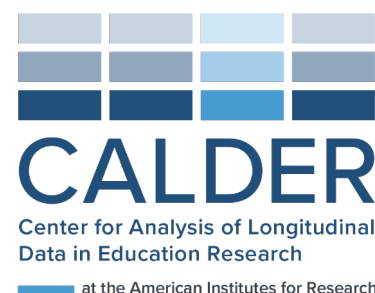

Lessons from State Education Agencies: Why Building Clinical Practice Data Systems is Worthwhile and Feasible

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When students are assigned to a teacher's classroom, we should feel confident that the teacher is ready for the assignment. And when new teachers walk into their own classroom for the first time, they should feel confident and well-prepared. Building that confidence requires robust preparation: real-world practice under the guidance of an effective cooperating teacher, in a classroom that mirrors the classrooms where the teacher-in-training will eventually work.

The research bears this out: Clinical practice (which comprises both field experiences and full-scale student teaching) matters for teacher and student outcomes. Student teaching is considered to be the **foundational** part of teacher preparation.¹ In surveys, new teachers assert that student teaching was the most important part of teacher prep.² Student teaching alongside an instructionally effective cooperating teacher can make a first year teacher as effective as one in their 2nd or 3rd year.³ Completing a student teaching experience is associated with greater teacher retention.⁴

Clinical practice experiences are not just important for the outcomes of individual teachers: Hosting student teachers also builds a stronger teacher pipeline for districts. Strategic placements can help address districts' hiring needs⁵ and lead to more effective teachers in the specific schools in which they're hired.⁶

The research—and candidates' own experiences—strongly suggest that a well-designed clinical practice experience can improve teacher effectiveness and retention while also helping districts tackle teacher shortages.

Designing clinical practice experiences is largely the purview of prep programs and school district

partners, but state education leaders have an important role as well. States set minimum expectations, monitor outcomes, and can help guide placements. But states cannot adequately fulfill any of these roles without information about what is currently happening in schools and districts statewide.

Over the last year and a half, the National Council on Teacher Quality (NCTQ) and the Center for Analysis of Longitudinal Data in Education Research (CALDER) convened leaders from six states to identify steps states can take to better understand and track clinical practice. This brief explores their insights and provides brief case studies of their actions to strengthen clinical practice data systems in their states.

Illuminating a black box

There is general consensus about which aspects of clinical practice are most important. [The Clinical Practice Framework](#), developed by the National Council on Teacher Quality in concert with experts across the field, describes the key components of clinical practice backed by research and supported by the field. The areas addressed in this framework range from establishing partnerships to selecting and compensating cooperating teachers to tracking near- and long-term outcomes.

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NCTQ Clinical Practice Framework

The framework includes six [research-backed](#) focus areas:

1. **Strong district-prep program partnerships**—Establish a clear understanding of who is responsible for which tasks, the timelines for work, goals for the collaborative work, the cadence for regular check-ins, and steps to take when challenges arise.
2. **Student teacher-cooperating teacher matches**—Streamline the process for identifying the pool of potential cooperating teachers, pair student teachers with instructionally effective cooperating teachers, provide stipends to support both student teachers and cooperating teachers, and ensure student teachers of color feel supported during clinical practice.
3. **Cooperating teachers and program supervisor training**—Train cooperating teachers and program supervisors on how to effectively mentor adults, conduct observations using instruments aligned to state and district expectations, and give feedback.
4. **Student teacher placement sites**—Identify placement sites, considering future hiring needs, alignment with student teachers' future teaching positions, exposure to a range of settings, and schools with a positive climate.
5. **Student teacher skill development**—Ensure that prior to entering the classroom, aspiring teachers experience field experiences that grow in difficulty and specialization, culminating in full-time student teaching, frequent observations and feedback, and opportunities to engage with high-quality curricula.
6. **Data and outcomes**—Collect and use feedback from student teachers, cooperating teachers, and placement school leaders, as well as hiring metrics and classroom performance metrics to monitor student teaching experiences and inform continuous program improvement.

Despite this agreement about what matters, there's a great deal of variation in how teacher prep programs⁷, districts⁸, and states approach clinical practice.⁹ Moreover, in most places, state leaders lack the data they need to identify which of their state's prep programs offer strong clinical experiences or how those experiences connect with teacher or student outcomes.

Many states set some minimum requirements for some aspects of clinical practice, such as the length of practice or cooperating teachers' requirements.¹⁰ A few states have established statewide policies that impact clinical practice, such as [stipends for student teachers](#). Yet without good data, they cannot know whether these or other policies are faithfully implemented, much less what is happening outside the scope of these policies. For example, how often

do programs struggle to find instructionally effective cooperating teachers? Are student teaching placements aligned with anticipated hiring needs?

Better data can answer these questions and should lead to better decision-making about how to strengthen clinical practice. In particular, five stakeholder audiences need better information about clinical practice:

- **States.** Without adequate data on what's happening in clinical practice in their state, as well as the outcomes associated with it, states cannot make informed, strategic investments in clinical practice to improve student outcomes and strengthen the teacher pipeline. States need data to better understand what is and is not working with clinical practice and assess initiatives designed to improve upon the status quo.¹¹

- **Districts.** Ideally, districts form close partnerships with specific prep programs. A strategic partnership can help districts proactively recruit well-prepared teachers in hard-to-fill subjects, and ensure incoming teachers are familiar with the district's curricula and culture. But too often, districts lack information on clinical practice and outcomes like retention that could help them decide with which programs to partner with.
- **Teacher prep programs.** Prep programs seek to develop clinical practice experiences that lead to well-prepared aspiring teachers. However, they often don't have access to data that helps them evaluate the outcomes of candidates once they graduate, making it harder to identify what is working well and what needs to be adjusted.
- **Researchers.** Researchers play an important role in helping states, districts, and prep programs identify what's working and isn't in both their own contexts and more generally. However, they can't conduct this research without usable data (and building data sets from scratch can be cost and time prohibitive).
- **Teacher candidates.** Finally, aspiring teachers invest time and money in their preparation. They need better information about the type of clinical practice experiences prospective teacher prep programs are offering and whether people who complete a specific program go on to become successful teachers. An objective data source is better than a sales pitch and leads to educated consumers driving the market to improve its offerings.

