



Teaching our teachers: a better way

Continuous improvement in teacher preparation

Paper 4 in a series on improving initial teacher education
drawing on the work of a global Community of Practice

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Learning First is a global organization of researchers, consultants, policy advisors and teachers. We work closely with education leaders in Australia and around the world to tie policy reform at the highest level of government to deep change in the classroom. For more information, please visit www.learningfirst.com.

Learning First conducted the analysis presented in this report. The interpretations of how these systems operate are the authors', and do not necessarily represent the views or official positions of governments or officials in the systems analyzed.

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This paper is dedicated to the memory of our CoP team leader and friend Brian Dassler.

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Series preface

In September 2015, Learning First formed a Community of Practice (CoP) to tackle the obstacles that undermine reform of initial teacher education (ITE). The CoP brought together teams of providers and system leaders from Brazil, Finland, Australia, and the United States, including the Florida and Tennessee Departments of Education, Relay Graduate School of Education, the National Center for Teacher Residencies, TNTP, and USPREP/Texas Tech University.

Over a two-year period, each team piloted an ITE reform and had access to international convenings, experts, research, and case studies to assist them. The pilots examined various aspects of teacher preparation and early career development, including induction and mentoring, program site reviews, building teacher content knowledge, use of data for program improvement, partnerships between districts and providers, and teacher educator pedagogies and professional development.

All teams focused on a specific element of teacher preparation that concerned their daily work. All believed that working in partnerships with stakeholders was the way to get the most improvement. No one believed they could do this alone. Partnerships are not easy, and the experiences of all teams in the CoP highlight that reform in teacher preparation is complex work. We have learned lessons that reflect the challenges of ITE reform around the world.

This set of papers both sets out what we have learned about creating partnerships to reform teacher preparation, and combines these lessons with global best practice and research on teacher development. An introductory paper, *Connecting teacher preparation and practice*, looks at how to form partnerships to improve the learning of

beginning teachers. It recommends that partnerships develop:

1. A common language and approach that explicitly connects *how teachers learn* in initial teacher education, how they learn in professional development, and what they do every day in classrooms;
2. A shared understanding of *what new teachers need to learn* that comes from K-12 curriculum

The second paper, *Developing partnerships to improve teacher preparation*, provides a continuum for the development of partnerships and the role districts and providers play in creating them. It explains that what we already know about good adult and teacher learning and K-12 curriculum provides a clearer starting point for productive collaboration than is often realized.

The third and fourth papers go further into the detail of developing partnerships to improve the learning of beginning teachers. *Using K-12 curriculum to improve teacher preparation* explores how K-12 curriculum can be used to deepen partnerships and improve beginning teacher learning. *Continuous improvement in teacher education* discusses how providers, partners, and systems can use data and improvement cycles to improve how they train prospective teachers. The papers include examples that describe the work, and lessons from each CoP team's pilot.

We hope these lessons will help others to improve initial teacher education in the United States and around the world. These papers are not blind to the barriers to reform, but they also highlight the great opportunities that now exist to produce lasting, beneficial change to relationships between teacher educators, districts and schools and, through these partnerships, to teacher development and student learning.

Overview

Many ITE programs do not get the information they need to improve their training of teachers. There are few models and little guidance to help providers and their district partners implement the continuous improvement processes that many program accreditation standards now require of them. This paper addresses continuous improvement in teacher preparation: how providers and their district partners can embed a culture of using data for continuous improvement, and what systems can do to support them to do so.

The paper is not concerned with technical definitions and implementation of data systems, but with how ITE programs and district-provider partnerships can use data in structured improvement processes. It gives examples of what leading systems and programs are doing, and explores what data are needed to assist improvement. Rather than provide a step-by-step guide for implementing program improvement initiatives, it sets out a series of considerations for preparation program and district leaders, and lessons for policymakers.

Implementing a continuous improvement approach is a critical step for district and provider partners as they seek to deepen their collaboration in order to better prepare teachers for the classroom.

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1 Introduction

Deeper partnerships between districts and initial teacher education (ITE) providers – partnerships that connect preparation to practice – are the engine for improving the learning journey of new teachers. Insights from our Community of Practice on ITE show that some providers are improving collaboration and communication through strong partnerships with their local districts.

But this work is not easy. Most ITE programs do not have a system that can provide the basic information to evaluate their performance on a regular and long-term basis.¹ As University of Washington teacher educator Charles “Cap” Peck said in a 2016 speech, “Even programs that are strongly committed to using outcome data for continuous program improvement are struggling to figure out how to do this”²

What, then, does it mean to use data for continuous improvement, and why does it matter? What does genuine continuous improvement look like? How should programs and their partners approach it, and what should systems do to help programs meaningfully improve, rather than forcing them to adopt pointless compliance measures?

Providers and their district partners have few models and little support for developing practices to support data use, even though providers are under pressure from systems to do so.³ There is little research on policy implementation in teacher education,⁴ and continuous improvement is often talked about in terms of what data to collect, rather than how the process and policies could lead to improvement.

As a result, system leaders can struggle with their role, especially in balancing quality assurance – approval of programs to operate – while providing programs with the resources and

expertise to improve. System leaders need programs to be honest about where they need support, but because system leaders are also accreditors, programs and partnerships can also be tempted to hide their problems in order to receive accreditation.

