

Reviewing ESSA State Plans

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What is the Opportunity?

The Every Student Succeeds Act (ESSA) is the education law that is replacing No Child Left Behind and restructuring how and where federal money for education is allocated. Currently, every state is working to develop their plan for spending ESSA funds. Every district, school, teacher, and student will be impacted by these state plans.

Now is the time for our community to do what we can to ensure that state plans adequately support teachers and the teaching of mathematics. You can take action by organizing a review team to analyze your state's plan and provide visible feedback to state leaders during the public comment period in July. This **ESSA Review Toolkit** is designed to help you plan, run, and share results from an effective ESSA review team meeting.

Thank you for engaging in this important work as a champion for mathematics education.

Timeline for Review

- > **July** – Plan ESSA Review Team Meetings
 - » **Three Weeks Out** – Hold leadership team planning call
 - » **Three Weeks Out** – Schedule and finalize logistics for review team meeting
 - » **Two Weeks Out** – Invite potential review team members
 - » **One Week Out** – Send reminder and pre-reading to review team members
- > **Late July** – Host meeting and submit public comments
- > **Late July / Early August** – Close of 30-day public comment period
- > **August** – 30-day governor review period
- > **September 18** – Final plans submitted to USDE



Building a Review Team

- Identify *champions* for math education in your area and invite them to be part of the leadership team for the review. These *champions* may also be willing to organize their own local reviews.
- On the leadership team planning call, identify additional potential review team members who have the interest and/or expertise to participate.
- Keep your review team small, but be open to involvement. We recommend identifying about 10 participants. If there is more interest, breakout groups can keep the conversations focused and ensure all participants have a voice in the process.
- Consider NCTM affiliate organization members, Math Teachers' Circle members, K–20 educators, instructional coaches, administrators, parents, business and industry leaders, and representatives from nonprofit and philanthropic organizations for the review team.

Building Influence

- Submit public comments through the process specified by your state's education agency.
- Increase the visibility of this work:
 - » **Posting on social media.** We suggest using the hashtags #ESSA and #MTBoS and mentioning @CCSSO, @success_STEM, @NCTM, @MathTeachCircle, and/or @StateMathLeaders, and also tweeting at your state's Chief State School Officer and Governor.
 - » **Writing a letter to the editor of local or state newspapers.** This letter should summarize the findings of your review. The 100Kin10 Every Student Succeeds with STEM hub has some nice [talking points](#) to help contextualize your work.
 - » **Telling us about your meeting.** Visit <http://nctm.org/essatoolkit>. This will help NCTM, the Math Teachers' Circle Network, and ASSM further amplify your work by incorporating it into our national-level communications.

Hosting a Meeting

- > **Meeting duration: 2–3 hours**
- > **Before the Meeting**
 - » Assign readers to review specific sections of your state's ESSA plan. Ask them to use the **Reading Guide** (ESSA Review Tool #2) and **Analysis Tool** (ESSA Review Tool #3) to focus their reading and comments.
- > **Sample Agenda (~3 hours)**
 - » Use or customize the provided **PowerPoint presentation** (ESSA Review Tool #4) to orient your reviewers to the work at the beginning of the meeting (**10–15 minutes**).
 - » For each ESSA section reviewed, ask reviewers to summarize their responses to each of the **Guiding Questions** in the **Analysis Tool** (**1–1.5 hours**).
- > Produce a succinct summary of comments that can be submitted to your state at the end of the meeting (**1 hour**).
- > Take a photo of your review team and share it on social media (**5 minutes**).
- > Make assignments for team members to continue building influence after the meeting (**5 minutes**).

Reading Guide Title II, Part A

Background

Title II, Part A of the Every Student Succeeds Act (ESSA) amends the Elementary and Secondary Education Act of 1965 (ESEA) and provides opportunities for State Education Agencies (SEAs) and Local Education Agencies (LEAs) to more strategically invest in the strengthening of the teaching profession. The United States Department of Education (USDE) outlines an educator career continuum (**Figure 1**) that prepares and supports educators (including teachers, principals, and other school leaders) “to meet the many challenging demands that they and their students face, particularly underserved students and students of color.”

Title II, Part A represents a significant investment, **exceeding \$2 billion** in the current funding year¹. As SEAs work to ensure this investment results in increased preparedness and support, it is critical to investigate the activities SEAs are indicating they will enact (read more about these allowable activities in ESSA Toolkit #3). Of particular interest to this

Figure 1: USDE’s Educator Career Continuum



ESSA Title II, Part A

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(<http://bit.ly/ESSA-Full>)

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1. National Education Association (NEA). 2017. *Every Student Succeeds Act (ESSA) Programs under the Consolidated Appropriations Act, 2017, Compared to Authorized Funding*. Retrieved at <http://www.nea.org/home/19900.htm>.

review of Title II, Part A, is the inclusion of powerful professional learning experiences that leverage evidence-based practices and create a greater likelihood for systemic and sustained improvement.

A brief outline of Title II, Part A is provided on page 1 of this tool, and an excerpt is provided below from the informative non-regulatory guidance provided by the USDE, “Building Systems of Support for Excellent Teaching and Leading” (<http://bit.ly/ESSA-2A-USDE>). Other resources are also provided on the right to help members of the review team develop a more complete understanding of Title II, Part A.