While all of these audiences can contribute to and benefit from stronger data systems, this brief focuses on the role of state education leaders, as they are best-positioned to integrate data across all of these audiences.

Answering key questions about clinical practice starts with better data

The authors of this brief worked with state education agency leaders to identify six key questions (and subquestions) about clinical practice that are aligned with the [Clinical Practice Framework](#) and can meaningfully inform state leaders' understanding of the quality of those experiences and how they contribute to a well-prepared and robust teacher pipeline.

Answering these questions requires connecting data from prep programs (e.g., university records, records of who teacher candidates are and where they student teach), school districts (e.g., data on characteristics of cooperating teachers and their classrooms, anticipated vacancies, new teacher hires), and state education agencies (e.g., licensure records).¹² Being able to make these data connections and answer these questions matter because they help states understand and improve the health of their teacher pipeline and because they help states, districts, and prep programs adjust clinical practice experiences to improve novice teachers' effectiveness and students' outcomes.

Question 1: Where are student teachers placed and to what extent do placements align with strategic staffing priorities?

Subquestions

- What is the annual number of student teachers placed in clinical practice experiences in our state/region?
- How are placements distributed across districts, school types, and grade levels?
- To what extent do districts prioritize placements in anticipation of their future needs?
- To what extent do prep programs produce and place teachers with certifications that districts need to hire?

Why this matters: Understanding where student teachers are placed and how those placements are distributed across districts, schools, and grades can help states determine whether clinical practice is being used as a lever to address teacher shortages. Student teachers are very likely to get jobs near where they student teach, and school districts that host student teachers are less likely to have shortages or need to hire emergency-licensed teachers.¹³

If districts are not using clinical placements to proactively address hiring needs, they're missing an opportunity to mitigate teacher shortages in their region. Likewise, if prep programs are not placing student teachers in the districts with anticipated vacancies, they may limit their candidates' chances of quickly finding a permanent teaching position.

While districts and prep programs can only examine their own candidate placements, actors at the state level can track data across the state, offering insight into whether placements are aligned with staffing needs and whether a broader mismatch exists between teacher prep programs' teacher production and placements and the state's staffing needs.

If states could answer these questions, they could identify and address student teaching "deserts," (areas where there are no student teachers) crafting policies and guidance that use clinical practice as a lever to alleviate geographic teacher shortages. They could also facilitate partnerships and encourage districts to prioritize placements in the schools and subjects in which they anticipate hiring teachers.

Question 2: What steps do states, prep programs, and districts take to ensure that cooperating teachers are effective teachers and mentors?

Subquestions

- What are the selection criteria for cooperating teachers?
- How is their instructional effectiveness measured and evaluated?
- What training do cooperating teachers receive to mentor student teachers effectively?

Why this matters: Student teaching alongside an effective cooperating teacher matters more than any

other aspect of clinical practice that research has been able to measure.¹⁴ District leaders and prep program clinical practice coordinators need to know whether cooperating teachers are effective mentors and teachers to make sure student teachers start their teaching career ready to be effective themselves. Moreover, data from the state can help prep programs select more effective cooperating teachers.¹⁵ To assess policies and programs, states should ensure data related to providing teacher candidates with effective mentors can be linked to student outcomes.

If states could answer this question, they could identify ways to better select and support cooperating teachers.

Question 3: What types (amount and form) of compensation do prep programs and/or districts provide cooperating teachers and/or student teachers?

Why this matters: Serving as a cooperating teacher requires time and effort; paying teachers for this work may attract more people to serve in the role and make it easier to recruit more effective cooperating teachers. Providing release time to cooperating teachers also makes it more feasible for them to take on this additional workload. Student teachers may not have time to hold other jobs, so building in financial support makes student teaching more feasible for many candidates, which can help to increase and diversify the teacher pipeline. To assess compensation policies and programs, states should ensure data related to compensating cooperating teachers and/or student teachers can be linked to student outcomes.

If states could answer this question, they could determine whether additional compensation might improve recruitment of cooperating teachers or retention of student teachers, and allocate funding accordingly.

Question 4: How do clinical practice experiences vary? Does this matter?

Why this matters: Teacher prep programs can vary widely in how they approach clinical practice. However, too little is known about which aspects of clinical practice best achieve important outcomes (e.g., teacher hiring, retention, and effectiveness). To

assess the results of these varying policies and programs, states should ensure data related to the varied elements of clinical practice can be linked to student outcomes.

If states could answer this question, they could identify the elements of clinical practice that are associated with improved teacher and student outcomes and use that information to inform guidance and minimum criteria for clinical practice.

Question 5: How are candidates assessed during clinical practice?

Why this matters: Observations with written feedback at regular intervals throughout the placement, from both the program supervisor and the cooperating teacher, give student teachers more opportunities to improve their teaching and may be associated with effectiveness. States have found some success in

aligning preservice observation instruments with expectations for in-service teachers, including predicting teachers' effectiveness. To determine the quality and predictiveness of these assessments, states should ensure they collect assessment data from programs that can be linked to future student outcomes.

