Certification Standards and Testing Overview

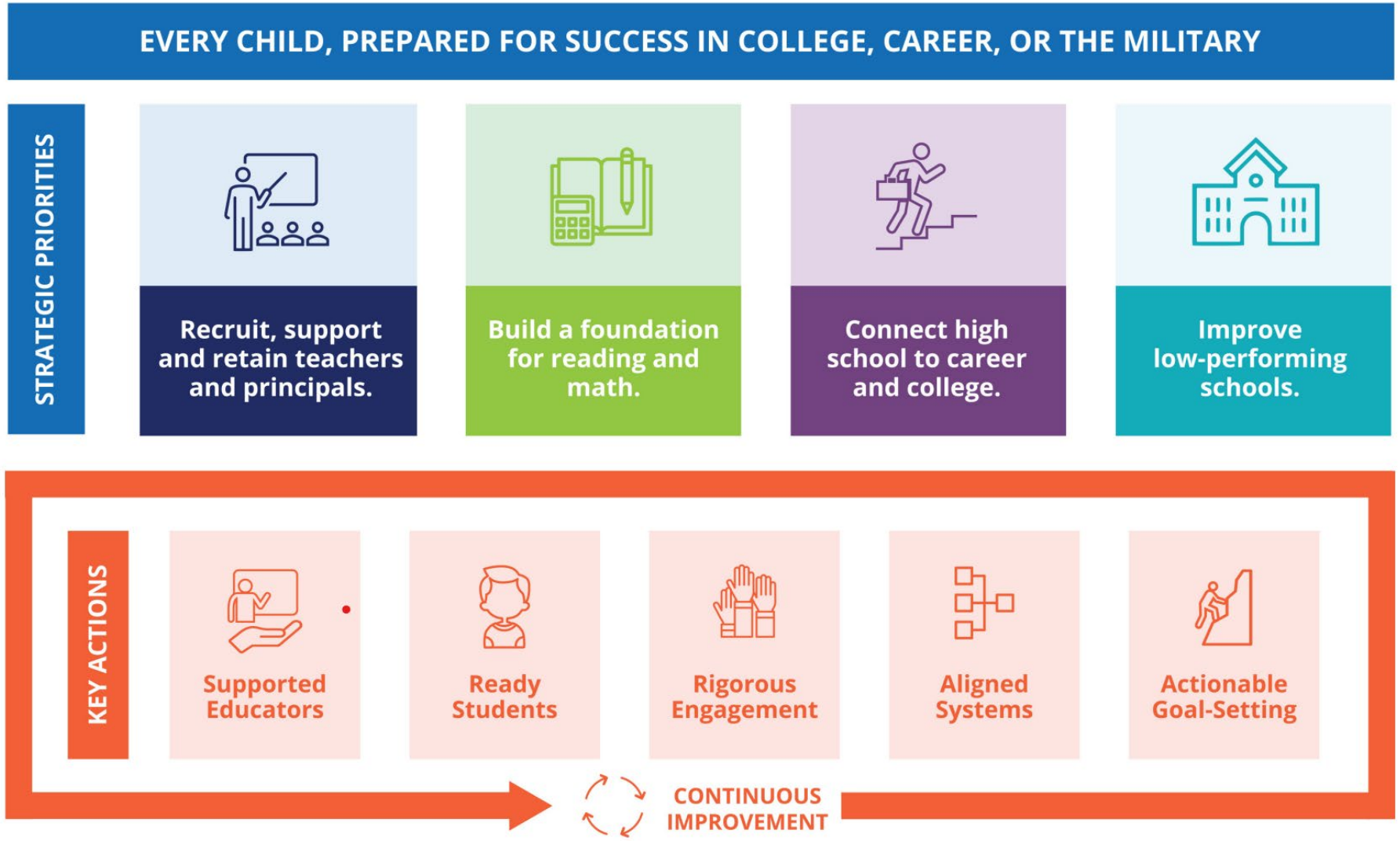
SBOE Mathematics Subcommittee
May 30, 2025

Texas Education Agency

Texas Education Agency

Success for every student depends on well-prepared educators.

