelist was to judge if the likelihood of answering it correctly is .70, .80, .90, .95 or 1.

After the training, panelists made practice judgments and discussed those judgments and their rationales. All panelists completed a post-training evaulation to confirm that they had received adequate training and felt prepared to continue; the standard-setting process continued only if all panelists confirmed their readiness.

Constructed-response items. An Extended Angoff method (Cizek & Bunch, 2007; Hambleton & Plake, 1995) was used for the constructed-response items. For this portion of the study, a panelist decided on the assigned score value that would most likely be earned by the just qualified candidate for each constructed-response item. Panelists were asked first to review the definition of the just qualified candidate and then to review the constructed-response item and its rubric. The rubric for a constructed-response item defines (holistically) the quality of the evidence that would merit a response earning a particular score. During this review, each panelist independently considered the level of knowledge/skill required to respond to the constructed-response item and the features of a response that would earn a particular score, as defined by the rubric. Each panelist decided on the score most likely to be earned by the just qualified candidate from the possible values a test taker can earn.

A test-taker's response to a constructed-response item is independently scored by two raters, and the sum of the raters' scores is the assigned score[3]; possible scores, therefore, range from zero (both raters assigned a score of zero) to eight (both raters assigned a score of four). For their ratings, each panelist decided on the score most likely to be earned by a just qualified candidate from the following possible values: 0, 1, 2, 3, 4, 5, 6, 7, or 8. For each of the constructed-response items, panelists recorded the score (0 through 8) that a just qualified candidate would most likely earn.

After the training, panelists made practice judgments and discussed those judgments and their rationale. All panelists completed a post-training evaluation to confirm that they had received adequate training and felt prepared to continue; the standard-setting process continued only if all panelists confirmed their readiness.

Multiple Rounds. Following this first round of judgments (*Round 1*), item-level feedback was provided to the panel. The panelists' judgments were displayed for each item and summarized across

[3] If the two raters' scores differ by more than one point (non-adjacent), the Chief Reader for that item assigns the score, which is then doubled.

panelists. For dichotomously-scored items, items were highlighted to show when panelists converged in their judgments (at least two-thirds of the panelists located an item in the same difficulty range) or diverged in their judgments.

The panelists discussed their item-level judgments. These discussions helped panelists maintain a shared understanding of the knowledge/skills of the just qualified candidate and helped to clarify aspects of items that might not have been clear to all panelists during the Round 1 judgments. The purpose of the discussion was not to encourage panelists to conform to another's judgment, but to understand the different relevant perspectives among the panelists.

In Round 2, panelists discussed their Round 1 judgments and were encouraged by the facilitator (a) to share the rationales for their judgments and (b) to consider their judgments in light of the rationales provided by the other panelists. Panelists recorded their Round 2 judgments only for items when they wished to change a Round 1 judgment. Panelists' final judgments for the study, therefore, consist of their Round 1 judgments and any adjusted judgments made during Round 2.

RESULTS

EXPERT PANELS

Table 2 presents a summary of the panelists' demographic information. The panel included 12 educators representing 7 states. (See Appendix A for a listing of panelists.) Nine panelists were teachers, one was college faculty, one was a braille literacy coordinator and Nemeth braille instructor, and one was an education coordinator.

Table 2

Panel Member Demographics

	N	%
Current position		
Teacher	9	75
College faculty	1	8
Braille Literacy Coordinator/Nemeth Braille Instructor	1	8
Education Coordinator	1	8
Race		
White	9	75
Black or African American	2	17
Hispanic or Latino	1	8
Gender		
Female	11	92
Male	1	8
Are you currently certified to teach this subject in your state?		
Yes	12	100
No	0	0
Are you currently teaching this subject in your state?		
Yes	11	92
No	1	8
Are you currently supervising or mentoring other teachers of this subject?		
Yes	5	42
No	7	58
At what K–12 grade level are you currently teaching this subject?		
High school (9–12 or 10–12)	1	8
All Grades	9	75
Other	1	8
Not currently teaching at the K–12 level	1	8