Additional Resources

1. **National Board for Professional Teaching Standards** (NBPTS): Using Title II of ESSA to Support Accomplished Teaching in States (<http://bit.ly/ESSA-2A-NBPTS>)
2. **Association for Supervision and Curriculum Development** (ASCD): ESSA Title II and Support for Educators Frequently asked Questions (<http://bit.ly/ESSA-2A-ASCD>)
3. **United States Department of Education** (USDE): Building Systems of Support for Excellent Teaching and Leading (<http://bit.ly/ESSA-2A-USDE>)
4. **Chiefs for Change** (CFC): Preparing, Training, and Recruiting High-Quality Teachers, Principals, and Other School Leaders (<http://bit.ly/ESSA-2A-CFC>)
5. **100Kin10**: Grand Challenges White Papers features summaries of current challenges and existing research for a number of issues present in Title II, Part A (<http://bit.ly/ESSA-2A-100Kin10>)

USDE’s Introduction to Title II, Part A

The following excerpt comes from the USDE’s Non-Regulatory Guidance for Title II, Part A: *Building Systems of Support for Excellent Teaching and Leading* found at <http://bit.ly/ESSA-2A-USDE>.

Great teachers, principals, and other school leaders (collectively, educators) matter enormously to the learning and the lives of children. Yet, we have struggled as a nation to meaningfully support educators so they can help their students be prepared to succeed in college and careers. The Title II, Part A program is designed, among other things, to provide students from low-income families and minority students with greater access to effective educators. It is critical that State educational agencies (SEAs) and local educational agencies (LEAs) consider how to best use Title II, Part A funds, among other funding sources, to ensure equity of educational opportunity. New provisions in Title II, Part A of the Elementary and Secondary Education Act of 1965 (ESEA), as amended by the Every Student Succeeds Act (ESSA), offer new opportunities to SEAs and LEAs to more effectively attract, select, place, support, and retain excellent educators; revisit traditional uses of these funds; and consider new and additional uses of Title II, Part A funds that are innovative and evidence-based.

*Strategies outlined in this document, and examples of this work in action, can often be supported by other sources of funding as well, and should not be thought of as tools, policies or programs only made possible through the use of Title II, Part A funds. States and districts are encouraged to explore sources of funding available at the State and local level, as well as other formula and competitive grant awards from the U.S. Department of Education and other sources. This initial Title II, Part A guidance is not exhaustive; rather it highlights some of the new and important ways SEAs and LEAs can use their Title II, Part A funds **more strategically** and for **greater impact**.*

Analysis Tool

Section D.1 Title II, Part A

Introduction to Section D.1

In Section D.1 of the state plans, states describe how they will use Title II, Part A funds for state-level activities described in Section 2101(c) of ESSA, including how the activities are expected to improve student achievement.

View an annotated excerpt of Title II-A describing the state application requirements at <http://bit.ly/ESSA-2101d>.

The goal of Title II, Part A is to support effective instruction by way of 21 allowable state activities (defined in detail in Section 2101(c)), which are listed on the following page. These activities may be implemented in conjunction with a state agency of higher education (if such agencies are separate) and/or carried out through a grant or contract with a for-profit or nonprofit entity, including an institution of higher education. State plans rarely make explicit mention of which activities they are incorporating and often utilize a combination of activities to construct a more holistic, strategic approach.

View an annotated excerpt of Title II-A focusing on section 2101(c) at <http://bit.ly/ESSA-2101c>.

Focus on Professional Development

One of the highest priorities for mathematics education in Title II, Part A is to *support teacher professional development that focuses on active learning and the transition to new college- and career-readiness standards*. Mathematics education leaders from 13 states completed our ESSA Promising Features Survey to conduct a preliminary review of their state plans. Ten of these leaders reviewed Title II-A, and while a number of promising features were identified, **only two** found explicit mentions of mathematics in their state plans. We believe more can be done by states to make professional development of mathematics educators a clear and essential component of their state plan.

The Guiding Questions are intended to help you evaluate the extent to which your state's Title II-A plan supports teacher professional development that is likely to result in lasting and sustainable improvements in mathematics education. The questions draw on the themes and imperatives from *It's TIME-Themes and Imperatives for Mathematics Education*, a mathematics education leadership framework developed by the National Council of Supervisors of Mathematics (NCSM).

Overarching Guiding Questions

To what extent does the plan...

1. Propose activities that are likely to result in equitable outcomes for each and every student?
2. Reflect a systemic approach to addressing local, district, and state needs?
3. Include mechanisms for teachers to collaboratively experience and develop leadership and to grow professionally?

Professional Development Guiding Questions



To what extent does the plan...

1. Prioritize professional development that is sustained, intensive, and focused on increasing knowledge of mathematics content, pedagogy, and curriculum?
2. Position evidence of student thinking and learning as the driver for collaborative planning and professional learning experiences?
3. Include sufficient time and mechanisms for teachers to participate in collaborative professional learning opportunities that will build their capacity to implement effective teaching practices that increase student achievement?

Components of Analysis Tool

Of the 21 allowable activities, seven (marked with an asterisk in the table) are directly applicable to professional development for teachers, coaches, mentors, principals, and other school leaders.

For each of these allowable activities, tools #5-#11 provide some **background** along with a small set of **Look For's** that we hope will shape comments each Review Team submits. Additionally, we have summarized some of the **promising features** found during our preliminary review of 13 state plans. For those seeking additional details, excerpts from state plans that describe these promising features are available in tool #13.