TEA Strategic Plan



SBEC Core Principles

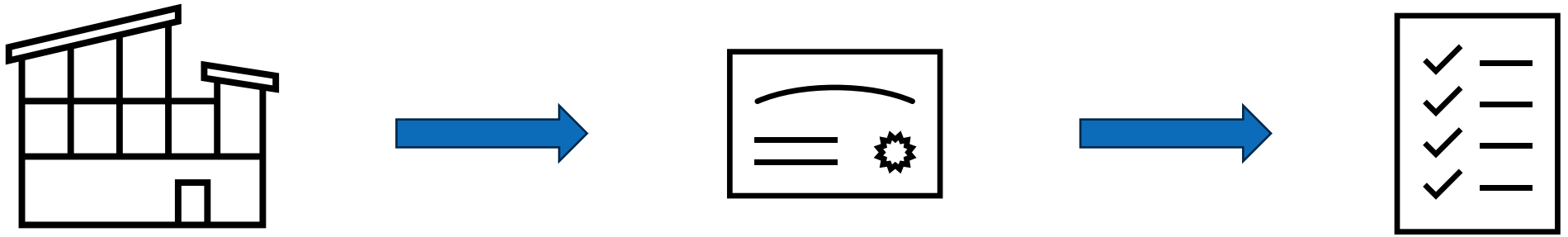
We believe…

1. student success is primary.
2. we must ensure the safety and welfare of Texas's diverse student population.
3. well-prepared educators are essential.
4. high certification standards are essential for ensuring consistency and effectiveness among educator preparation programs.
5. standards should be measured by rigorous, relevant, valid, and reliable assessments.
6. certification programs should be held to the same accountability standards.
7. certification programs should have transparent systems for continuous improvement.
8. we are accountable to all Texas stakeholders and their input is essential.
9. we must continually improve our policies and processes in response to changing needs.
10. certified educators hold a unique position of trust with students; therefore, educators must be held to the highest standards of ethical conduct.

Topics

- Overview of teacher standards and certification
- Overview of math teacher certificates and requirements
- Expectations for knowledge of math content
- Expectations for knowledge of math content pedagogy
- How standards and certification test redesign will impact future exams

The Role of Educator Standards



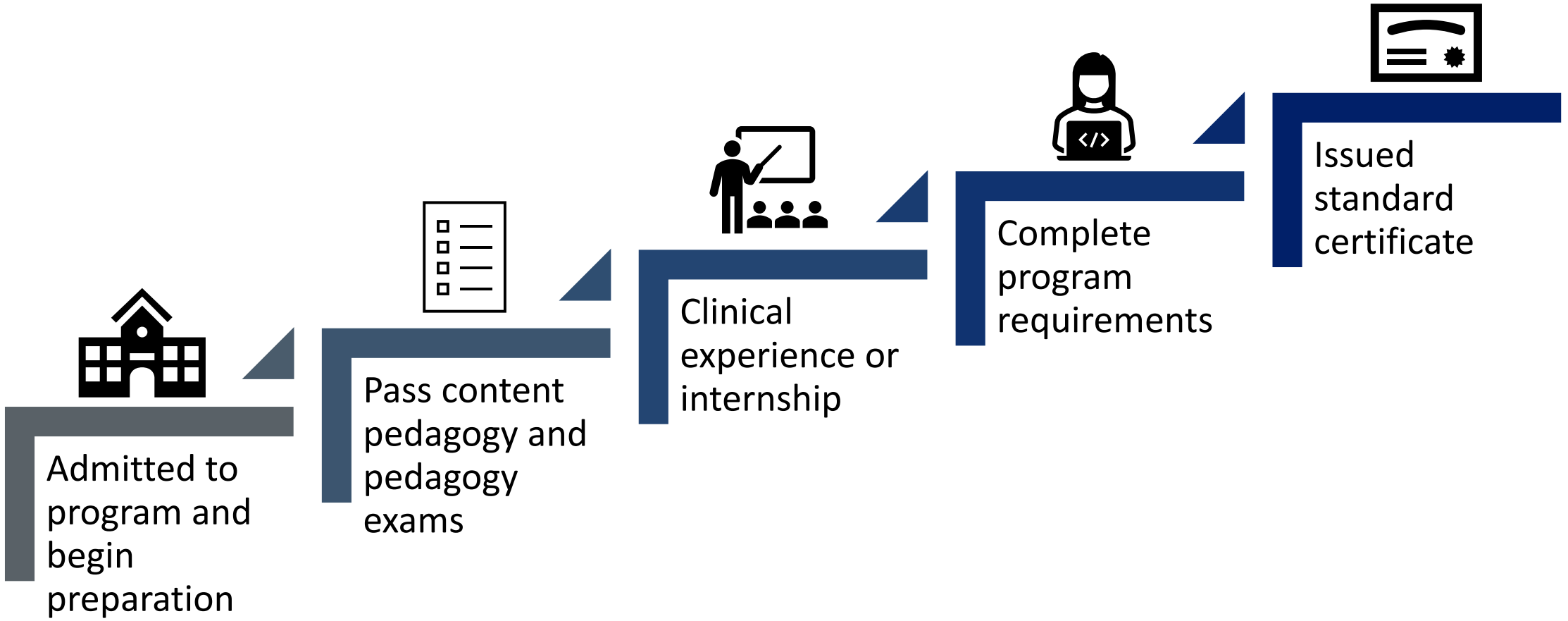
Educator preparation programs prepare teachers according to the standards and test framework competencies. They inform:

- Coursework
- Clinical Experiences
- Observations

Candidates must pass standards-aligned exams to achieve certification

Practicing teachers receive standards-based observations and evaluations

What does it take to get certified in Texas?



What is assessed with certification exams?

Does a candidate have the knowledge and skills necessary for an entry-level educator in this field?

Content knowledge

- Based on TEKS
- Requires knowledge of grade-level content in all grades within the certificate

Content-Pedagogy

- How do students learn?
- How to deliver and assess instruction to maximize student learning?

Certificates for Mathematics Teachers

Figure: 19 TAC 230.21(e)

Certificate Name	**Required Content-Pedagogy Exam(s)**	**Assignment:** 19 TAC 231 (Where can teachers with this certificate be placed?)
Core Subjects with Science of Teaching Reading: Early Childhood–Grade 6	Science of Teaching Reading Core Subjects EC–6	Elementary –General (Grades EC-6)
Core Subjects with Science of Teaching Reading: Grades 4–8	Science of Teaching Reading Core Subjects 4–8	All general subjects (Grades 4-8) Mathematics (Grades 6-8)
Mathematics: Grades 4– 8	Mathematics 4–8	Mathematics (Grades 6-8 and Algebra I at the middle school level for high school graduation credit)
Mathematics/Science: Grades 4–8	Mathematics/ Science 4–8	Mathematics (Grades 6-8)

Certificates for Mathematics Teachers

Figure: 19 TAC 230.21(e)

Certificate Name	**Required Content-Pedagogy Exam(s)**	**Assignment:** 19 TAC 231 (Where can teachers with this certificate be placed?)
Mathematics: Grades 7– 12	Mathematics 7– 12	Mathematics (Grades 7-8 only) Mathematics (Grades 9-12) Algebraic Reasoning (Grades 9-12) Statistics (Grades 9-12)
Physics/Mathematics: Grades 7–12	Physics/ Mathematics 7–12	Mathematics (Grades 7-8 only) Mathematics (Grades 9-12) Algebraic Reasoning (Grades 9-12) Statistics (Grades 9-12)
Mathematics/Physical Science/Engineering: Grades 6–12	Mathematics/ Physical Science/ Engineering	Mathematics (Grades 6-8) Mathematics (Grades 9-12) Algebraic Reasoning (Grades 9-12) Statistics (Grades 9-12)

Examining an Exam Framework: The Mathematics 4–8 exam

Domain	Domain Title	Approx. Percentage of Exam	Standards Assessed
I	Number Concepts	16%	Mathematics I
II	Patterns and Algebra	21%	Mathematics II
III	Geometry and Measurement	21%	Mathematics III
IV	Probability and Statistics	16%	Mathematics IV
V	Mathematical Processes and Perspectives	10%	Mathematics V–VI
VI	Mathematical Learning, Instruction and Assessment	16%	Mathematics VII–VIII