If states could answer this question, they could set standard criteria for assessing student teachers as part of the guidelines for clinical practice, thus establishing clearer baseline expectations for anyone seeking to earn a teaching certificate.

Clinical Practice State Data Inventory

To support the states in the working group, NCTQ and CALDER developed the Clinical Practice State Data Inventory to help state teams understand the relationship between the data they have and the data they need to answer the questions most important to them. [Click here to access the Clinical Practice State Data Inventory](#). You will be asked to make a copy of the document, which you can edit and share.

This data inventory follows the general structure of the [Clinical Practice Framework](#), asking about specific data elements related to each of the focus areas. For example, within the focus area of "student teacher-cooperating teacher matches," the tool asks whether the state collects the number of student teachers placed each year and whether the state has unique identifiers that enable links between student teachers and their cooperating teachers. States complete the inventory in the Data Elements tab (tab 2).

Based on your state's responses, the Clinical Practice State Data Inventory provides results in two ways:

- **Organized by focus area (tab 3):** The inventory provides insight into the share of data the state collects related to each focus area, as well as identifying the focus areas which the state is most and least able to provide information on.
- **Organized by essential question (tab 4):** The inventory provides insight into the questions identified above, including which questions the state is most and least able to answer based on the data it collects.

How to use the Clinical Practice State Data Inventory. Use [this link to access](#) the Clinical Practice State Data Inventory. This is a Google Sheet that you will be asked to make a copy of. You will be able to edit and share your copy with multiple people, making it easier to collaborate in completing the inventory.

We recommend sharing this document with any stakeholders within the SEA who might have relevant information. For example, different pieces of data may be housed in different departments. The "notes" field can be a useful place to track where the information is held or what legislative mandates require its collection. For detailed information about how the inventory functions, see the "instructions" tab at the start of the tool.

Question 6: Which components of the clinical experience are most valuable for developing teaching competency?

Why this matters: Ultimately, the goal of clinical experiences is to ensure that every novice teacher enters the classroom ready to effectively teach their students. States can support that goal by setting minimum criteria for clinical practice, but determining what that criteria should be necessitates understanding which elements of clinical practice matter most. Ideally, connecting components of clinical experiences to novice teachers and then to the academic outcomes of their students would offer the best measure of the effectiveness of each component. In the absence of such robust outcome data, those participating in the clinical experiences (student teachers, cooperating teachers, program supervisors, and district leaders) can provide insights into what's working and what's not. Gathering that feedback is essential to refine the clinical experience for all involved.

If states could answer this question, they could require or provide funding for improvements to clinical practice experiences.

Recommended steps and lessons learned in building clinical practice data systems

To accelerate change among states that are already making strides in strengthening clinical practice, NCTQ and CALDER invited six states to participate in a Clinical Practice Data Working Group. We identified states based in part on findings from NCTQ's [Clinical Practice Action Guide](#) and exploratory work identifying states' clinical practice policies.

Over a series of three meetings, the working group shared experiences, obstacles, and opportunities. While their specific work is described in a subsequent section of this brief, here we explore the two main themes that emerged.

States have to negotiate issues of authority and technology when strengthening data systems.

Many actors engage in clinical practice experiences and these different actors collect and track different pieces of information. State education agencies (SEAs) may not have access to all the data necessary to answer the questions above. One of the first steps in strengthening a data system is to take stock of who already collects relevant data, who has the authority to collect the data, and who is well-positioned to collect additional data.

To build strong data infrastructure, states should:

- **Connect data across systems.** As noted above, disparate entities often collect different pieces of information. For example, teacher preparation programs may have information on student teachers but information about their placement classrooms is held in a different database managed by school districts. To connect systems, states may need to create unique identifiers that work across platforms and may need to standardize how different systems define and code information, or build crosswalks that translate between mismatched data elements.
- **Partner with an external organization to gather data.** Working group participants noted that SEAs may not always be the best entity to collect relevant data. One state shared that they partner with a state university. This university collects survey data and has a high response rate, likely higher than the SEA itself might achieve. Working group participants also suggested that SEAs should explore opportunities to develop no-cost partnership agreements with universities in the state that may be interested in conducting research. Especially as institutions and researchers may be losing access to federal data sources, the opportunity to access state data sets could be especially appealing, creating a win-win for the researchers and the SEA.
- **Identify who will build the data system.** State leaders must typically choose between building a data system in-house or using an external vendor. An in-house system may offer an SEA more

control and ability to customize, but risks that the system uses an archaic platform that is difficult to update. Further, building a system in-house requires that the SEA staff has both the time and capability to devote to this work. An external vendor may substantially reduce the SEA resources needed, but may offer an “off the shelf” solution with limited ability to refine the system for the state’s specific needs and contexts. A third option that some states have employed, especially in the early stages of their data systems, is to house data in Excel sheets. While this may simplify processes in the short term, it brings a high risk of errors. In making these decisions, the state will need to consider staff capacity and fiscal resources.

States must build buy-in and expertise with districts and prep programs so that these audiences use the data to promote stronger clinical practice experiences.

State leaders explained that while they can mandate data collection, the ultimate goal is for different entities to take action to improve the quality of clinical experiences so that they better serve aspiring teachers and their future students.