Title II-A Allowable State Activities	
	Activities in which mathematics education is explicitly mentioned.
	Additional opportunities to improve student achievement in mathematics.
i. Preparation and certification standards	
*ii. Evidence-based support and evaluation systems	
*iii. Equitable access to effective teachers	
iv. Alternative routes to certification in shortage areas, including in STEM fields	
*v. Opportunities and support for teacher leaders	
vi. Administration and monitoring programs	
vii. Multiple career pathways and leadership opportunities	
*viii. PD for principals on meeting challenging academic standards	
*ix. Integrating technology into curricula and instruction	
*x. Training, technical assistance, and capacity-building for LEAs	
xi. Teacher and school leader preparation programs, including residencies	
xii. Teacher and school leader preparation academies	
xiii. School library programs	
xiv. Early college or dual/concurrent enrollment programs	
xv. Preventing and recognizing sexual abuse	
xvi. Supporting the transition to elementary school	
*xvii. PD promoting high-quality instruction and leadership, including in STEM fields	
xviii. Integrating career and technical education content into academic instruction	
xix. Creating consortia of states with reciprocal certification/ licensing requirements	
xx. Training on protecting individual student privacy (FERPA)	
xxi. Supporting other evidence-based activities that meet the purpose of this title	

* Directly applicable to PD for teachers, coaches, mentors, principals, and other school leaders.

2101(c)(4)(B)(ii): Evidence-based support and evaluation systems

Background

Research shows that teaching can be improved, and those improvements can result in better student outcomes. As states seek to improve the quality of their evaluation systems with the hope of improving instruction, they have an opportunity to invest in responsive, targeted, and sustainable evaluation strategies that provide clear instructional guidance and timely feedback so that teachers can work steadily to improve their craft. According to a series of white papers from 100Kin10, effective evaluation systems should be tied to professional development and support, including opportunities to develop a culture of teamwork and to benefit from coaching and mentoring.

We believe that observation tools offer a strategic focal point for SEAs who are working to improve instruction, and we support the use of protocols that leverage the effective teaching practices identified in NCTM's *Principles to Actions: Ensuring Mathematical Success for All* (2014). The following, some of which are described by the Gates Foundation's Measures of Effective Teaching (MET) Project, are just a few of the many tools that states and districts might consider utilizing:

- **Teaching for Robust Understanding** (TRU; Schoenfeld and colleagues, UC Berkeley)
- **Using the Formative Assessment Rubrics, Reflection and Observation Tools to Support Professional Reflection on Practice** (Wylie and Lyon, FAST-SCASS)
- **Framework for Teaching** (FFT; Danielson, Danielson Group and the Mathematics Clusters)
- **Classroom Assessment Scoring System** (CLASS; Pianta, La Paro, and Hamre, University of Virginia)
- **Mathematical Quality of Instruction** (MQI; Hill and colleagues, Harvard University)
- **UTeach Observation Protocol** (UTOP; Marder and Walkington, The University of Texas at Austin)

Look Fors

State plans should address evaluation and support systems designed to improve mathematics educator and leader effectiveness, thereby increasing student achievement, by describing ways in which SEAs will—

1. guide the selection of observation tools and rubrics that are shown to be valid and reliable;
2. develop clear linkages between the instruments and effective mathematics teaching practices and/or the five dimensions of powerful classrooms in order to promote coherence across LEAs;
3. regularly sample teacher observation scores to verify their relationship with student achievement scores;
4. ensure that funds are, at least in part, serving teachers whose observations indicate an opportunity for growth and a need for support;
5. direct and support LEAs to create opportunities for teacher leaders (other than principals) to perform observations and provide meaningful and timely feedback (see Allowable Activity v); and
6. provide support structures to ensure the accurate and fair application of observation instruments.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **Connecticut** will support ongoing statewide professional development focused on using observational tools to support educator growth.
- **Delaware** will provide LEAs with resources, including an Excellent Educator Dashboard and an Educator Equity LEA Planning Toolkit.
- **Massachusetts** proposes developing resources that, together with professional learning networks, will support teachers in implementing state standards.
- **Maryland** will support personalized learning for teachers, principals, and principal supervisors.
- **Oklahoma** will emphasize teacher professional growth and ownership as part of the state's evaluation system.

2101(c)(4)(B)(iii): Equitable access to effective teachers

Background

Equitable access to effective teachers is a multifaceted issue. In terms of professional development, we believe that equitable access to effective teachers is predicated on a systemic emphasis on mathematics education that supports the learning of all students at the highest possible level. In a joint position paper focused on social justice in mathematics, TODOS: Mathematics for All and the National Council of Supervisors of Mathematics write that “studies continue to show that equitable practices combined with high expectations, high-quality content, and strong family/community relationships have a positive effect on mathematics learning and achievement” (p. 3).

According to a study by the Learning Policy Institute, teacher shortages and high teacher attrition in STEM fields continue to disproportionately affect minority and low-income students. High-quality professional development can play a key role in achieving equitable access to effective teachers, through increasing teacher retention and improving educator effectiveness.

Noting that the development of a strong mathematical identity is crucial for success in mathematics, the TODOS/NCSM position paper recommends that all teachers have access to professional development opportunities with a dual focus on mathematics content and social justice. To maximally enhance effective teaching, these professional development opportunities support implementation of the eight Mathematics Teaching Practices articulated in the NCTM’s landmark publication Principles to Actions: Ensuring Mathematical Success for All (2014). Providing opportunities for teacher leadership is another key strategy that states can use both to retain highly effective teachers and to support their peers in striving for excellence (also see Allowable Activity v).