Example of a Domain and Related Competencies

Domain II- Patterns and Algebra

- The teacher understands and uses mathematical reasoning to identify, extend and analyze patterns and understands the relationships among variables, expressions, equations, inequalities, relations and functions
- The teacher understands and uses linear functions to model and solve problems
- **The teacher understands and uses nonlinear functions and relations to model and solve problems.**
- The teacher uses and understands the conceptual foundations of calculus related to topics in middle school mathematics

Competencies contain descriptive statements

Competency 005 The teacher understands and uses nonlinear functions to model and solve problems

- Understands the effects of transformations such as f(x ± c)f of x plus or minus c on the graph of a nonlinear function f(x)
- Applies properties, graphs and applications of nonlinear functions to analyze, model and solve problems.
- Uses a variety of representations and methods (e.g., numerical methods, tables, graphs, algebraic techniques) to solve systems of quadratic equations and inequalities
- Understands how to use properties, graphs and applications of nonlinear relations including polynomial, rational, radical, absolute value, exponential, logarithmic, trigonometric and piecewise functions and relations to analyze, model and solve problems.

- Demonstrates an understanding of the connections among geometric, graphic, numeric and symbolic representations of quadratic functions
- Analyzes data and represents and solves problems involving exponential growth and decay.
- Uses a variety of methods to investigate the roots (real and complex), vertex and symmetry of a quadratic function or relation.
- Demonstrates an understanding of the connections among proportions, inverse variation and rational functions.

Sample exam question

14. An eighth-grade mathematics teacher is preparing a lesson about exponential decay and plans to use an example involving half-life. The teacher explains that half-life is the amount of time required for the initial quantity of a substance to reduce by half, and the teacher then gives an example of a radioactive substance with a half-life of 40 years. If the initial quantity of the radioactive substance is P grams, what is the quantity, in grams, that will remain after 200 years?

A. $\left(\frac{1}{32}\right)P$

B. $\left(\frac{1}{16}\right)P$

C. $\left(\frac{1}{5}\right)P$

D. $5P$

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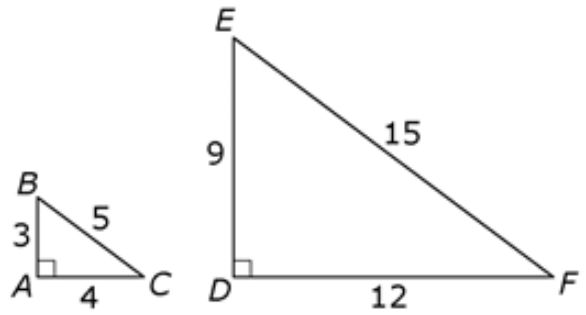
Sample of content-pedagogy question

Use the student work below to answer the question that follows.

Student Work

Using the figure below, determine if the following statement is true or false, and explain your reasoning.

Statement: $m\angle C < m\angle F$



(True) or False Why? Because $\triangle DEF$ is bigger and $\overline{DE}$ is longer than $\overline{AB}$.

41. Which of the following is the most appropriate way for a mathematics teacher to respond to the student work shown?

A. The student's work is correct.

B. The student's calculations are correct, but the teacher should ask the student to calculate the measure of each angle.

C. The student's work is incorrect because the angle measures are not given and cannot be determined from the information provided.

D. The student's work is incorrect because the triangles are similar; therefore, $m\angle C = m\angle F$.

Standards and Certification Exam Redesign

How the revised teacher pedagogy standards and redesigned exams will enhance mathematics teacher preparation

The Revised Educator Standards

Classroom Teacher Pedagogy Standards EC-12 in TAC 19 235C:

- Adopted February 2025 State Board for Educator Certification (SBEC) meeting
- Reviewed and approved during the State Board of Education's (SBOE's) April 2025 meeting
- Became effective May 18, 2025

Key Shifts in the Teacher Pedagogy Standards

- Explicitly integrates knowledge and use of the Open Education Resource instructional materials (stemming from HB1605 requirements)
- Includes content-specific pedagogy standards for Math and Reading
- Significantly upgrades expectations for teachers to know cognitive science evidence impacting teaching and learning
- Reinforces knowledge and skills for educating all students, including students with disabilities

What are the implications for novice teachers?

Increased understanding of high-quality instructional materials

- Novice teachers will understand how to identify high-quality instructional materials and evaluate materials for quality.
- Novice teachers will be experienced in identifying best practices in the OER materials

Increased focus on students and student learning.