Systems cannot create deep district-provider partnerships through mandate or compliance. They also lack the resources to intensively support all partnerships to improve. Ultimately, partnerships must improve by themselves. Systems need both to support partners, and to make them accountable for implementing their own improvement cycles or processes.

In a continuous learning and improvement process, district-provider partners use data to identify areas for improvement, create and execute a plan to address those areas, then evaluate the impact of their actions. Implementation requires both structural and cultural change. Continuous improvement is not just a system of checks, or collecting data for their own sake. It is about interrogating practices in order to improve them. It is about partners creating the structures, processes, and common language in order to collaborate on the concrete work of improving beginning teacher learning.⁵ Continuous improvement is critical to the success of any organization in a complex world.⁶

¹ Tatto et al., 2012

² C.A. Peck, [Evidence-based Reform in Teacher Education: Caveat Emptor](#) presentation, p.8

³ C.A. Peck, [Evidence-based Reform in Teacher Education: Caveat Emptor](#) presentation; Bell & Youngs, 2011; Data Quality Campaign, 2016

⁴ C. A. Peck, Gallucci, & Sloan, 2010

⁵ Refer to our companion paper *Developing partnerships to improve teacher preparation* for more information on creating deep partnership that improve beginning teacher learning.

⁶ Senge, 1992

2 Fundamentals of continuous improvement

Continuous improvement requires providers and their district partners to evaluate and modify their performance on a regular and long-term basis. Partners need structures and processes to honestly evaluate their data in order to systematically identify where they can improve.

There is a moral purpose to this work, since it improves the teaching of children. According to one evaluation of accountability policies in United States teacher preparation, “programs that use research as part of a process of learning to teach and use this research for program improvement...are more effective than those that do not.”⁷

Successful ITE programs and partnerships frame the work of collecting and analyzing data not as a form of compliance but as part of internal improvement.⁸ While programs often see system-wide data requirements as burdensome, requiring them to use data as part of their own internal continuous improvement process can help them to appreciate its value. Senior teacher educators often strongly resist the judgment that a program needs ‘fixing’, yet are far more open to the idea that it might be improved.⁹

Therefore, ITE programs that create an internal improvement process can help to shift the conversation in their partnerships away from compliance and towards improvement. It is both a structural and a cultural change.

2.1 How does continuous improvement work?

Improvement is not a random or isolated process, nor a series of unrelated interventions disconnected from an organization’s systems, culture, and practices (such as having an audit, annual reporting, *ad hoc* surveys, and so on). Organizations that continuously improve

integrate the work of improvement into their core functions and the daily activities of their staff.¹⁰

Methodologies for generating continuous improvement include those promoted by Six Sigma, the European Foundation Quality Model, and the Kaizen Institute. While these models differ in their precise theories of change, each is dedicated to a number of goals: identifying opportunities to reduce waste and improve effectiveness; planning how current processes can improve; executing changes, then reviewing what worked and what did not; and feeding lessons learned into an ongoing improvement cycle.

In all these methodologies, a continuously improving organization:

1. Sees the work of continuous improvement as part of its ongoing core business and culture and the work of its people, not as an add-on, isolated, or imported ‘event’;
2. Systematically designs and manages the work of improvement against desired outcomes;
3. Uses data and evidence about the impact of improvement strategies to inform planning and organizational learning.

Education’s most well-known improvement cycle is probably the Deming Cycle, widely recognized by its Plan, Do, Study, Act stages. The Deming Cycle is a term for organizational or procedural *learning* and can be applied to teaching and learning cycles to improve instruction in schools or in any organization. It starts by identifying a goal, a theory of action, indicators of success, and an action plan. Individuals or teams implement that plan with fidelity, then monitor the outcomes of the plan for signs of success, problems, or areas for improvement. Finally, they feed these lessons back into the next cycle, adjusting the goals, theory of action and plan, in order to create a cycle of continuous improvement.¹¹

⁷ Tatto et al., 2016

⁸ C. A. Peck et al., 2010

⁹ C. A. Peck, McDonald, & Davis, 2014

¹⁰ C. A. Peck et al., 2010; Senge, 1992

¹¹ Deming, 2000. For more information on the PDSA refer to the [Deming Institute website](#).

Whatever the methodology, improvement needs to be part of an organization's culture, practices and structures – its ecosystem. Data must be continuously collected and analyzed to assess how well the organization is performing against its goals or mandate. New strategies must be tested and evaluated in order to improve.

The following case studies show how continuous improvement processes can work in ITE. The first examines the teacher education program at the University of California, Santa Barbara. The second describes how Texas Tech University works with its district partners on continuous improvement. The final case study considers the continuous improvement approach that Massachusetts requires in its program accreditation process.

2.2 A program: University of California, Santa Barbara

By collaboratively analyzing teacher performance data on a regular basis, the University of California, Santa Barbara, created a sense of responsibility across the faculty for the outcomes of its graduates.

The University runs a 13-month post-baccalaureate teaching credential and masters degree program, with about 100 students per cohort.¹² Candidates take part in both fieldwork and coursework, working at a school during the day and attending university classes in the afternoon or evening.