Look Fors

Part of how states approach equitable access to effective educators in mathematics includes professional development designed to improve educator effectiveness. To achieve this goal, SEAs will—

1. coordinate local and state professional learning opportunities across the continuum of recruitment, preparation, induction, evaluation, and support, so that teachers have access to focused learning experiences that increase their sophistication around mathematics content and social justice;
2. guide the content of professional learning activities to leverage the eight Mathematics Teaching Practices (NCTM, 2014);
3. support LEAs’ use of practical measures that continuously strengthen the use of these effective teaching practices in every classroom;
4. assess equitable access through a combination of existing metrics and strategic sampling, including classroom observations; and
5. and provide opportunities to share promising variations of evidence-based practices that are responsive to local contexts.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **Delaware’s** approach to equity includes providing resources for comprehensive induction and mentoring programs that will improve development and retention of effective teachers.
- **New York** will engage in a facilitated root cause analysis with LEAs focused on equity, through annual district- and state-level equity reports that will inform the use of Title II-A funds to close equity gaps.
- **Wisconsin’s** professional learning opportunities will focus on both standards and equity, through combining facilitation from subject area experts with supplemental, cross-subject resources shared statewide.

2101(c)(4)(B)(v): Opportunities and Support for Teacher Leaders

Background

Recruiting and retaining highly effective teachers is vital for developing a culture where great teaching is rewarded and valued. The New Teacher Project notes that a key way to retain highly effective teachers—“irreplaceables”—is to provide them with meaningful opportunities for professional growth and leadership. According to a series of white papers from 100Kin10, teacher leadership contributes to a collaborative work environment in which teacher voices are privileged and teachers help drive decisions about professional development, curriculum, and instructional resources.

In mathematics, a number of key groups have advocated for teacher leadership as both a career ladder for effective teachers and a resource for their peers. For example, a joint position paper from the National Council of Supervisors of Mathematics, the NCTM, and the Association of Mathematics Teacher Educators advocates for certified elementary mathematics specialists (EMS) in every K-6 school. EMS leaders have also been recommended by the National Mathematics Advisory Panel as a practical alternative to increasing all elementary teachers’ mathematics content knowledge.

Mathematics teacher leaders should have opportunities to develop specialized content, pedagogical, and leadership skills for working with both students and adults, as well as to progress along a well-defined career ladder. Such a career ladder might progress from working with small groups of students around particular mathematics needs (e.g., struggling learners and/or gifted learners), to teaching mathematics in elementary schools, to coaching other teachers within a school or district, and finally to having responsibility for decisions about mathematics curriculum, instruction, and assessment systems at the district or state level.

Look Fors

State plans should express support for the widespread use of mathematics teacher leaders to increase retention of highly effective teachers and improve program effectiveness. Plans might describe ways in which SEAs will—

1. promote the use of school and district-based mathematics specialists who have significant opportunities to collaborate with their peers;
2. encourage the development of advanced certification opportunities through higher education and regional resource centers;
3. develop a set of job descriptions for a career ladder based on increasing responsibilities, educational expertise, and experience;
4. develop models for district-level funding strategies to support these critical new roles;
5. develop a leadership collaborative network that connects mathematics specialist leaders across the state; and
6. create policies and mechanisms that encourage collaboration between leaders (school, district, and regional) and university faculty.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **New York** has developed a Career Ladder Pathways Framework that supports LEAs in rewarding effective educators with meaningful opportunities for career advancement, including serving in mentorship roles.
- **Oklahoma** will implement a teacher-leader career ladder in order to elevate teachers who take on responsibilities of mentor, model, and lead roles while receiving additional compensation.
- **Utah** will create a pilot grant opportunity for LEAs to develop a teacher leader program.

2101(c)(4)(B)(viii): PD for principals on meeting challenging academic standards

Background

School leadership matters. Powerful evidence links improved student outcomes and higher teacher satisfaction with high quality principal leadership (Branch, Hunshek, & Rivkin, 2012; Bryk, Sebring, Allensworth, Luppenescu, & Easton, 2010; Hallinger & Heck, 1998; Hattie 2015; Robinson, Lloyd, & Rowe, 2008). Without question, the role of the principal as manager has shifted to include the role of instructional leader, a leader who is focused on students and creating an environment conducive to equitable access to high quality teaching and learning for all (Robinson, Lloyd, & Rowe, 2008). However, many principals have had little opportunity to learn, develop, and refine skills necessary to assume the role of instructional leader.

While high quality principal leadership has implications across all academic areas it is particularly critical in the area of mathematics. Beliefs about [mathematics] teaching, learning, and leadership directly influence decisions regarding school priorities, teacher professional development, and teacher leadership potential. Mathematics teaching is a complex interdisciplinary enterprise which demands teachers have knowledge of teaching and learning, knowledge of mathematics (CBMS 2012; Ball, Thames, & Phelps, 2008; P2A 2014), and a clear understanding of the developmental nature of how students learn mathematics and progress across grades (Daro, Mosher, & Corcoran, 2011; Sztjan, Confrey, Wilson, & Edington, 2012; P2A 2014). It is imperative that principals have sustained, high quality opportunities to learn, develop, and refine skills necessary to meet the demands of instructional leader.

Look Fors

State plans should seek to reimagine the design and improve the quality of professional support for

principals. Plans address the unique opportunity to draw from the growing interest in research in preparing and supporting principals as instructional leaders by describing ways in which SEAs will—

1. establish principal cohorts where principals are given support to learn, develop, and refine skills that are centered around attributes of instructional leadership;
2. initiate a process for continually refining the work of supporting principals as instructional leaders and incorporating current subject-specific research on best practices;
3. promote partnerships w/ IHEs and build capacity for Research Practice Partnerships in faculty who are deeply immersed in the research and able to translate research for principal audience;
4. develop models for specialized and sustained professional development in research informed teaching practices for mathematics including background information, communication tools, and practice; and
5. establish norms for non-evaluative professional conversations.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **Maryland** will provide professional learning and a support network to principals to build their capacity to become strong instructional leaders and assist them in the development and support of teacher leaders.
- **Utah** will continue to offer principals professional learning opportunities focused on effective, content-specific instructional practices, for example through STEM Academies focused on engaging K–8 administrators in understanding best instructional practices associated with mathematics, science, engineering, and technology.