- Teachers will have the autonomy and knowledge to customize materials to meet the needs of all their students.
- Teachers will use internalization practices to thoroughly prepare for instructional delivery and practice evidence-based instructional delivery

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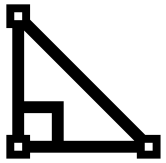
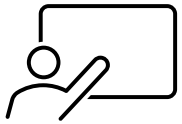
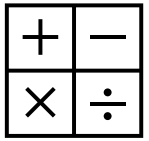
Content-specific Pedagogy for Mathematics



- Novice teachers are expected to know and apply evidence-based practices specific to mathematics.



- Novice teachers will use the cognitive science of learning to plan, deliver, and assess instruction



- Novice teachers will connect conceptual understanding and procedural fluency

- Novice teachers understand the role that mindset plays in mathematics learning.

(3)Teachers demonstrate research and evidence-based best practices specific to planning, instruction, and assessment of mathematics.

(A) Teachers communicate, using multiple means of representation, the relationship between mathematical concepts and mathematical procedures.

(B) Teachers engage students in recursive lesson activities that reinforce automaticity in prerequisite knowledge and skills to mitigate the use of working memory when engaging those knowledge and skills as task complexity increases.

(C) Teachers use multiple means of representation to engage students in mathematical tasks that deepen students' understanding of conceptual understanding, procedural fluency, and mathematical reasoning.

(D) Teachers prepare and deliver instruction and questioning to deliberately solicit different explanations, representations, solutions, and reasoning from all students.

(E) Teachers prepare and deliver explicit instruction and modeling that links grade-level conceptual understanding

(F) Teachers analyze instructional plans to ensure an appropriate balance between conceptual understanding and procedural fluency.

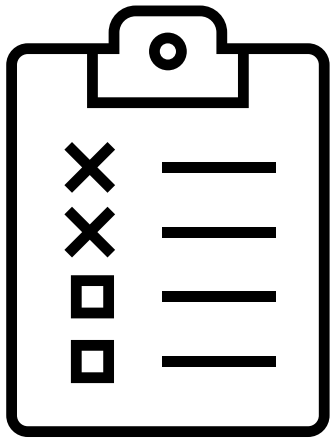
(G) Teachers facilitate discourse through regular opportunities for students to communicate the relationship between mathematical concepts and mathematical procedures.

(H) Teachers provide time for students to apply conceptual understanding and procedural fluency collaboratively and independently to problem-solving.

(I) Teachers communicate and model the connections between mathematics and other fields that utilize mathematics to problem solve, make decisions, and incorporate real-world applications in instruction.

(J) Teachers explicitly teach and model that math abilities are expandable and improvable.

Exam Redesign

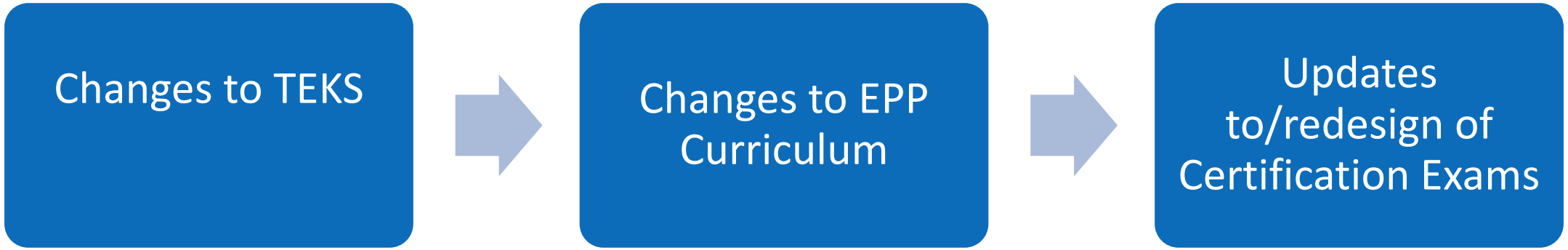


Core Subjects EC-6 and the Texas Test of Educator Proficiency (T-TEP) are being redesigned to align with updated standards.

Redesigned content-pedagogy exams include selected-response items, cluster items, and a constructed response item.

The T-TEP performance assessment will allow candidates to demonstrate proficiency in the revised standards.