Table 2 (continued)
Panel Member Demographics

	N	%
Including this year, how many years of experience do you have teaching this subject?		
3 years or less	1	8
4–7 years	2	17
8–11 years	2	17
12–15 years	1	8
16 years or more	6	50
Which best describes the location of your K–12 school?		
Urban	6	50
Suburban	4	33
Rural	1	8
Not currently working at the K–12 level	1	8
If you are college faculty, are you currently involved in the training/preparation of teacher candidates in this subject?		
Yes	1	8
No	0	0
Not college faculty	11	92

STANDARD-SETTING JUDGMENTS

Table 3 summarizes the standard-setting judgments of panelists. The table shows the passing scores—the number of raw points needed to pass the test—recommended by each panelist.

Table 3 also includes estimate of the measurement error associated with the judgments: the standard deviation of the mean and the standard error of judgment (SEJ). The SEJ is one way of estimating the reliability or consistency of a panel's standard-setting judgments.[4] It indicates how likely it would be for several other panels of educators similar in makeup, experience, and standard-setting training to the current panel to recommend the same passing score on the same form of the test.

Round 1 judgments are made without discussion among the panelists. The most variability in judgments, therefore, is typically present in the first round. Round 2 judgments, however, are informed by panel discussion; thus, it is common to see a decrease both in the standard deviation and SEJ. This decrease

[4] An SEJ assumes that panelists are randomly selected and that standard-setting judgments are independent. It is seldom the case that panelists are randomly sampled, and only the first round of judgments may be considered independent. The SEJ, therefore, likely underestimates the uncertainty of passing scores (Tannenbaum & Katz, 2013).

— indicating convergence among the panelists' judgments — was observed (see Table 3). The Round 2 average score is the panel's recommended passing score.

Table 3

Passing Score Summary by Round of Judgments

Panelist	Round 1	Round 2
1	47.10	48.31
2	47.98	48.18
3	47.59	47.99
4	48.65	50.72
5	47.78	44.85
6	54.22	53.05
7	47.17	47.17
8	53.30	52.59
9	53.45	53.45
10	45.15	48.49
11	54.52	55.12
12	46.74	51.03
Average	49.47	50.08
Lowest	45.15	44.85
Highest	54.52	55.12
SD	3.37	3.05
SEJ	0.97	0.88

The panel's passing score recommendation for the *Praxis* Braille Proficiency test is 50.08 (out of a possible 73 raw-score points). The value was rounded to the next highest whole number, 51, to determine the functional recommended passing score. The scale score associated with 51 raw points is 169.

Table 4 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.

Table 4

Passing Scores Within 1 and 2 CSEM of the Recommended Passing Score[5]

Recommended passing score (CSEM)		Scale score equivalent
51 (3.70)		169
-2 CSEM	44	157
-1 CSEM	48	164
+ 1 CSEM	55	176
+ 2 CSEM	59	183

Note. **CSEM = conditional standard error(s) of measurement.**

FINAL EVALUATIONS

The panelists completed an evaluation at the conclusion of their standard-setting study. The evaluation asked the panelists to provide feedback about the quality of the standard-setting implementation and the factors that influenced their decisions. The responses to the evaluation provided evidence of the validity of the standard-setting process, and, as a result, evidence of the reasonableness of the recommended passing score.

Panelists were also shown the panel's recommended passing score and asked (a) how comfortable they are with the recommended passing score and (b) if they think the score was too high, too low, or about right. A summary of the final evaluation results is presented in Appendix D.

All panelists *strongly agreed* that they understood the purpose of the study. All panelists *strongly agreed* or *agreed* that the facilitator's instructions and explanations were clear. All panelists *strongly agreed* or *agreed* that they were prepared to make their standard-setting judgments. All panelists *strongly agreed* or *agreed* that the standard-setting process was easy to follow.

All panelists reported that the description of the just qualified candidate was *very influential* in guiding their standard-setting judgments. All of the panelists reported that between-round discussions were at least *somewhat influential* in guiding their judgments. Three-quarters of the panelists (nine of the 12 panelists) indicated that their own professional experience was *very influential* in guiding their judgments.