2101(c)(4)(B)(ix): Integrating technology into curricula and instruction

Background

Integrating technology into curricula and instruction offers the tantalizing promise of increasing personalized instruction and student engagement. When implemented with purpose and meaning, technology can indeed support and enhance effective teaching and learning practices for mathematics. However viewing digital platforms as equivalent to the real classroom teacher is inaccurate and detracts from student opportunities to learn.

Many technological tools, including those often used in blended learning settings, repackaging analog instructional practices without communicating inherent limitations. For example, the limited assessment mechanisms of many technologies result in structured data that may lead the teacher to ascribe mastery too soon or to assume lack of understanding when students may simply not have access to the specific representation allowed by the technology. In contrast, effective teachers in non-digital classrooms assess student understanding through rich, socially negotiated student productions, such as discourse, doodles, and verbal arguments.

To integrate technology in a more purposeful way, we must first recognize how technology is utilized in the student's everyday experience: It serves as a tool for creating, sharing socially, and learning from peer feedback. We believe that to whatever extent possible, the technology used in the school day should leverage these uses.

Regarding blended learning specifically, we believe that mathematical sense-making is social and is supported in meaningful ways by the teacher who orchestrates productive discourse, poses purposeful questions, and utilizes various representations of student thinking that arise as students engage in rich, high-cognitive demand tasks. In whatever manner technology is utilized, we believe it should enhance, rather than interfere with or detract from, effective non-digital classrooms. In essence: "do no harm."

Look Fors

State plans should ensure that technology and blended learning models enhance effective non-digital learning environments by describing how SEAs will—

1. develop an analytical tool to support the evaluation of technology and digital resources;
2. develop guidance tools and documentation that is both accessible to teachers and research-based;
3. communicate the expectation for the role of the classroom educator beyond mere accountancy in a blended environment;
4. ensure that all professional learning experiences (digital and non-digital) center around effective teaching practices; and
5. support school leaders to make informed decisions around the use of technology to enhance effective non-digital mathematics classrooms.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- Among **Utah's** potential professional development offerings for principals is a Leadership in Blended and Digital Learning Program, which builds experience and expertise in digital and personalized learning, including evaluation and instructional best practices related to 21st century classrooms.
- **Wisconsin** will provide regional and statewide training opportunities focused on moving traditional classroom experiences to a blended environment, and will also provide preparation, technical assistance, and capacity building to LEAs regarding technology-enabled learning environments and data use.

2101(c)(4)(B)(x): Training, technical assistance, and capacity-building for LEAs

Background

“Business as usual” approaches to teacher training and support are likely to be insufficient. In fact, even well-intended, well-implemented math professional development programs have fallen short in improving student outcomes (e.g., see Garet et al., 2016; Gersten et al., 2014). We urge states to draw from the best available research to help LEAs design and implement robust training and support programs for math educators.

The following principles seem essential to any training or support program that seeks to build local capacity:

- **Push for horizontal and vertical coherence.** To the extent possible, model the importance of well-aligned and mutually reinforcing strategies for setting expectations, building teacher capacity, diagnosing student progress, and intervening with struggling students throughout their K–12 trajectory.
- **Draw from expertise inside and outside the system.** Schools and districts can (and do) learn a lot from each other as well as from external experts, including from local universities. Rather than continuing to “reinvent the wheel,” encourage LEAs to collaborate with others and model this principle by including different kinds of experts in state training teams.
- **Model continuous improvement.** States should encourage LEAs to set measurable and attainable goals for determining whether the program is being implemented as intended and resulting in desired changes.

Below are two examples of continuous improvement models that involve collaboration among multiple stakeholders (practitioners, policymakers, researchers) and may be useful for states to consider:

- [Design-Based Implementation Research](#)
- [Networked Improvement Communities](#)

Look Fors

States should build the capacity of LEAs to support effective instruction for all students through programs that are robust, coherent, collaborative, and continuously refined as they are implemented. Plans address capacity-building efforts by describing ways in which SEAs will—

1. encourage collaboration across schools and districts to better meet identified state needs;
2. leverage partnerships with institutions of higher education and nonprofit and/or for-profit entities to increase SEA and LEA capacity to support and sustain teacher professional learning initiatives;
3. model continuous improvement by providing support for LEAs to track ongoing progress and make adjustments based on data they are collecting and analyzing throughout the life of the program; and
4. continuously return to the evidence and wisdom of the mathematics community to support the design and implementation of robust training and support programs for math educators.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **Connecticut** will provide technical assistance, resources, and training to LEAs as they develop collaborative district professional learning systems using tools developed by the state, with a focus on collaborative learning among educators in formats that are conducive to adult learning.
- **Maryland** will provide opportunities for collaboration across LEAs, including specific instructions, guidance, models, and templates to guide this collaboration.
- **New York** will convene labs for interested district teams that focus on developing data-driven strategies to address gaps in equitable access and designing comprehensive systems of educator development and support.