To increase data use by teacher prep programs and districts, states should:

- **Engage teacher prep program (TPP) and local education agency (LEA) leaders in examining the data to identify ways to improve the quality of clinical experiences and teachers’ subsequent career outcomes.** Often, TPPs and LEAs have limited time and expertise to examine their own data, and lack access to other entities’ data. As a result, they cannot compare their results with other institutions, making it more challenging to identify their own strengths and areas for growth. Some states have found success with establishing formal mechanisms or events for sharing data, such as regular data meetings that convene prep programs from across the state. As one example, Utah took this approach when implementing new reading standards and a reading licensure test. The state hosted a voluntary convening of prep program faculty, facilitated by the state, to examine data from the state’s Foundations of Reading licensure test and to learn from programs with stronger results.¹⁶

- **Inform prep programs’ selection of partner districts.** TPPs may be eager to strengthen their partnership with school districts but may choose partner districts based on convenience, rather than alignment with the prep program’s instructional approaches or districts’ hiring needs. TPPs often welcome relevant data from districts to help with selecting cooperating teachers, placing candidates in districts that are more likely to hire, and selecting districts whose curricula align with the TPP’s instruction. States can facilitate this flow of information, giving prep programs access to insights about districts beyond those with which they typically partner.
- **Demonstrate for districts the value proposition of prioritizing student teaching.** Hosting student teachers can give districts a head start on hiring, reduce vacancies, and ensure that new teachers are more effective and stay in the classroom longer. States are well-positioned to communicate these benefits to districts, encouraging them to take clinical practice partnerships seriously. And SEAs can go a step further, providing data to help identify schools and teachers to host student teachers (see, for example, a study in Tennessee¹⁷), and to foster connections between districts and prep programs.
- **Include unions in the conversation.** While teachers’ unions do not typically play a role in clinical practice, they do represent the interests of teachers (and sometimes faculty of prep programs). Ensuring that new teachers enter the profession with robust training that can help them succeed directly benefits and helps maintain unions’ constituency. Including unions in discussions around using data to track outcomes of clinical practice and establish high-quality placements can help build momentum for these actions.

State leaders shared lessons learned related to strengthening data systems

Conduct interim program reviews

If you only conduct teacher prep program approval reviews every few years (e.g., every seven years), build in smaller-scale annual reviews. Pennsylvania has a state annual report that makes it easier to share information each year; after a several-year hiatus during COVID, the state has collected the data for 2024-25 and will share it publicly soon. Massachusetts has a state annual report and surveys (and [publishes nine reports about teacher prep programs](#)).

Think about sustainability as you build your system

One state built a system in-house to gather details from the performance assessments required during clinical practice. This system gave the SEA access to robust and detailed information, but was built on an outdated platform that was phased out. Rebuilding the system would have required a substantial investment and so the state cannot collect this information moving forward. Another state shared that as they build their data system, they consider how they might want to use the data or connect to other data in the future, and so ensure that their system is flexible enough to accommodate these future additions.

Leverage existing data systems

In many cases, states already collect pieces of information in disparate systems. For example, Pennsylvania's teacher prep programs collect a wealth of information about the clinical practice experience each year, and the state separately has information about classroom, school, and district characteristics in another system. If each teacher candidate were to receive a Professional Personnel Identification Number (PPID) at the start of their senior year, the state would be able to connect these separate data systems and files to track candidates from clinical practice into the classroom.

Establish unique identifiers for teacher candidates

Related to the above lesson, creating unique identifiers, especially ones that can follow candidates when they become teachers of record, allows the state to collect and connect more information. One state creates a unique identifier for each candidate entering a prep program, which allows the state to track candidates through program completion and into the workforce. Pennsylvania recently invited candidates to create a PPID, the same kind of identifier that teachers in the system use, and is exploring making it mandatory in service of new data collection requirements.

State leaders shared lessons learned related to increasing data use

Save prep programs time by gathering individual-level data from prep programs and conduct the aggregation yourself

Rather than requiring prep programs to analyze their data, potentially introducing differences between programs in how they approach the data, states have found greater success with gathering individual-level data about candidates and placements. This reduces the burden on prep programs, allows SEAs to consistently analyze data across all prep programs, and with the right unique identifiers, enables the SEA to connect candidate data from prep programs to longer-term outcomes like hiring, retention, and effectiveness.

Build and maintain relationships

This work cannot be done overnight or in a single meeting. States have found that they get the best results when they build ongoing relationships with districts and prep programs. For example, state agency staff regularly attend meetings or conferences with these stakeholders and share draft data dashboards for feedback.

Determine the sphere of responsibility and the right incentives

SEAs need to determine which entities are best-situated to input data, and what elements of data. Further, SEAs may need to incentivize data entry through either “carrots” or “sticks.” For example, one state instituted stipends for student teachers and cooperating teachers. However, access to these stipends necessitated that teacher prep programs provide data about their candidates, and that school districts provide information about cooperating teachers. Providing access to a substantial stipend was incentive enough to encourage most prep programs and districts to comply.

Six States Take Action

As part of the working group, six states each either identified an action they could take (or make progress toward), or identified how to emphasize clinical practice in work that was already underway, in the three to four months between an in-person convening and a follow-up meeting. At the end of participation in the Clinical Practice Data Working Group, all six states reported taking significant steps forward in building and using their data infrastructure, sometimes expanding upon their initial goal. Their work is described below.

The Clinical Practice Working Group included leaders from six states

- Arkansas
- Louisiana
- Massachusetts
- Michigan
- Pennsylvania
- Texas

Arkansas

Goal: Arkansas’ Office of Educator Effectiveness and Licensure, charged with the design and implementation of the State’s Educator Preparation Program Review System, set out to create a public-facing dashboard to be used for transparent reporting of program results and quality ratings. The need for a dashboard was heavily driven by ACA 6-17-422(h)(2) that requires a system of annual reporting and review of EPP quality.