Over the last 15 years, the program has embraced the use of Teacher Performance Assessments (TPAs) as a means of providing feedback for program improvement.¹³ Using a collaborative inquiry approach, faculty members analyze TPA data in order to identify specific areas for improvement and to inform changes to course content, structure, or focus.

¹² Sloan, 2015

¹³ Initially the program used the Performance Assessment for California Teachers (PACT) but has recently switched to the edTPA, which is similar. The main difference is that the edTPA is externally marked whereas the PACT required internal marking.

The entire faculty meets three or four times a year on full-day retreats to analyze the TPA data.¹⁴ They look not only at candidate scores but also at artifacts, such as lesson plans, assessments, videos, or commentary. In one analysis, faculty split into mixed groups (of supervisors, instructors, researchers, and so on) and reviewed candidate samples of student learning assessments. Their surprise that candidates appeared to have a superficial understanding of assessment triggered a discussion of how to address this problem.

Detailed analysis of TPA data allows faculty to develop a shared language and common expectations of teacher candidates. The TPA tasks and rubrics help staff to understand what teachers need to know and be able to do. Creating shared goals for all candidates enables faculty to develop a common understanding of what they need to do to achieve these goals.

The retreats have a culture of collective accountability. Everyone analyzes the same student work; no one person is responsible for the weaknesses of any candidate. For example, one-year TPA data showed that candidates were performing poorly at using academic language. An instructor of the English Language Development class stood up and apologized to everyone, only to be told, "Why should it be your responsibility? It should be all of our responsibility."¹⁵

The next year, professional development focused on academic language. Faculty outside the English department also learned how they could help to develop candidates' use of academic language in their classes. One social studies instructor said that she would now use sentence frames to make sure that candidates could create the kind of scaffolding needed to support English language learners.

For the university, implementing a continuous improvement process is both a cultural and a structural shift. The structured retreats helped to create a culture of collective accountability. By appreciating the importance of both forms of

¹⁴ C. A. Peck et al., 2014

¹⁵ Sloan, 2015

change, the University has year-upon-year improved the effectiveness of its program.¹⁶

2.3 A partnership: Texas Tech University

Texas Tech University's College of Education is reforming how it trains its 550 teachers each year. Since becoming dean in 2011, Dr. Scott Ridley has implemented a vision to produce the best educators and to hold themselves to higher standards of quality and results. Faculty members conduct research on their program to identify and analyze how to improve, and to work responsively with the schools, agencies, and communities they serve.¹⁷

The vision is built on using data. Texas Tech uses design-based implementation research, an approach in which researchers and practitioners work together to address practical problems of teaching and learning.¹⁸ The goal is to measure the impact of the college's pre-service courses and field experiences on candidates' knowledge and teaching practices. One design-based research project looks at:¹⁹

- The effects of elementary mathematics methods course interventions on teacher candidates' mathematics knowledge for teaching;
- How elementary teacher candidates' initial teaching practices change as a result of these interventions; and,
- The impact of interventions on pre-service teachers' mathematics knowledge for their teaching practice.

To investigate these questions, the Texas Tech team collects and analyzes candidate data from pre-and post-knowledge tests, videotaped teaching demonstrations, and perception surveys. The data provide systematic

understanding about how pre-service teachers learn to teach in their program.

In a "shared governance" approach, Texas Tech faculty members meet quarterly with their partner district school principals and assistant principals. Together they discuss data on teacher candidate performance and mentor teacher support, and create solutions to improve candidate performance.²⁰

All Texas Tech faculty members also meet twice a year for "data days" to review candidate performance and design plans to improve coursework and practical training. Texas Tech now invites school and district leaders to these meetings, during which attendees look at candidate performance on course assignments and performance observations and design a coherent approach to addressing areas for improvement. Progress is measured and shared with others to review what works.

Texas Tech's approach to improvement spans its entire ITE program, including partner districts. Faculty are not simply shown data and told to come up with individual improvement plans. Instead, program and district leaders use data and staff input to create a cohesive agenda to guide improvement work.

2.4 A system: Massachusetts

Massachusetts has tied implementation of a continuous improvement cycle to its accreditation process.

The state has 407 school districts and about 70,000 teachers. In 2016 it had 82 Education Preparation Program Providers.²¹ Since 2009, Massachusetts has used a series of pilots to lay the ground for a new approach to evaluating ITE programs based on evidence-based distinctions in assessments of its programs. The state hopes to contribute to national understanding of what aspects of teacher preparation make the biggest impact on prospective teachers.