All of the panelists indicated they were *very comfortable* with the passing score they recommended. All of the panelists indicated the recommended passing score was *about right*.

[5] The unrounded CSEM value is added to or subtracted from the rounded passing-score recommendation. The resulting values are rounded up to the next-highest whole number and the rounded values are converted to scale scores.

SUMMARY

To support the decision-making process for education agencies establishing a passing score (cut score) for the *Praxis* Braille Proficiency test, research staff from ETS designed and conducted a multistate standard-setting study.

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* Braille Proficiency test, the recommended passing score is 51 out of a possible 73 raw-score points. The scale score associated with a raw score of 51 is 169 on a 100–200 scale.

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APPENDIX A

PANELISTS' NAMES & AFFILIATIONS

Participating Panelists With Affiliation

Panelist	**Affiliation**
Anita Adkins	West Virginia Schools for the Deaf and Blind (WV)
Marcia Birdsley	Davis School District (UT)
Suzy Blackham	Utah Schools for the Deaf and the Blind (UT)
Paula Conroy	University of Northern Colorado (CO)
Tevan Fischbach	South Dakota School for the Blind and Visually Impaired (SD)
Shelley Franklin	Mississippi School for the Blind (MS)
Heidi Henshaw	Paul V. Sherlock Center on Disabilities at Rhode Island College (RI)
Tony Jepson	Utah Foundation for the Blind / University of Utah (UT)
Sariana Marrero Velez	Prince William County Public Schools (VA)
Susan Mitchell	Sherlock Center on Disabilities/RI College (RI)
Alissa Salamone	Arlington Public Schools (VA)
Denise Walker	Virginia Department for the Blind and Vision Impaired (VA)

APPENDIX B

STUDY AGENDA

AGENDA

Praxis® Braille Proficiency (0633) Standard-Setting Study

Day 1

Welcome and Introduction

Overview of Standard Setting and the *Praxis* Braille Proficiency Test

Review the *Praxis* Braille Proficiency Test

Discuss the *Praxis* Braille Proficiency Test

Define the Knowledge/Skills of a Just qualified candidate

Lunch

Define the Knowledge/Skills of a Just qualified candidate (continued)

Break

Standard-Setting Training for Selected-Response (SR) Judgments

Round 1 Standard-Setting Selected-Response Judgments

Collect Materials; End of Day 1

AGENDA

Praxis® Braille Proficiency (0633) Standard-Setting Study

Day 2

Overview of Day 2

Standard Setting Training for Constructed-Response (CR) judgments

Round 1 Standard Setting Constructed-Response Judgments

Round 1 Feedback and Round 2 Judgments

Lunch

Feedback on Round 2 Recommended Cut Score

Complete Final Evaluation

Collect Materials; End of Study

APPENDIX C

JUST QUALIFIED CANDIDATE DESCRIPTION

Description of the Just Qualified Candidate[6]

A just qualified candidate …

Reading

1. Understands how to read letters, contractions, basic punctuation, numbers, and composition indicators without references.
2. Understands basic rules of contractions, punctuation, enclosures and indicators for literary and mathematical Braille
3. Can locate and identify student errors in writing including reversals
4. Can use available resources to accurately read more advanced UEB and Nemeth code (e.g., math symbols, special symbols, type form indicators)
5. Knows how to read UEB Math/Nemeth Code numbers and symbols (i.e., signs of operation and comparison signs)

Production

6. Can produce basic UEB and Nemeth formatting rules (e.g., spatial and linear math, headings, indentations, run-overs).
7. Can use available resources to accurately produce advanced UEB and Nemeth code (e.g., math symbols, special symbols, type form indicators)
8. Accurately produces letters, contractions, basic punctuation, numbers, and composition indicators without references
9. Knows how to produce UEB Math/Nemeth code numbers and symbols
10. Can produce simple materials with a slate and stylus

[6] Description of the just qualified candidate focuses on the knowledge/skills that differentiate a *just* from a *not quite* qualified candidate.