Progress to date: Arkansas concluded reviews of all Arkansas traditional and alternative route Educator Preparation Programs in the fall of 2025 and finalized reports to programs in the winter of 2026. The Arkansas Educator Preparation Program State Review Dashboard was developed and tested throughout 2025. The system is currently being updated with new data reports and standard 2 findings (data collected on site). Once testing is finalized, the Dashboard is set to launch in early 2026.

Key features: The dashboard will include:

- prep program enrollment
- three-year completion rates (an especially important element because federal Title II data

- does not track cohorts of candidates, meaning it cannot track the share of program entrants who ultimately complete the program)
- first-attempt pass rates on content area licensure tests
- the share of candidates who earn a teaching license within one year of program completion
- employment outcomes
- employment surveys of program completers and their supervisors
- value-added measures
- evaluation data from the on-site review of the EPP’s coursework and clinical experiences

As designed, the current dashboard will allow the Office of Educator Effectiveness and Licensure to publicly report on EPP quality based on ratings from the Arkansas EPP State Review protocol. However, other legislated requirements such as year long residencies for all program completers beginning Fall 2026 and Science of Reading EPP Audits, which began in 2024, will require future enhancements to the dashboard. Additionally, the State intends to adopt and implement a system for evaluating advanced licensure programs in the future. These initiatives will require review and redesign to integrate and unify the State EPP Review System across all areas.

Next steps:

- The State will share the pilot dashboard with prep programs in Spring 2026 and will publish the dashboard in mid-2026.
- The State will continue to develop the review framework for advanced programs and launch an initial pilot in January 2027.
- The State intends to design and implement a unified State Review System during the 2026 fiscal year with a launch date of early 2027, in time to begin the next series of scheduled EPP state reviews and Science of Reading Audits.
- The State will enhance the current Dashboard to reflect the anticipated changes outlined above.

Related resources: [Arkansas State Review of Educator Preparation Programs](#)

Louisiana

Goal: To work with prep programs to support the use of high-quality instructional materials through clinical practice in conjunction with the state's aspiring teacher rubric.

Progress to date: The state has broadened its goal to build engagement and buy-in for the use of high-quality instructional materials in teacher preparation through monthly high-quality professional learning (HQPL) webinars. These webinars, specifically the literacy and numeracy webinars, explicitly connect HQIM to candidates' clinical experiences by highlighting how instructional materials are selected, implemented, and reflected upon during classroom placements and residencies.

In response to these HQPL webinars, the Louisiana SEA has established a Teacher Preparation Advisory Workgroup. The initial purpose of this group will be to determine how to use existing information, build on the foundation of monthly HQPL webinars, and use feedback from the Teacher Preparation Quality Review System (TPQRS) to develop next steps for teacher preparation, including how candidates experience and are supported in using HQIM during clinical practice.

In fall 2025, the state posted applications and interviewed applicants. The SEA invited participants from private prep programs, grow-your-own programs run by school districts, public and private institutions of higher education, the Louisiana Board of Regents, the Louisiana Association of Colleges for Teacher Education (LACTE), and the Louisiana Association of Teacher Educators (LAATE). The state has received grant funding to help cover travel expenses and to support some professional development opportunities for the workgroup.

Key features: The state plans to lead twice-yearly in-person meetings and monthly virtual meetings. During these meetings, the state will engage prep programs to develop high-quality professional development and review instructional materials, building on Louisiana's existing foundation in this area. A key focus of this work is examining how HQIM are used during clinical experiences, including candidates' opportunities to plan, teach, and reflect on HQIM-based lessons alongside mentor teachers during residencies and other supervised placements. During the year-long workgroup, the preparation

providers will also provide feedback on the Teacher Preparation Quality Rating System to evaluate scoring processes against CAEP and to determine how the Louisiana Aspiring Educator Rubric (LAER) may be used to score the annual teacher preparation profiles. These discussions include how the LAER can be leveraged to observe and assess candidates' instructional practice with HQIM in authentic classroom settings and to clarify expectations for candidate performance during clinical practice. Questions related to placement contexts, district use of HQIM, and consistent evaluation of candidates' HQIM instruction are active areas of discussion within the workgroup.

Next steps: The state held its first meeting in January 2026 and is collecting data on teacher preparation programs to determine which HQIMs are being utilized and the status of Louisiana Aspiring Educator Rubric use during clinical practice. In addition, the state will lead three regional, in-person trainings this spring that bring together preparation providers, mentor teachers, and district leaders from residency placement districts. These sessions are designed to support collaboration around the yearlong residency model and to build shared understanding of how the Louisiana Aspiring Educator Rubric (LAER) can be used as a coaching tool during clinical practice, with a specific focus on supporting candidates' instruction using high-quality instructional materials

Related resources: [Louisiana's Preparation Library](#)

Massachusetts

Goal: The state realized that it produces numerous data reports for different stakeholders, often duplicating efforts and creating inefficiencies. To streamline this work, the state's goal is to centralize data collection and analyses for reports to meet numerous reporting requirements.

Progress to date: The state has reviewed the requirements for the various mandated reports and legislative updates to determine how they can centralize the data collection and analyses to avoid duplicating work across different reports. The state established a multi-year contract with external researchers to help build a data set around teacher vacancy data, which will be able to answer several questions around staffing and placements. In addition to its initial goal to streamline data collection and reporting, the state is investing in new

guidance to prep programs about which districts and schools offer opportunities for high-quality clinical placements.

