



**Karen B. Salmon, Ph.D.**  
State Superintendent of Schools

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**TO:** Members of the State Board of Education

**FROM:** Karen B. Salmon, Ph.D.

**DATE:** April 24, 2018

**SUBJECT:** Teacher Certification Assessments  
**TEST APPROVAL AND ESTABLISHMENT OF QUALIFYING SCORES**

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**PURPOSE:**

The purpose of this item is to seek State Board approval of the Educational Testing Service (ETS) Praxis subject assessments for Elementary Education: Content Knowledge for Teaching (CKT) and to set the established qualifying scores for this test.

**HISTORICAL BACKGROUND:**

Since 1987, the Maryland State Department of Education (MSDE) has required state certification tests to assess basic skills, content knowledge, and pedagogy. These tests provide validation that teacher candidates have entry level skills to begin their professional careers. In an effort to maintain current practice in various content fields, the ETS revises most tests on a five year schedule and at the same time works to create new tests based on a demonstrated need.

To support the decision-making process for state departments of education with regard to establishing a passing score, research staff from the ETS design and conduct two Multistate Standards Setting Studies for each test. The two non-overlapping panels represent and provide a replication of, the judgment process to strengthen the technical quality of the recommended passing score. The panelists, selected from states that will use the test, are recommended by state departments of education to participate as experts for the Multistate Standard Setting Studies. Maryland representatives included two representatives for the CKT: Reading and Language Arts and Mathematics Multistate Standard Setting Studies and one for the CKT: Science Multistate Standard Setting Study.

Panelists judge the extent to which knowledge and/or skills reflected by the content specifications are important for entry-level teachers. The ETS also collects content-related validity evidence to confirm the importance of the content specifications for entry level teachers. The recommended cut scores from the two panels are averaged and then converted to a scaled score with a range from 100 to 200. This score becomes the recommended qualifying score of the study.

The ETS advises states to adopt a score that does not exceed a plus or minus two standard errors of measurement from the recommended qualifying score. This approach ensures legal defensibility of the score.

Currently, the MSDE requires individuals to pass both the Praxis Elementary Education: Instructional Practice and Applications test as a measure of content knowledge, and the Praxis Principles of Learning and Teaching: Grades K-6 as a measure of pedagogy in order to be certified in elementary education. The Praxis Elementary Education: Instructional Practice and Applications test, originally released in 2011 as test # 5015 and regenerated in 2014 as test #5019, is outdated. The ETS offers two newer test options for assessing content knowledge for Elementary Education: Multiple Subject Test (MST) and the CKT.

The MST measures general and subject specific teaching skills and knowledge. The CKT also measures general and subject specific teaching skills and knowledge but focuses on how well an individual can apply their content knowledge using scenarios from the classroom.

Pedagogical content knowledge refers to unique types of content knowledge that teachers use as they analyze student's work and errors to make choices about how to represent content concepts to support student learning. Interest in measuring pedagogical content knowledge, and other forms of CKT, led to the development of a new generation of assessments that are specifically tailored to the content knowledge teachers use in delivering effective content instruction.

### **EXECUTIVE SUMMARY:**

The CKT assessment is designed to measure general and subject specific teaching skills and content knowledge by focusing on how well an individual can apply their content knowledge using scenarios from the classroom. There is widespread agreement among scholars and policy makers that CKT is a critical component of teacher competence. Recent advances in the assessment of CKT have led to tremendous interest in using these assessments in multiple contexts including foundational research on teaching quality, evaluating teacher education and professional development, and most recently as a central component of teacher licensure. Teachers need both subject matter knowledge and pedagogical content knowledge. The Praxis Elementary Education: Content Knowledge for Teaching assessment measures both.

The Praxis elementary content test is the newest test available. The CKT assessment is comprised of four components: reading and language arts, math, science, and social studies. The reading and language arts and math subtest tests were released in Fall 2016, the science subtest was released in Fall 2017, and the social studies subtest is anticipated to be available in September 2019 (please note that social studies is currently tested, but this section of the CKT is being updated

Through the multi-state standard setting process, the ETS recommends the following qualifying scores for each of the CKT subtests:

- CKT Reading and Language Arts: 161
- CKT Mathematics: 150
- CKT Science: 154
- Social Studies Subtest: 155

Due to the fact that this is a brand new test, the MSDE is recommending setting a qualifying score of -1 standard error of measurement (SEM) for each of the sub-tests. The MSDE will evaluate Maryland's data annually to determine if new cut scores should be adopted.

**ACTION:**

I am requesting that the State Board approve the following implementation date and qualifying scores for the Elementary Education: Content Knowledge for Teaching subject assessment for certification as follows:

<b>Test Code</b>	<b>Test Name</b>	<b>Qualifying</b>	<b>Score Scale</b>	<b>Effective Date</b>
7801	CKT: Full Test	See Below	See Below	7/1/2018
7802	CKT: Reading Language Arts Subtest	156	100-200	7/1/2018
7803	CKT: Mathematics Subtest	143	100-200	7/1/2018
7804	CKT: Science Subtest	144	100-200	7/1/2018
7805	Social Studies Subtest	147	100-200	7/1/2018

I am further requesting that the State Board approve the qualifying score for the Elementary Education: Content Knowledge for Teaching Social Studies subject assessment for certification as -1 SEM from the ETS's recommended qualifying score and adopt an effective date of one month from its release date.