2101(c)(4)(B)(xvii): PD promoting high-quality instruction and leadership, including in STEM fields

Background

It is our belief that all state plans should describe PD promoting high-quality instruction and leadership, and that mathematics should be explicitly referenced when possible. According to a series of white papers from 100Kin10, targeted PD opportunities tailored to the needs of mathematics teachers should be responsive to teacher input and the learning trajectories they are on. Comprehensive systems of support cannot be approached as remediation, but should be job-embedded and engage the characteristics shown to be effective, including (i) a focus on specific content; (ii) opportunities for active learning; (iii) coherence with other policy and practice; (iv) collective participation of teachers from the same school, grade, or subject; and (v) sufficient duration. In STEM PD in particular, closely tying the activities to practice, such as using student work, teaching videos, or other artifacts from classrooms, is also considered an important characteristic of effective PD.

According to the Conference Board of the Mathematical Sciences (CBMS) Mathematical Education of Teachers II report, PD “should develop the habits of mind of a mathematical thinker and problem-solver, such as reasoning and explaining, modeling, seeing structure, and generalizing” (p. 19). Forms of PD meeting these criteria that are specifically recommended by the CBMS report include immersion experiences (e.g., one- or two-week intensive courses or research experiences), teacher-driven professional experiences (e.g., lesson study), and teacher-mathematician partnerships (e.g., Math Teachers’ Circles).

As states work to promote high-quality instruction and leadership, the It’s TIME-Themes and Imperatives for Mathematics Education framework from the National Council of Supervisors of Mathematics (NCSM) can provide additional guidance for developing the opportunities for professional learning, collaborative structures, and coaching that are imperative to fostering systemic change that will lead to improved student achievement.

Look Fors

States promote high-quality professional development opportunities in mathematics by describing ways in which they will—

1. ensure PD is sustained, intensive, and focused on increasing teachers’ knowledge of mathematics content, pedagogy, and curriculum;
2. embed PD within collaborative structures designed to enhance professional learning, foster community, strengthen retention, and build greater capacity for high-quality instruction and leadership;
3. promote partnerships with institutions of higher education and nonprofit or for-profit organizations that can enhance SEA and LEA capacity to implement and sustain high-quality programs; and
4. gather input from educators in order to create responsive, strategic PD opportunities that are job-embedded and centered around their unique needs and challenges.

States with Promising Features

The following states were identified as a result of the Promising Features Survey in which 13 state plans were reviewed by mathematics leaders across the country. Related text from the full state plans mentioned below can be found in Tool #12 at <http://nctm.org/essatoolkit>.

- **Massachusetts** is proposing regional networks and statewide professional learning opportunities for middle grade teachers that focus on deepening teachers’ understanding of mathematical rigor.
- **New York** is proposing a framework for differentiated professional development that will include the development of statewide supports available across the state.
- **Wisconsin** will provide PD focused both on subject area standards and equity.

Note Taking Guide

In order to target aspects of state plans that are likely to support effective instruction, this tool is designed to help the reviewer focus on four key components of this ESSA Review Toolkit. We recommend reviewing state plans through the lens of the Allowable Activities in order to draw your attention to what is present, promising, or absent. Use this space to capture notes that can be utilized during your State Plan Review Meeting.

Overarching Guiding Questions

To what extent does the plan address the themes of social justice, systemic thoughts & actions, and leadership? See *ESSA Review Tool #3*.

Professional Development Guiding Questions

To what extent does the plan address the imperatives of knowledge, instruction & assessment, and systemic change? See *ESSA Review Tool #3*.

Look Fors

To what extent does the plan commit to engaging in activities outlined in the State Activity “Look For” statements? What additional promising features are present? See *ESSA Review Tools #5–#11*.

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2101(c)(4)(B)(ii): Evidence-based support and evaluation systems

Connecticut

Through statewide activities, provide ongoing professional development in the value of observational tools to help educators grow and develop by providing a continuum of practice and exemplars. Tools include, but are not limited to:

- CCT Rubric for Effective Teaching 2014
- CCT Rubric for Effective Service Delivery 2015
- CT Leader Evaluation and Support Rubric 2015
- Connecticut Core Standards Classroom "Look Fors"

Delaware

Offer resources and tools to LEAs, including district and school level data, Excellent Educator Dashboard (EED) and Educator Equity LEA Planning Toolkit.

Massachusetts

The Department will support implementation of revised English Language Arts/Literacy and Mathematics standards as described in the Massachusetts Curriculum Frameworks. This strategy will include resources such as "Quick Reference Guides" detailing more specific aspects of the Frameworks, links to videos of teaching of the standards, available sample assessment items, and in-person professional learning experiences through professional learning networks across the state and in-person convening of educators.

Maryland

The State will develop a plan for personalized professional learning for teachers, principals, and principal supervisors that is aligned to student data and needs. The professional learning shall: support LEAs in identifying all educator professional learning needs regarding student achievement; encourage innovative, evidence-based instructional strategies; support LEAs in the development of personalized professional growth plans for all educators; and, research and gather information on methods to evaluate the effectiveness of professional learning initiatives.

Oklahoma

Implement a Professional Learning Focus (PL Focus), emphasizing professional growth and ownership, as part of the state's evaluation system.

2101(c)(4)(B)(ii): Equitable access to effective teachers

Connecticut

The CSDE will use Title II, Part A funds for state level strategies to ensure that students are supported by great teachers and leaders. If we are to increase student achievement consistent with challenging state academic standards, schools and districts must recruit, prepare, induct, evaluate and support, and advance a strong workforce composed of effective educators who represent the racial, ethnic, and linguistic diversity of the state's student population. The mission of the CSDE's Talent Office is to develop and deploy talent management and human capital development strategies to districts and schools statewide so that each and every student is ensured

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equitable access to effective teachers and school/district leaders in order to be prepared for success in college, career, and life.