Key features: With regard to the data collection and analysis, the state leaders noted that this marked a “lightbulb moment,” to take this opportunity to combine data requests and collect data in house. This resulted in the decision to leverage a cross-agency labor market database solution and contract with an external research firm to conduct analyses that will inform multiple reports and legislative updates on the educator workforce, as well as any ongoing policy decision making related to educator pipelines, preparation, and employment. With regard to clinical practice placements, the state had received feedback from prep programs that they could not find enough high-quality placements for their student teachers. In response, the state is collecting information about which districts and schools use high-quality instructional materials (based on reviews by CURATE and EdReports) and also have teachers and leaders who completed the state-provided professional development on evidence-based reading instruction. The state will publish this information and share it with teacher prep programs to inform clinical practice placements.

The state has also received curriculum data from nearly all districts (visible in this [dashboard](#)), and credits the strong response rate from districts to the requirement that they update their curriculum dashboard profiles to access grant funds. The state plans to elevate these schools with public recognition, with the goal of creating a positive feedback loop that prompts more schools to take steps to qualify for this designation and drives prep programs’ clinical placement decisions.

Next steps: In the next year, the state will publish and provide prep programs with a list of high-quality placement sites to inform clinical practice placements and elevate schools and districts with demonstrated evidence-based literacy instruction.

Related resources: [District curriculum dashboard](#)

Michigan

Goal: To examine the relationship between clinical practice placements and state workforce needs, especially focused on alternative certification

programs, to inform future placement decisions.

Progress to date: The state leveraged its partnership with the Education Policy Innovation Collaborative (EPIC) at Michigan State University to focus the annual teacher shortage report on teacher vacancies and clinical practice placements, and the extent to which placements occur in districts with anticipated vacancies. [This report was released in January, 2026](#) (see page 56 for information about student teaching placements).

Key features: The state’s annual teacher shortage reports are mandated and funded through legislation. The 2026 report:

- features new heat maps comparing student teacher placements to areas with a high demand for teachers and indicating imbalances.
- compares average placements to state demographics (e.g., socioeconomic status of students in schools). identifies where student teachers come from: traditional route programs, alternative route programs, and out-of-state programs (which may include people moving to Michigan from out of state, as well as state residents going through online out of state prep programs).
- looks at the relationship between teacher placements and where people get their first jobs.

For this work, the state leveraged existing data structures rather than building new ones, and provided its data to EPIC, the state’s research partner. EPIC connects multiple datasets to conduct analysis across an array of topics.

Similarly, to improve its candidate tracking, the state is using its existing state educator certification system (the Michigan Online Educator Certification System, or MOECS). The state has begun asking prep programs to enter their candidates’ information into the certification system as soon as they enter the prep program. Candidates create a profile, link it to the prep program they attend, and the prep program confirms them. That entry will tell the state their area of study so the state will know, for example, how many people are pursuing certification with a math endorsement. The state plans to compare enrollment data against forthcoming federal Title II data to make sure the numbers roughly align and to flag discrepancies. Candidates receive a unique ID when they create a profile, and the ID will follow those

candidates into teaching positions, enabling the state to track people from the start of preparation through their time in Michigan public schools.

Through these systems, the state is tracking additional data to help it better understand the trajectory of its teacher candidates and whether the current pipeline is meeting the state's workforce needs. For example, EPIC also tracks production of teachers by endorsement area, finding that teacher production by subject is increasing except in world languages.

Additionally, the state tracks the share of program completers who take jobs in public schools in the state (inclusive of teaching and other roles). In 2005, only 25 percent of program completers showed up in the Michigan public school workforce. At that point, the state put a moratorium on allowing new prep providers to open in the state. As of 2025, 75 percent of program completers are in the state workforce. That number reaches almost 100 percent of alternative route completers and about 90 percent of in-state traditional program completers, but the rate of state residents completing out of state programs and taking teaching positions in the state is much lower.

Next steps: After Michigan publishes the report in January 2026, the state will engage relevant audiences to use the information. The state will attend various convenings and share relevant data for those audiences (e.g., Michigan State Board of Education, institution of higher education collaboratives for world languages, English as a second language and bilingual education teacher preparation, quarterly meetings of Michigan's Directors and Representatives of Teacher Education Programs and Alternative Route Network).

Related resources: [Michigan Teacher Shortage Study: 2026 Report](#)

Pennsylvania

Goal: To increase data transparency by publishing more data, including about clinical practice, in accessible dashboards.

Progress to date: To facilitate the state's student teacher stipend program, the state needs to collect more information about candidates' placements and their subsequent employment. The state education agency has been mapping its current teacher data collection to identify what data they already have on hand through the Pennsylvania Information Management System (PIMS), to determine what additional data they need, and to find ways to connect pieces of data.

Key features: As part of the [Student Teacher Support Grant Program](#) passed in late 2023, the state education agency must collect more data related to its recently [established student teaching stipend](#). To meet the requirements for these stipends, student teachers must teach in the state for at least three years, necessitating that the SEA track student teachers' subsequent hiring and retention information.

With the student teaching placement data and a teacher-specific identifier (PPID), the state will be able to track student teachers forward into their jobs and also backward to their prep programs (e.g., identifying the courses they took while in teacher prep).

Using existing systems, the state may be able to link student teachers to their cooperating teachers using PIMS as well, by adding existing unique teacher identifiers for the student teachers. One step the state will need to fully operationalize this process is to require all teacher candidates to apply for these unique identification codes, since this was optional in the first year of the student teacher stipend program.