Implications of SBOE Actions



Certification and Testing Rules and Resources

- **SBEC Rules Currently in Effect:** https://tea.texas.gov/about-tea/laws-and-rules/sbec-rules-tac/texas-administrative-code-title-19-part-7
  - **Chapter 228. Requirements for Educator Preparation Programs**
  - **Chapter 230. Professional Educator Preparation and Certification**
  - **Chapter 231. Requirements for Public School Personnel Assignments**
  - **Chapter 235. Classroom Teacher Certification Standards**
- **Educator testing information**

Continuing Professional Education (CPE) Overview

SBOE Mathematics Subcommittee
May 30, 2025

Texas Education Agency

Topics

- Purpose of Continuing Professional Education
- SBEC's Rules for Certificate Renewal and CPE
- General CPE Requirements
- Acceptable CPE Training/Activities
- Approved CPE Providers
- Online Certificate Renewal Process
- CPE Resources

Purpose of Continuing Professional Education

- The State Board for Educator Certification (SBEC) transitioned from issuance of lifetime provisional and professional certificates to issuance of standard certificates effective September 1, 1999, and subject to renewal every five years.
  - SBEC's philosophy for the change in certificate issuance and requirements for standard certificate renewal centered around the concept of educators being lifelong learners, having a growth mindset, and modeling continuous improvement for the education profession.
  - All holders of SBEC-issued standard certificates must renew every five years by completing required continuing professional education (CPE) hours and submitting an online certificate renewal application and fee.

SBEC's Rules for Certificate Renewal and CPE

- 19 TAC Chapter 232, General Certification Provisions, Subchapter A. Certificate Renewal and Continuing Professional Education Requirements
  - §232.1. General Provisions
  - §232.5. Renewal Dates for Certificates
  - §232.7. Requirements for Certificate Renewal
  - §232.11. Number and Content of Required Continuing Professional Education Hours
  - §232.15. Types of Acceptable Continuing Professional Education Activities
  - §232.16. Verification of Renewal Requirements
  - §232.17. Pre-Approved Continuing Professional Education Provider or Sponsor
  - §232.19. Approval of Private Companies, Private Entities, and Individuals as Continuing Professional Education Providers
  - §232.21. Provider Requirements

General CPE Requirements

Classroom Teachers

- 150 CPE hours

Other Than Classroom Teachers

- Superintendents, Principals, School Counselors, School Librarians, Educational Diagnosticians, and Reading Specialists
- 200 CPE hours

Acceptable CPE Trainings/Activities

Institutes, workshops, seminars, conferences,

In-service, staff development

- Undergraduate or graduate coursework, training programs
- Interactive distance learning, videoconferencing, online activities, conferences

Independent study – 30 hours classroom teachers; 40 hours other than classroom teachers

- Developing curriculum or CPE training materials; teaching or presenting a CPE activity – 15 hours classroom teachers; 20 hours other than classroom teachers
- Providing professional guidance as a mentor to another educator – 30 hours classroom teacher; 40 hours other than classroom teachers

Approved CPE Providers

- The following entities are pre-approved:
  - Texas public schools
  - Regional educational service centers
  - Accredited institutions of higher education
  - Professional education membership associations and non-profits
  - Accredited non-public Texas schools
  - Texas Education Agency
  - State Board for Educator Certification
- The following are not pre-approved and must submit applications for approval:
  - Private Companies
  - Private Entities
  - Individual

Online Certificate Renewal Process

- All standard certificates expire on the same date.
- Allows for CPE hours to count toward renewal of all multiple certificates
- One fee renews all standard certificates
  - $22 on-time renewal fee
  - $32 renewal fee within first 6 months of certificate expiration date
  - $42 renewal fee more than 6 months after certificate expiration date
- TEA sends online renewal notification reminder to the educator approximately 6 months prior to certificate expiration date via the email address on file in his or her certification account

CPE Resources

- TEA Website – Continuing Professional Education Information
- TEA Help Desk Ticket submission – Educator Certification and CPE
- Hardship certificate renewals
  - Educator driven – catastrophic illness, primary caregiver, and military service
  - District driven – process established for districts to recruit talented educators back into the classroom

- TEA Website - Continuing Education and Training Clearinghouse