¹⁶ C. A. Peck et al., 2014

¹⁷ For more information refer to a [case study](#) on how Texas Tech University built meaningful partnerships with schools

¹⁸ For more information on design-based research refer to the Carnegie Foundation for the Advancement of Teaching article [Quality Improvement Approaches: Design-Based Implementation Research](#)

¹⁹ Internal ITE CoP documentation supplied by USPREP

²⁰ For more information refer to a [case study](#) on how Texas Tech University built meaningful partnerships with schools

²¹ Massachusetts Department of Elementary and Secondary Education, 2016c

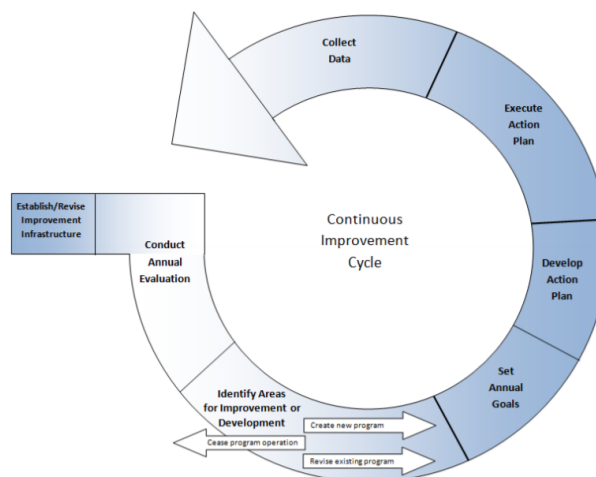
In 2012 the state’s Board of Elementary and Secondary Education adopted new program approval (accreditation) standards. These increased expectations of providers and emphasized the use of outcomes data (such as employment, evaluation, and student impact scores) in evaluating program effectiveness. In order to put the standards into operation, the state developed a more explicit, concrete and usable set of criteria for evaluating providers. Criteria were grouped into six domains, listed below.²² Each domain covers a set of criteria that helps to address an essential question.

1. The organization: is the organization set up to support and sustain effective preparation?
2. Partnerships: is the organization meeting the needs of the Pre-K-12 system?
3. Continuous improvement: is the organization engaging in continuous improvement efforts that produce better prepared educators?
4. The candidate: is the candidate’s experience in the program contributing to effective preparation?
5. Field-based experiences: do candidates have the necessary experiences in the field to be ready for the licensure role?
6. Instruction: do candidates have the necessary knowledge and skills to be effective?

Notably, the list includes continuous improvement as a criterion for program approval. Programs are expected to use an internal continuous improvement cycle, based on the compilation and analysis of data, to examine program effectiveness. The Massachusetts Guidelines for Program Approval include an illustration of a continuous improvement cycle (see Figure 1) that encourages each provider to “reflect upon and assess the design, development, and delivery of its education preparation programs and ensure that they reflect the mission, vision, and goals of the

[provider], and that they are aligned with state requirements”.²³

Figure 1: Massachusetts continuous improvement cycle



The cycle’s first step requires providers to establish an improvement infrastructure. They must review and revise their structures to ensure they have the resources and internal capacity to sustain an ongoing improvement process. Massachusetts has set out some potential actions to help providers create this infrastructure. They can:

- Create an improvement committee
- Schedule in advance standing meetings to support each step in the cycle
- Enlist external partners and stakeholders to support the infrastructure
- Employ the Data Wise Improvement Process²⁴, a cycle of data inquiry used in the PK-12 system and adapted for post-secondary use (see Box 5: Massachusetts and Endicott College)

Every year, providers must assess their programs’ compliance, effectiveness, and impact by analyzing their data and identifying areas for improvement. They must then set annual goals and develop and implement an action plan for achieving them.

²² Massachusetts Department of Elementary and Secondary Education, 2016b

²³ Massachusetts Department of Elementary and Secondary Education, 2016d (Quick link: [Massachusetts Guidelines for Program Approval](#))

²⁴ Boudett, City, & Murnane, 2013

As part of accreditation, the Massachusetts Department of Elementary and Secondary Education then assesses programs on their ability to successfully implement this cycle. Providers must:

- “Describe the system of **quality assurance** within your organization that monitors individual program efficacy, ensuring that each candidate that completes the program is prepared to be effective in the licensure role
- Provide two or three examples of how individual programs have **improved based on the monitoring** you’ve described above
- Provide two or three examples of how your organization **has used internal or external evidence** to make strategic decisions regarding program improvements
- Provide evidence to demonstrate that your organization **has used feedback** solicited from internal and external stakeholders in your continuous improvement efforts
- Provide two or three examples of **how goals articulated in the State Annual Report yielded improvements** to your educator preparation programs.”

Massachusetts requires programs to report not only on outcomes and the process for improvement but also on the links between the process and the outcomes. This requirement is powerful. Not only is the Department clear that it expects continuous improvement, it is asking the right questions to assess whether it is happening.

Once collected, this information, and information relating to the other domains, form part of a formal review process. The reviewers then conduct a two- or three-day site visit to conduct interviews, observations, and discussions. They use the information to produce a final report and summative judgment about each criteria, domain, and whether the program should be approved.

The process creates a valuable learning opportunity for providers. Massachusetts uses various levels of ratings, recommendations, and

approval determinations to give them rich information about their performance and to create incentives for continuous improvement. Individual review criteria are rated and result in a commendation for outstanding practices, a rating of “criteria met”, or a finding of areas of concern that require action, in some cases immediate and significant action. Once the review team has rated all criteria in a domain, it makes an overall recommendation of exemplary, proficient, needs improvement, or unsatisfactory, on that domain.