The state anticipates that the additional burden on prep programs of data collection and data entry will be minimal since the prep programs already collect this data, although they will need to follow the SEA's guidance and templates for entering information. The SEA is taking on the more substantial body of work, connecting and collecting data from prep programs, although by leveraging existing systems, that additional work is limited.

Next steps: The state plans to analyze the data collected from prep programs and from PIMS looking for patterns of grant recipient placement and how many of the first group of grant recipients are employed and where they are employed. For the next round of grant distributions (underway in January 2026), the state will examine who receives the grants and where they student teach (e.g., the socioeconomic status and urbanicity of placement districts). The state plans to share data with prep programs, and may use the analysis to help change policy or shape new programs.

Related resources: The Student Teacher Support Grant Program is administered by the PA Higher Education Assistance Agency (PHEAA). More information can be found at <https://www.pheaa.org/funding-opportunities/pa-student-teacher-support-program>

Texas

Goal: To identify and expand upon the data the SEA is already collecting to inform and understand partnerships between school districts and teacher prep programs.

Progress to date: In 2025, Texas passed major legislation, [House Bill 2](#), which will necessitate making significant progress toward its goal. This legislation gradually eliminates the number of uncertified teachers districts can employ, requiring that all elementary reading and math teachers be certified by the 2026-27 school year and that all teachers in foundational subjects (English language arts, mathematics, science, and social studies) in all grades must be certified by the 2027-28 school year.¹⁸ This requirement is coupled with a \$1,000 incentive for uncertified teachers to earn a standard certification. HB2 also provides substantially more funding for teacher preparation, with amounts varying from \$8,000 per individual in some Grow Your Own programs to \$39,500 per individual for some residency programs. Funds will be used for candidate and cooperating teacher stipends as well as training costs and other expenses.¹⁹ The bill also addresses numerous other areas, including teacher compensation, special education, and literacy and numeracy.²⁰

Key features: Fulfilling the mandates of this legislation will require collecting much more data.

- Previously, Texas collected data about cooperating teachers for student teachers and residents, and only received information at the district level. Under this new legislation, the state is required to gather data at the school level.
- Previously, Texas collected data about the duration of clinical practice in terms of how many semesters it lasted. Now, the state will gather start and end dates for clinical practice.
- The state will now gather much more information about institutional relationships between prep programs and districts, including the types of programs, and more detailed definitions of the clinical practice models (e.g., residencies, different intensive alt-cert programs). These definitions also specify contact hours, the length of clinical experiences, and whether the programs include specific curricular pieces such as the state's new reading and math academies.
- Previously the state knew which prep program teacher candidates attended and where they completed their student teaching. Now the state will have specific information about the partnerships, or institutional relationships between prep programs and districts. Information will include confirmation of the partnership between the prep program and the district, including which prep programs are placing teacher residents at which districts and which campuses, and whether or not the partnership remains in place. This information will allow the state to confirm that both the district and prep programs are abiding by the requirements associated with the allotment of funds for these partnerships.
- They will now have data on individual teacher residents, linking them to classrooms and students.
- The state will now collect information on mentors for novice in-service teachers, such as who the mentors are, confirmation about when they completed the required mentorship training, the mentor's years of teaching experience, their certification information, and the campuses where they're completing their mentorship. The state will also collect information on who the mentees are and their characteristics.
- And finally, the state is launching an optional collection of data from prep programs on student teacher observations. Prep programs that choose to participate can use the state's standard rubric for student teacher observations, or can enter

their own rubric and upload ratings based on that customized rubric.

Collecting this data will yield a wealth of insights into clinical practice across the state. One notable outcome the state intends to track is whether there is any increase in enrollment in teacher residency programs after the implementation of HB2, which encourages candidates to pursue these more rigorous pathways into the classroom.

Next steps: The state is updating its data systems to receive this information, building tooling to monitor and report the information, providing training to the field, and communicating broadly with districts and prep programs about the work.

Related resources: [Educator Preparation Data Dashboards](#)

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While the states involved in this working group were already prioritizing clinical practice, every state can follow their lead. States interested in strengthening their teacher pipeline through a better understanding of clinical practice can take several steps:

1. Use the [Clinical Practice State Data Inventory](#) to take stock of your state's data systems.
2. Identify areas to focus on, considering your state's priorities and current data assets.
3. Make a plan and reach out to other states for help. The states in this working group found collaboration with each other to be valuable, and are eager to share their insights with leaders from other states.
4. Connect with NCTQ and CALDER to share more about your state's work in this area.

Related resources

- [Clinical Practice State Data Inventory](#)
- [Clinical Practice Framework](#)
- [Clinical Practice Action Guide](#)
- [Clinical Practice Self-Assessment Tool](#) (downloadable excel file)
- [Leveraging State Data to Better Understand Current and Future Teacher Supply](#)
- [Leveraging Job Posting Data to Better Understand the Demand for Teachers](#)
- [Leveraging Teacher Supply and Demand Data to Address Staffing Challenges](#) (one pager)