KBS:ss

# Test Approval and Establishment of Qualifying Scores



STATE BOARD MEETING

April 24, 2018

# Purpose

Approval of the implementation date and qualifying score for the Praxis subject assessments for Elementary Education: Content Knowledge for Teaching (CKT)

# Background

The Maryland State Department of Education (MSDE) has required certification tests to assess basic skills, content knowledge, and pedagogy

Educational Testing Service (ETS) revises most tests on a five year schedule and creates new tests based on need

ETS conducts two Multistate Standards Setting Studies for each test

- The cut scores from the two panels are averaged and converted to a scaled score which becomes the recommended qualifying score published by ETS
- ETS advises states to adopt a score that does not exceed a plus or minus two standard errors of measurement (SEM) from the recommended qualifying score

Maryland currently uses the Elementary Education: Instructional Practice and Applications

# Current Test Options

ETS offers two newer test options for assessing content for Elementary Education.

- Elementary Education: Multiple Subject Test (MST)
  - Measures general and subject specific teaching skills and knowledge
- Elementary Education: Content Knowledge for Teaching (CKT)
  - Measures general and subject specific teaching skills and knowledge but focuses on how well an individual can apply their content knowledge using scenarios from the classroom

# Elementary Education: CKT

Interest in measuring pedagogical content knowledge, unique to the professional work of teaching, led to the development of a new generation of assessments

Consists of four subtests: Reading/Language Arts, Mathematics, Science and Social Studies

- Individuals that do not meet the qualifying score on one subtest may retake that subtest

Currently two states have adopted this test:

- Delaware
- South Dakota

New Jersey is considering its use



# CKT: Sample Math Item

Sample  
 Questions  
 The Praxis®  
 Elementary  
 Education:  
 Content  
 Knowledge  
 for Teaching  
 (CKT)  
 Assessments

## Elementary Mathematics

1.

$\begin{array}{r} 385 \\ + 462 \\ \hline 7147 \end{array}$	$\begin{array}{r} 453 \\ + 427 \\ \hline 8710 \end{array}$	$\begin{array}{r} 321 \\ + 836 \\ \hline 1157 \end{array}$
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Josh is a third-grade student in Ms. Carter's classroom. Josh's answers to three addition problems are shown. He incorrectly answered the first two problems but correctly answered the third problem.

If Josh uses the same strategy to answer the following problem, what will his answer be?

$$\begin{array}{r} 328 \\ + 564 \\ \hline \boxed{8812} \end{array}$$

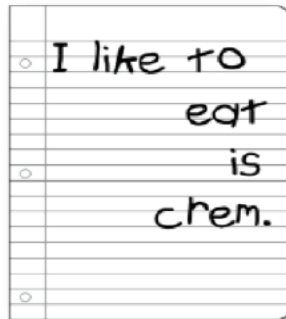
*Test taker  
 responds by  
 entering a  
 number.*

# CKT: Sample Reading/Language Arts Item

Sample  
Questions  
The Praxis®  
Elementary  
Education:  
Content  
Knowledge  
for Teaching  
(CKT)  
Assessments

## Elementary Reading and Language Arts

2. A student writes the sentence "I like to eat ice cream" as follows.



Which of the following print concepts should the teacher focus on when reading with the student?

Select all that apply.

- Text direction
- Return sweep
- Punctuation meaning

*Test taker  
selects  
correct  
answer  
choice or  
choices.*

# CKT: Multistate Standard Setting

The use of two non-overlapping panels strengthens the technical quality of the recommended cut scores and provides validity evidence to assist states with making certification test decisions

## Reading/Language Arts and Mathematics Subtest

- Conducted July 2016
- 35 Panelists from 20 States: 2 Maryland Participants
- RLA: Recommended cut score: 161
- Math: Recommended cut score: 150

## Science Subtest

- Conducted June 2017
- 27 Panelists from 14 States: 1 Maryland Participant
- Recommended cut score: 154

## Social Studies Subtest

- CKT Subtest: anticipated release date September 2019
- Currently Using Elementary Education: Multiple Subject Social Studies Subtest
  - Conducted August 2011
  - 55 Panelists from 15 States and Washington D.C.
- Recommended cut score: 155

# Actions

Adopt the Elementary Education: CKT as the required test for elementary education certification

Approve the recommended implementation date and qualifying score as -1 SEM for each subtest as follows:

- Effective July 1, 2018
  - CKT: Reading/Language Arts: 156
  - CKT: Mathematics: 143
  - CKT: Science: 144
  - Social Studies Subtest: 147

Approve the qualifying score for the CKT: Social Studies as -1 SEM from ETS's recommended score and adopt an effective date one month from its release

The MSDE to evaluate Maryland's data annually to determine if new cut scores should be adopted