Each review results in a final approval determination, reflecting the impact of all judgments made during the review. There are five potential approval determinations: approved with distinction; approved; approved with conditions; probationary approval; and not approved. Each carries different implications for programs. Those approved with distinction are granted the longest period of approval authorization and may be preferred for department-funded initiatives. Those approved with conditions may have more frequent reviews and other conditions imposed upon them. Those with the lowest approval rating may face enrollment restrictions, or not be allowed to recruit, prepare or endorse candidates for licensure. In every case, the review team will also offer professional suggestions to aid continuous improvement.²⁵

The results of these reforms have been positive: 86 per cent of participating organizations agreed that the information contained in the review report would inform their continuous improvement efforts.²⁶ Without overhauling its existing accreditation system, Massachusetts has been able to shift its focus from compliance and minimum standards to continuous improvement.

²⁵ Massachusetts Department of Elementary and Secondary Education, 2016d

²⁶ Massachusetts Department of Elementary and Secondary Education, 2016a

3 What data help programs to continually improve?

In the past, data collected for the purposes of accreditation were focused on input measures such as entrance requirements, whether programs had a clear philosophy, or whether they had links with schools. Over time, the focus has switched to outcome measures of graduate quality such as value-added measures, licensure test results, and candidate and principal surveys.

While this has been an important step, efforts to create measures for comparing programs have not always yielded the desired goal. Strongly reliable measures, such as graduate retention data, are often less useful in providing the necessary detail for improvement. Measures that are more useful for improvement, such as principal surveys, are often less reliable and therefore less useful for making summative judgments.²⁷ A common problem in data collection in ITE (and most areas) is that it is relatively easy to use data to differentiate the top and bottom, but much harder to differentiate among the many programs of average quality.

In about half of US states, systems give feedback data to providers on their graduates, while many providers collect data in order to comply with accreditation or other accountability requirements.²⁸ These data can be important, but we need to examine how they can be used for continuous improvement.

Data for continuous improvement must connect the actions of staff in ITE providers with the actions of their graduates once they enter schools. The following principles of developing continuous improvement data help us understand how this can be achieved:

- **Authenticity:** Do the data represent what they are trying to measure? For example, teacher performance assessments are traditionally seen as a more authentic method of measuring teacher quality than basic

skill or content knowledge assessments.

- **Level of detail:** Do the data produce information that is targeted and specific enough to be useful? A common criticism of data from external reviews is that they do not provide the necessary detail to allow program heads to know which areas of their program need to be changed.
- **Timeliness:** Will the data still be applicable once reports are produced? Sometimes analysis of data at the state level is so time consuming that by the time it is provided to programs, the cohort it refers to has already graduated. While data about past cohorts are still useful, the more real-time the data can be provided, the more likely the program will be able to make changes and assess their impact on the same group of students.
- **Relevance:** Is analysis of the data relevant to achieving the system or program goals? Ultimately, data should be collected at the program or state level to provide information on whether system or program goals are being achieved. Collecting only data that are relevant to system or program goals also clearly signals a system's priorities to programs or faculty.
- **Reliability:** Can the data be relied upon to provide an accurate picture of what is happening? For example, graduate surveys are often considered to be biased, since those who are satisfied with a program are more likely to complete them.²⁹

Continuous improvement data provide concrete information to help teacher educators know how to improve. Feedback data that reflect a teacher educator's impact on candidate learning can be a powerful motivation for change.³⁰ Candidate work samples from authentic teacher

²⁷ Jacob & Lefgren, 2008

²⁸ Data Quality Campaign, 2017

²⁹ C.A. Peck, Singer-Gabella, Sloan, & Lin, 2014; Tatto et al., 2016

³⁰ C.A. Peck & McDonald, 2014; C.A. Peck & McDonald, 2013

assessments such as edTPA (explained in more detail below) provide these kinds of feedback data. Teacher educators may be able to demonstrate how their course syllabi meets all the relevant program standards, but until they examine candidate work samples, such as lesson plans and videos of practice, they have little idea whether candidates can implement in a classroom the ideas they have been taught.

Once teacher educators have the means to interrogate assumptions about their personal impact on candidate learning, they have both the information and the motivation to improve their practice.³¹ In one study, a teacher educator examined the raw student work from a teacher licensure assessment and discovered that her candidates were “not getting what I thought I was doing.” As a result, she changed her series of course assignments to address the deficiencies the data identified.³²

Tools that provide information on candidate performance in the classroom connect preparation and practice and make gaps in candidate learning more visible to both university- and school-based teacher educators, which, in turn, motivates them to collaborate more extensively. One study of two programs showed how these educators together used a new tool to analyze candidate classroom performance.³³ The work inspired the development of new instruments for aligning coursework and fieldwork, updates to job descriptions and responsibilities for collaboration, and the expansion of program meetings to include university and school-based staff.³⁴ Similarly, joint experiences with training, scoring, and interpreting candidate performance help to develop common and concrete language of practice between university and school-based teacher educators.³⁵

³¹ C.A. Peck & McDonald, 2013

³² Charles A. Peck & McDonald, 2013, p.17

³³ The tool used was the Performance Assessment for California Teachers, developed by a consortium of providers at 30 universities. See <http://www.pacttpa.org> for more information.