Endnotes

- ¹ Ronfeldt, M. (2021). Links among teacher preparation, retention, and teaching effectiveness. National Academy of Education Committee on Evaluating and Improving Teacher Preparation Programs; Levine, A. (2006). Educating school teachers. *Education Schools Project*; Guyton, E., & McIntyre, D. J. (1990). Student teaching and school experiences. In W. R. Houston (Ed.), *Handbook of Research on Teacher Education* (pp. 514–534). New York: Macmillan; Brimfield, R., & Leonard, R. (1983). The student teaching experience: A time to consolidate one's perceptions. *College Student Journal*, 17, 401–406.
- ² Levine, A. (2006). Educating school teachers. Education Schools Project; Guyton, E., & McIntyre, D. J. (1990). Student teaching and school experiences. In W. R. Houston (Ed.), *Handbook of Research on Teacher Education* (pp. 514–534). New York: Macmillan; Brimfield, R., & Leonard, R. (1983). The student teaching experience: A time to consolidate one's perceptions. *College Student Journal*, 17, 401–406.
- ³ Goldhaber, D., Krieg, J., & Theobald, R. (2020). Effective like me? Does having a more productive mentor improve the productivity of mentees?. *Labour Economics*, 63, 101792
- ⁴ Chen, X., Knepper, P. R., Geis, S., & Henke, R. R. (2000). Progress through the teacher pipeline: 1992- 93 college graduates and elementary secondary school teaching as of 1997. DIANE Publishing.
- ⁵ Goldhaber, D., Krieg, J., Naito, N., & Theobald, R. (2021). Student teaching and the geography of teacher shortages. *Educational Researcher*, 50(3), 165–175
- ⁶ Goldhaber, D., Krieg, J. M., & Theobald, R. (2017). Does the match matter? Exploring whether student teaching experiences affect teacher effectiveness. *American Educational Research Journal*, 54(2), 325–359; Krieg, J. M., Goldhaber, D., & Theobald, R. (2022). Disconnected development? The importance of specific human capital in the transition from student teaching to the classroom. *Educational Evaluation and Policy Analysis*, 44(1), 29–49.
- ⁷ NCTQ. (2020). Clinical Practice. National Council on Teacher Quality. Washington, DC: <https://teacherquality.nctq.org/review/standardDetails/Clinical-Practice>
- ⁸ Putman, H. (2024). Ahead of the pack: Which districts are setting strong clinical practice policies? National Council on Teacher Quality. <https://www.nctq.org/research-insights/ahead-of-the-pack-which-districts-are-setting-strong-clinical-practice-policies/>
- ⁹ Putman, H., Noble, R., Ellis, C., & Peske, H. (2024). Clinical Practice Action Guide. Washington, DC: National Council on Teacher Quality. <https://clinicalpracticeactionguide.nctq.org/about/>
- ¹⁰ Putman, H. & Walsh, K. (2021). State of the States 2021: Teacher Preparation Policy. Washington, D.C.: National Council on Teacher Quality. <https://www.nctq.org/research-insights/state-of-the-states-2021-teacher-preparation-policy/>
- ¹¹ Understanding clinical practice is one piece in understanding the broader teacher workforce. To learn more about how states can build their understanding of their teaching supply, see: Abbott, C., DeArmond, M., Goldhaber, D., & Putman, H. (2025). Leveraging State Data to Better Understand Current and Future Teacher Supply. CALDER Policy Brief No. 40-1025. <https://doi.org/10.63302/PTRB9062>. For more about how states can analyze their teacher demand, see: Goldhaber, D., Grout, C., Lindsay, C. A., Mykerezi, E., Sojourner, A., & Dachille, L. (2025). Exploring the Landscape of Teacher Applications. CALDER Working Paper No. 329-1025. <https://doi.org/10.63302/QUGK9912>
- ¹² Abbott, C., DeArmond, M., Goldhaber, D., & Putman, H. (2025). Leveraging State Data to Better Understand Current and Future Teacher Supply. CALDER Policy Brief No. 40-1025. <https://doi.org/10.63302/PTRB9062>
- ¹³ Goldhaber, D., Krieg, J., Naito, N., & Theobald, R. (2021). Student teaching and the geography of teacher shortages. *Educational Researcher*, 50(3), 165-175.
- ¹⁴ Goldhaber, D., Krieg, J., Naito, N., & Theobald, R. (2020). Making the most of student teaching: The importance of mentors and scope for change. *Education Finance and Policy*, 15(3), 581–591.
- ¹⁵ Ronfeldt, M., Bardelli, E., Truwit, M., Mullman, H., Schaaf, K., & Baker, J. C. (2020). Improving preservice teachers' feelings of preparedness to teach through recruitment of instructionally effective and experienced cooperating teachers: A randomized experiment. *Educational Evaluation and Policy Analysis*, 42(4), 551–575.

- ¹⁶ See the Utah case study starting on page 6 of:
Putman, H. (2024). State reading policy action guide: How states can implement and sustain strong reading instruction. Washington, DC: National Council on Teacher Quality. <https://www.nctq.org/research-insights/state-of-the-states-2024-five-policy-actions-to-strengthen-implementation-of-the-science-of-reading/state-reading-policy-action-guide/>
- ¹⁷ Ronfeldt, M., Bardelli, E., Truwit, M., Mullman, H., Schaaf, K., & Baker, J. C. (2020). Improving preservice teachers' feelings of preparedness to teach through recruitment of instructionally effective and experienced cooperating teachers: A randomized experiment. *Educational Evaluation and Policy Analysis*, 42(4), 551–575
- ¹⁸ <https://tea.texas.gov/about-tea/news-and-multimedia/correspondence/taa-letters/hb-2-implementation-new-certification-requirements-and-incentives-for-uncertified-teachers>
- ¹⁹ <https://tea.texas.gov/about-tea/news-and-multimedia/correspondence/taa-letters/hb-2-implementation-preparing-and-retaining-educators-through-partnership-program-allotment>
- ²⁰ For a brief summary, see this one-page summary:
<https://tea.texas.gov/about-tea/government-relations-and-legal/government-relations/hb2-highlights-one-pager-june-26-2025-1.pdf>