Delaware

The DDOE uses a combination of Title II, Part A program and state funds to improve educator effectiveness and equity by: Supporting LEA efforts to recruit, develop, and retain the best educators; Providing resources for comprehensive induction and mentoring programs; and Making robust and actionable educator effectiveness and preparation program effectiveness data available to LEAs.

New York

The Department believes that the best way to ensure equitable access to great teachers and school leaders is to assist LEAs in developing comprehensive systems of educator support and development that are focused on the following key components: 1) preparation; 2) recruitment and hiring; 3) professional development and growth; 4) retention of effective educators; and 5) extending the reach of the most effective educators to the most high-need students, which we call the Educator Effectiveness Framework.

To assist LEAs in the development of comprehensive systems aligned to the Framework, we propose to engage in a facilitated root cause analysis with LEAs that is centered on our equity analytics. In each school year, the Department will produce a State-level equity report and district-level equity reports. In addition to traditional measures of educator equity such as teacher qualifications and effectiveness data, the Department will also include analytics that research shows are important considerations for equity such as teacher and principal turnover, tenure status, and demographics. We will use these reports as a starting point to help LEAs determine where there may be gaps in equitable access to effective, qualified, and experienced educators between different subgroups of students as well as where they may be gaps in access to culturally diverse educators. As a next step, the Department will create tools and other resources to assist LEAs in conducting needs/gap and root cause analysis focused on the elements of the Framework, in order to determine which aspects of their talent management systems are most in need of improvement.

Further, Department staff will begin collecting information on the specific ways in which LEAs are using their Title II, Part A allocations and review Continuing Teacher and Leader Education (CTLE) plans to ensure alignment and to determine whether those activities are designed to close equity gaps. In this way, the equity work will be seen as having a natural funding stream to help LEAs tackle their specific areas of need.

Utah

The information, data, action plan and root-cause analysis used to develop Utah's Equity Plan will guide the USBE's work to support equitable access to effective teachers. ... Another strategy is to increase equitable distribution of excellent teachers by supporting struggling teachers. This will be achieved through specifically designed professional learning to build knowledge and skills to better support students with diverse needs.

Wisconsin

Wisconsin is committed to ensuring every child has an equitable access to a high quality education. One aspect of this is a commitment by the state and school districts to professional development focused on addressing

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achievement gaps and equity in the classroom. Wisconsin will provide opportunities to all educators to participate in professional learning focused on subject area standards and equity. Supplemental resources across subject areas will be shared statewide with support from subject area experts for facilitation, and used to improve student achievement. There will be collaboration supports such as mentoring and professional learning communities. Wisconsin will use an equity lens to focus on a well-rounded education experience for all students, including Wisconsin's definition of college and career readiness, highlighting skills, habits of mind, and knowledge needed to be successful.

2101(c)(4)(B)(iii): Opportunities and support for teacher leaders

New York

Thus, the Department will also work to provide LEAs with tools and resources, aligned to best practice, that will allow them to recruit, select, develop, and reward educators who serve in mentorship roles. Consistent with the Department's Career Ladder Pathways Framework, the Department will encourage districts and BOCES to leverage teacher and principal leaders to serve as mentors.

In addition to providing support to educators throughout their careers, research suggests and the Department believes that it is also important to ensure that educators have a career trajectory and that LEAs take explicit actions to reward their most effective educators through the creation of career ladder pathways. ... A system for career ladder pathways should focus on a progression of leadership roles that provide high-performing educators with meaningful opportunities for career advancement, ultimately aiding in the attraction, development, and retention of great educators who can significantly improve student outcomes. As LEAs consider educator career ladder pathways and leadership roles, it is important for them to develop strong systems that emphasize accountability and professional development, and that are sustainable over time.

Oklahoma

Ensure implementation of the teacher-leader career ladder, established in state law to elevate teachers who take on responsibilities of mentor, model and lead roles while receiving additional compensation.

Utah

Utah will use Title II, Part A funds to create a pilot grant opportunity for LEAs to develop a teacher leader program. Grant projects will be required to include a description of strategic plans to:

- demonstrate commitment of the LEA to build leadership capacity of teachers;
- Provide professional learning for principals for ways to identify, work with, and provide transparency with school staff to understand teacher leader roles;
- design job-embedded professional learning;
- craft inventive opportunities for teacher leaders to make contributions for the professional that do not require leaving the classroom full time;
- create opportunities for collaboration among teacher leaders;
- propose innovative funding strategies for sustainability beyond the grant;
- establish a program evaluation process that includes impact on school culture, teachers' continuous growth, and student learning; and
- develop a communication plan to publicize the LEA's teacher leader program, process, and outcomes.

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USBE will bring together a study group to become familiar with the latest research; discuss the constructive influences a teacher leader can have on both peers and students; and begin to develop, in part, the pilot guidelines, format, application, communication plan, determine expected outcomes, monitoring, etc.

2101(c)(4)(B)(viii): PD for principals on meeting challenging academic standards

Maryland

Principal supervisors, principals, assistant principal, aspiring principals, and other school leaders must be skilled in providing and recognizing the implementation of evidence-based instructional strategies aligned to student needs. The State shall provide support and targeted professional learning to principal supervisors, principals, assistant principals, aspiring principals, and other school leaders. The professional learning will:

- build the capacity for principals to become strong instructional leaders;
- provide a system of support through a principal and assistant principal network;
- allow new principals to be effective on the first day of their assignment;
- provide for continuous professional growth; and,
- assist principals in the development and support of teacher leaders.