³⁴ C.A. Peck & McDonald, 2014

³⁵ Charles A Peck et al., 2014

3.1.1 Teacher performance assessments (such as edTPA and licensure tests)

Teacher performance assessments are one of the most useful types of data for providers and systems to collect for the purposes of continuous improvement. As the University of California case study in Section 2.2 shows, analysis of teacher performance assessments allows university-based teacher educators to pinpoint specific areas for improvement in their programs.

Teacher performance assessments, while not perfect measures, are useful for improvement when they focus on the actual practices of designing, delivering, and assessing lessons. For example, as part of the edTPA, the most widely used teacher performance assessment, teachers must submit videos of their teaching, along with portfolios of lessons, assessments, and student work.

There is some evidence that candidates' performance assessment scores can predict their subsequent effectiveness in the classroom.³⁶ Yet teacher performance assessments have been criticized, particularly as a tool for summative ITE program evaluations, because in most assessments, candidates are able to choose the lessons they deliver, edit the videos, and select the student work they want to demonstrate.³⁷ (This is less of a problem when these assessments are used in a formative manner to give teacher educators information to improve their courses and teaching practices.)

Some licensure tests give more information to providers than others. The Massachusetts Tests for Educator Licensure (MTEL) tests, for example, collect and report data by sub-test area, such as “development of reading comprehension” and “reading assessment and instruction” in the *Foundations for Reading* test.³⁸ Candidates are also required to analyze sample student work. Data from the test give programs rich information on what precise parts of courses, such as how they teach reading comprehension

³⁶ Darling-Hammond, Newton, & Wei, 2013

³⁷ Greenberg & Walsh, 2012

³⁸ See the [MTEL Foundations of Reading Annotated Score Report](#) for more information.

or reading assessment for elementary candidates, that they need to improve.

Teacher educators need access to the detailed results on the strengths and weaknesses of their candidates, and, ideally, the opportunity to observe and analyze some of the videos and portfolios themselves. Teacher educators also need to be able to identify how their own practices affect the candidates' learning. Subject-specific information, rather than general competencies, helps teacher educators better understand what areas they should focus on for improvement.

3.1.2 External review

Some systems have begun to engage outside contractors to review their teacher preparation programs. High-quality external reviews can provide some of the most valuable data for continuous improvement. They are one of most reliable ways to assess program elements such as the quality of instruction, practicums, or course content and assessment. They are also useful for making summative judgments about programs.

A high-quality review should include an in-depth analysis of course syllabi, prescribed texts, assessments, and lectures. Unsurprisingly, this type of analysis has been found to provide more insight into instructional quality than the number of course hours or a list of subject offerings.³⁹ Yet analyzing syllabi alone provides limited information. External reviewers should also perform on-sight observations to see how syllabi are implemented, since there is often a distinction between intended and enacted curriculum.⁴⁰

Data from high-quality external reviews can provide programs with information that tells them not only what they need to improve, but also the steps they will need to take (see Box 1). It is crucial, yet challenging, for external reviewers to develop tools and hire and train high-quality inspectors to perform the reviews so that they provide meaningful data.

High-quality external reviews require significant investment of time and money. But this investment should be measured against the alternative – the high cost of provider-by-provider interventions, and remedial in-service development of teachers. Further, a detailed initial review will set clear expectations of providers, while lighter-touch reviews may be possible on subsequent occasions.

³⁹ Coggshall, Bivona, & Reschly, 2012

⁴⁰ McKnight et al., 1987

Box 1: A high quality review process in Florida

The Florida Department of Education is piloting external site reviews for its ITE providers. The site reviews are conducted in partnership with a third party, Teacher Preparation Inspection US (TPI-US). The reviews focus on two areas:⁴¹

1. Quality of clinical placement, feedback, and candidate performance
2. Quality of program performance management

Before the review takes place, reviewers collect and analyze the following data:

- Program requirements and/or typical degree plan for the program
- Handbook (or equivalent) for teacher candidates, classroom cooperating teachers and program supervisors
- Observation and feedback instruments used by the program for observation of teacher candidates
- Teacher candidate observation data on all required observations for the most recent cohort
- Current cohort admissions data (that is, GPA, SAT, and/or ACT data for all of a recent cohort)
- Demographic information about the program's placement schools and their academic performance
- Syllabi for all courses

In a five-day visit to an ITE program, members of the inspection team:

- Observe recent program graduates in their schools
- Observe program supervisors as they observe teacher candidates
- Interview members of faculty, recent program graduates, principals and assistant principals at hiring schools, directors of human resources in hiring districts, program supervisors, and classroom cooperating teachers

After the inspection, a report to the provider grades the program, on a scale of 1 to 4, in each of the two main areas set out above: quality of clinical placement, feedback, and candidate performance, and quality of program performance management. It also summarizes the program's strengths and areas for improvement. The review triangulates qualitative and quantitative data to help explain the evidence behind its judgments.

For each review area, the report recommends steps the program should take to improve its performance. Providing this information with a summative judgment helps the program design an improvement agenda.