APPENDIX D

FINAL EVALUATION RESULTS

Table D1

Final Evaluation

	Strongly agree		Agree		Disagree		Strongly disagree	
	N	**%**	***N***	**%**	***N***	**%**	***N***	**%**
• I understood the purpose of this study.	12	100	0	0	0	0	0	0
• The instructions and explanations provided by the facilitators were clear.	11	92	1	8	0	0	0	0
• The training in the standard-setting method was adequate to give me the information I needed to complete my assignment.	9	75	3	25	0	0	0	0
• The explanation of how the recommended passing score is computed was clear.	7	58	5	42	0	0	0	0
• The opportunity for feedback and discussion between rounds was helpful.	12	100	0	0	0	0	0	0
• The process of making the standard-setting judgments was easy to follow.	8	67	4	33	0	0	0	0

Table D1 (continued)

Final Evaluation

How influential was each of the following factors in guiding your standard-setting judgments?	Very influential		Somewhat influential		Not influential	
	N	%	*N*	%	*N*	%
• The description of the just qualified candidate	12	100	0	0	0	0
• The between-round discussions	7	58	5	42	0	0
• The knowledge/skills required to answer each test item	12	100	0	0	0	0
• The passing scores of other panel members	0	0	10	83	2	17
• My own professional experience	9	75	3	25	0	0

	Very comfortable		Somewhat comfortable		Somewhat uncomfortable		Very uncomfortable	
	N	%	*N*	%	*N*	%	*N*	%
• Overall, how comfortable are you with the panel's recommended passing score?	12	100	0	0	0	0	0	0

	Too low		About right		Too high	
	N	%	*N*	%	*N*	%
• Overall, the recommended passing score is:	0	0	12	100	0	0

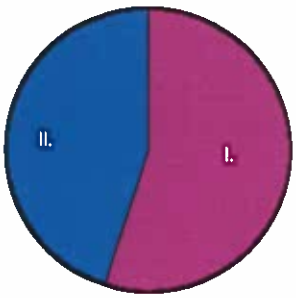
The PRAXIS Series

Measuring the Power of Learning.

Braille Proficiency (0633)

Test at a Glance

Test Name	**Braille Proficiency**
Test Code	**0633**
Time	**240 minutes**
Number of Questions	**40 Selected-Response Questions and 4 Constructed-Response Questions**
Test Delivery	**Paper Delivered**



Content Categories	Approximate Number of Questions	Approximate Percentage of Examination
I. Reading	40	55%
II. Production	4	45%

About This Test

The purpose of the Braille Proficiency test is to measure the requisite braille knowledge and skills that an entry-level teacher of braille or an entry-level teacher of visually impaired students (TVI) must possess. The Braille Proficiency test has 40 selected-response questions assessing examinees' ability to read braille (using simulated braille text for examinees who do not have a visual impairment), plus four performance-assessment tasks that assess examinees' ability to produce embossed braille text from printed text using both a slate and stylus and a manual braillewriter. Both the Reading and Production questions assess knowledge of Unified English Braille (UEB) and Nemeth Code. The questions are provided in two booklets; the parts of the test are not separately timed.

The test may contain some questions that will not count toward your score.

For the Praxis Braille Proficiency test, you must bring the following:

1. A manual (non-electric) braillewriter that accommodates standard 11-1/2-by-11-inch braille paper
2. A traditional (not direct) slate and stylus that accommodates 8-1/2-by-11-inch braille paper

Topics Covered

Representative descriptions of topics covered in each category are provided below.

I. READING

A. UEB (Non-Technical Text)

1. Determine the correct UEB transcription of text
2. Identify and correct errors in a UEB transcription
3. Read and comprehend short passages of text produced in UEB

B. UEB (Math)

1. Determine the correct UEB transcription of math
2. Identify and correct errors in a UEB transcription

C. Nemeth code

1. Determine the correct Nemeth code transcription of math
2. Identify and correct errors in a Nemeth transcription

II. PRODUCTION

A. Produce braille using a slate and stylus

1. Transcribe short selections into UEB using a 27 or 28 cell standard slate and stylus and 8.5" by 11" paper.

B. Produce braille using a Classic Perkins Manual Braillewriter

1. Transcribe sentences into UEB
2. Transcribe math into UEB
3. Transcribe math into Nemeth Code