Utah

Over the course of the past few years, several opportunities have been provided to central office leaders and school-level administrators to support professional learning. These opportunities have been designed to improve student outcomes through evidence-based practices, strategies, and organizational systems. These opportunities have offered administrators content specific instructional practices to support educators in providing effective instruction. Some notable options include:

- STEM Academy: engage K-8 administrators in understanding best instructional practices associated with mathematics, science, engineering, and technology.
- Leadership in Blended and Digital Learning Program: build experience and expertise in digital and personalized learning, including evaluation and instructional best practices related to 21st century classrooms.

2101(c)(4)(B)(ix): Integrating technology into curricula and instruction

Utah

Leadership in Blended and Digital Learning Program: build experience and expertise in digital and personalized learning, including evaluation and instructional best practices related to 21st-century classrooms.

Wisconsin

provide regional and statewide training opportunities for district staff to understand the leadership, behaviors, and strategies needed to move traditional classroom experiences to a blended environment using tools and resources consistent with today's needs and expectations; ... provide preparation, technical assistance, and capacity building to LEAs in creating capacity for technology-enabled learning environment and data use;

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2101(c)(4)(B)(x): Training, technical assistance, and capacity-building for LEAs

Connecticut

Provide technical assistance, resources, and training to LEAs as they develop collaborative district professional learning systems using tools developed by the CSDE, with a focus on collaborative learning among educator in formats that are conducive to adult learning, thereby increasing the probability that new learning will be applied and practiced in the classroom.

Maryland

The State will provide opportunities for collaboration across LEAs, specific instructions, guidance, models, and templates. The LEA professional learning programs shall include:

- a needs assessment;
- student data;
- strategies for improvement based upon evidence, needs, and data;
- an implementation plan;
- educator growth plans;
- resources to support implementation; and,
- reflection and evaluation of strategies.

New York

The Department will work with higher education teacher and school leader preparation programs to provide appropriate and ongoing support to LEAs in curriculum development and the expansion of instruction and professional development.

For those LEAs that want to take a deeper look at their equity data and develop strategies centered on the various components of the framework to address gaps in equitable access, the Department will host a series of labs or convenings where district teams can come together with the assistance of Department staff and other technical assistance providers to better understand their data and how they can be used to drive the development of comprehensive systems of educator development and support. This could include strengthening existing mentoring/induction programs, providing specific professional development in targeted areas of need, working with principals to determine strategic staff assignments/teacher teams and creating collaborative environments for professional learning and engagement in decision-making, implementing and refining career ladders that leverage the expertise of teacher and principal leaders, etc.

2101(c)(4)(B)(xvii): PD promoting high-quality instruction and leadership, including in STEM fields

Massachusetts

As with the Department's attention to early literacy and its relationship to rollout of a revised ELA/Literacy Curriculum Framework, our efforts to improve instruction in middle grades mathematics will be grounded in a set of comprehensive supports to districts designed to help educators access and unpack the revised learning standards in the Mathematics Curriculum Framework to ensure students meet these standards.

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We have preliminarily identified as a focus deepening educators' understanding of mathematical rigor, as discussed in the Massachusetts Curriculum Framework as a balanced approach between procedural, conceptual, and applied learning/tasks and supporting educators to represent this balance in lesson and unit design. Specific to mathematics instruction in the middle grades, we intend to facilitate professional learning opportunities (e.g., regional networks, statewide professional development offerings) on how to support students to reason abstractly and quantitatively and make use of structure (two of the eight Standards for Mathematical Purpose [sic] included in the Mathematics Curriculum Framework), skills that we believe will help students develop the balance between procedure, concept, and application they will need to meaningfully engage in advanced mathematics coursework in high school and beyond. Further, we anticipate supporting educators to understand the vertical progression of the standards from the early grades through the middle grades so educators understand the progression of mathematical concepts in the standards and how to prepare students for what they will need to know and be able to do in the next grade.

New York

The importance of taking a systemic approach to mentorship, induction, and other support for early career educators cannot be understated. However, the Department also believes that all educators, regardless of how far along they are in their careers, can benefit from ongoing professional learning that is differentiated based on need. Over the last several years, New York State has made significant investments in supporting teachers and leaders. Despite these efforts, a review of documentation and data, stakeholder interviews, focus groups, and surveys all reveal that access to and time for high quality professional learning vary considerably across New York State for professional learning designed to build educator capacity across New York State. In order to undertake this work, the Department convened a task force of stakeholders from across the State who were charged with developing a strategy for more coordinated, quality professional learning for teachers and leaders. Ultimately, the Department believes that the strategy developed by the task force will 1) provide equitable access for all educators to high-quality professional learning that is relevant, actionable, and ongoing; 2) improve performance, coordination, and communication of statewide professional learning partners; 3) empower regional professional development leaders to reimagine professional learning for schools and districts; and 4) embody thoughtful design, rich and meaningful experiences, and continual feedback and improvements. In order to achieve these goals, the new statewide framework calls for two strands of work: the development of statewide supports available to all educators and partners across New York State, and investment in regional expertise that will empower regions to reimagine and implement high-quality professional learning supports for educators.

Wisconsin

Wisconsin will provide opportunities to all educators to participate in professional learning focused on subject area standards and equity. Supplemental resources across subject areas will be shared statewide with support from subject area experts for facilitation, and used to improve student achievement. There will be collaboration supports such as mentoring and professional learning communities.