Each provider reviews its feedback report and prioritizes three improvement areas cited in the report. Programs are required to provide the Department of Education with an action plan that describes measurable goals, and evidence of progress it will collect, to address the areas identified as needing improvement

The Florida Department of Education reports:

Most leaders from Florida's [providers who piloted the site review process] have come...to embrace and leverage the process to improve teacher preparation in their programs. All have found ways to use the feedback for improvement. These program leaders are asking each other and themselves different questions, which is changing the behavior in their programs.

The Department is looking to refine and scale the site reviews across the state, and to incorporate them into program accreditation processes. It sees them as an effective mechanism to give programs meaningful and actionable feedback that leads to self-improvement, with minimal intervention and investment from the state.

Source: Internal ITE CoP documents submitted by the Florida Department of Education

⁴¹ TPI-US tools are adapted for use in Florida. Florida will add the two remaining aspects of TPI-US's site reviews, "Quality of Selection for Teacher Candidates" and "Quality of Content Knowledge and Teaching Methods" in 2017-18.

3.1.3 Graduate survey and principal survey data

Graduate and principal surveys can be useful for improving programs and for making summative judgments about them, but only alongside other measures. It is vital to hear from graduates of a program, and from those who hired them. These perspectives can provide insights into a program's strengths and weaknesses.

One problem with most graduate surveys, however, is that they tend to measure student satisfaction, which often has an inverse relationship with program rigor.⁴² Low and biased response rates also frequently plague graduate surveys, with those who feel positive about a program most likely to respond.⁴³ Timing is also a factor: survey too early and teachers do not yet have the depth of experience to reflect comprehensively on their formative training; survey too late, and other in-school factors can bias teachers' perception of their training.

For these reasons, graduate surveys can be a strong piece of evidence, but only when designed well and used as one of multiple measures of evaluating a program. In particular, when combined with knowledge assessments of teachers, graduate survey data helps to give a rich picture of a program.⁴⁴

Principal survey data are also often unreliable: school principals can identify high- or low-performing teachers but usually provide less insight on those in the middle.⁴⁵ This means that if a program is churning out graduates who tend to perform in the average range, most principal feedback will not help it to improve. Furthermore, the provider TNTP found that principals routinely overvalue TNTP's graduates because principal expectations for beginning teachers are usually so low.⁴⁶

While graduate and principal surveys are still useful for program improvement, an ongoing

feedback loop between ITE providers and schools may be more helpful than a point-in-time survey about recent graduates.

3.1.4 Teacher evaluations

Teacher evaluation data can mean many things: teacher observation data, principal ratings, student survey data, and student assessment data (in the form of value-added measures that measure the impact a teacher has on student learning).

Student assessment data have had mixed results in making summative judgments about program effectiveness.⁴⁷ While one study found a link between graduates' learning experiences during ITE and the subsequent achievement of the students they taught,⁴⁸ others found that measuring program effectiveness through student achievement rarely produces enough variability to distinguish among programs.⁴⁹ This does not mean student assessment data are unhelpful or inaccurate for making summative judgments, but they should be used alongside other measures. In particular, value-added data are useful for verifying less reliable but more useful data for improvement, such as observations of teachers.⁵⁰

Teacher observation and student survey data provide more detailed information about teacher performance.⁵¹ A large study of 9500 graduates across 183 programs in Tennessee found that using observational ratings to evaluate providers has promise.⁵² High-quality teacher observation rubrics go into detail about teachers' practice, including their ability to check for student understanding, differentiate among students, and

⁴⁷ Student assessment data are also not completely reliable for making summative judgments about teacher effectiveness. For more information see the [American Statistical Association's statement](#) on using value-added measures for education assessment.

⁴⁸ Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2009

⁴⁹ Gansle, Noell, & Burns, 2012; Koedel, Parsons, Podgursky, & Ehlert, 2015; Plecki, Elfers, & Nakamura, 2012

⁵⁰ There are some [well-documented problems](#) with value-added measures. For example, not all subjects are tested, not all tests are good, not all tests are well-timed to reflect student growth.

⁵¹ Bill & Melinda Gates Foundation, 2013

⁵² Ronfeldt & Campbell, 2016

⁴² Tatro et al., 2016

⁴³ Tatro et al., 2016

⁴⁴ Tatro et al., 2012

⁴⁵ Jacob & Lefgren, 2008

⁴⁶ For more information refer to TNTP's report [The Widget Effect](#)

clarify misunderstandings. Similarly, student survey responses can provide detail on teachers' pedagogical practices (such as questioning and student learning consolidation) alongside information on classroom management and student engagement. Through use of high-quality teacher observation or student survey data, ITE programs can determine more specific areas for improvement in their graduates and modify their programs accordingly (see Box 2).

Teacher evaluation data must be made available to programs at the right level of detail. Aggregate data may not give a provider information about specific aspects of its program or candidate experiences. Since candidate performance in the same program can vary widely,⁵³ it is important that programs be given data that they can unpack to identify areas for improvement.

Box 2: The dad TNTP uses to continuously improve its Fast Start Program

TNTP continuously reviews its data to revise its accelerated Fast Start ITE Program. The organization uses its own ACE evaluation process to assess first year teachers, and compares that information to the assessment of performance given to those teachers at the end of their Fast Start training.

The ACE evaluation process includes classroom observation scores, principal ratings, student surveys, and value-added data (where available). For example, after its first year of implementing ACE, TNTP analyzed the data and found that certain skills were most clearly associated with a strong foundation for growth among new teachers. It then revised its teacher training to focus on four key skills: clearly delivering lessons, maintaining high academic expectations, maintaining high behavioral expectations, and maximizing instructional time. The change worked. Teachers who performed better during their TNTP teacher training went on to perform far better on the ACE evaluation at the end of their first year.

Source: TNTP's [Leap Year](#) report; Internal ITE CoP documents submitted by TNTP

3.1.5 Graduation and retention data

Graduation and retention data – what share of graduates get jobs and how long they keep them – can be of limited use for improving a program or making summative judgments about it. Knowing that few graduates are getting jobs can provide a spur for change, but no guidance on how to change.

Graduation and retention data also have limited value in measuring program quality. Because many other factors beyond the program shape the employment outcomes of ITE graduates, graduate and retention data can be deceptive measures of program quality.⁵⁴ The data are not completely useless: high or low graduation rates are likely to be indicative of quality. Yet the data provide limited insight into programs that fall in the middle of the range.

⁵³ Refer to Bellwether's report [No Guarantees: Is It Possible to Ensure Teachers are Ready on Day One](#) for more information.

⁵⁴ Tatro et al., 2016

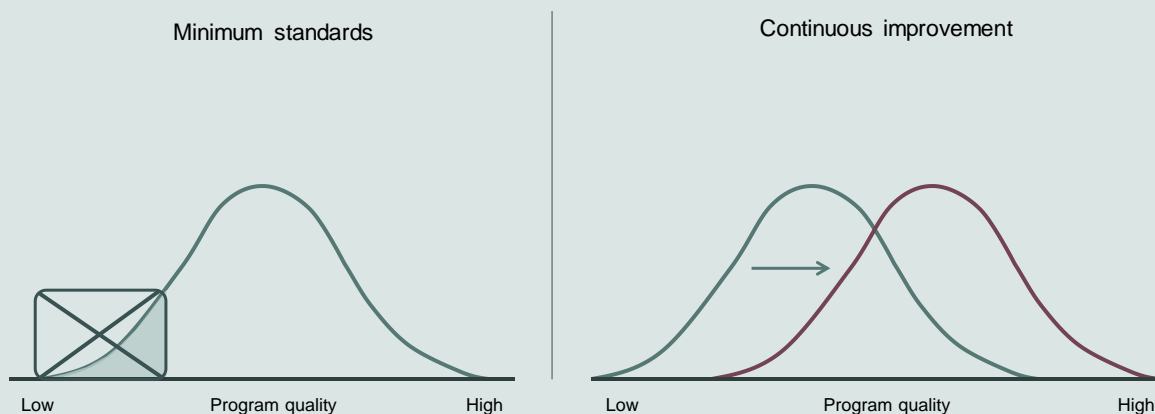
Box 3: Taking continuous improvement beyond minimum standards: an example from Japan

ITE partnerships that focus on continuous improvement must move away from static discussions about minimum standards. The traditional approach to accreditation and licensure normally focuses on minimum standards. Most programs and candidates need only pass the standard; there are few system-sanctioned incentives for them to improve.

To address this problem, and to create incentives for both students and providers, Japan uses continuous measures (rather than blunt pass/fail measures) of a candidate’s performance. Local prefecture (district) exams cover written subject expertise components as well as more practice-based oral components such as interviews or mock lessons. All are tightly aligned with the school curriculum. Rather than receive a pass/fail mark, candidates are ranked, and employers are more likely to hire candidates with top rankings. Only the top candidates are offered full-time positions, since there are always fewer vacancies than candidates. Providers need to prepare candidates to score highly in the exams, rather than only meet the minimum standard.⁵⁵

If ITE programs are displayed as a bell curve (see Figure 2), with some very high or low performing but most sitting somewhere in the middle, data that focus on minimum standards only target those at the low-performing end. When reviews focus on minimum standards, most programs have little incentive to do much more than meet them. A continuous improvement approach, by contrast, focuses on the improvement of all programs, including those in the middle of the curve.

Figure 2: The differences between minimum standards and continuous improvement approaches



As the example of the Japanese employment exam shows, a continuum of ratings encourages all programs to continuously improve their quality, and gives the system more information than a pass/fail score does. Detailed teacher licensure data and program accreditation categories can sort exemplary from mediocre programs, and provide information on the most effective features of programs.

⁵⁵ Jensen, Roberts-Hull, Magee, & Ginnivan, 2016

3.1.6 Conclusion

Many types of data are needed for continuous improvement; no single measure is an adequate means of evaluating the effectiveness of teacher preparation programs.⁵⁶ But as a guide, the following table summarizes the findings outlined in this section.

Data	Useful for continuous improvement	Useful for setting minimum standard / summative judgment
Teacher performance assessments / licensure tests	Yes	Alongside other measures
External review	Yes	Yes
Graduate and principal survey data	Sometimes	Alongside other measures
Teacher evaluations, student assessment data and VAMs	Sometimes	Sometimes
Graduation and retention data	Usually does not provide enough detail	Unclear

4 Embedding continuous improvement in district-provider partnerships

To embed continuous improvement, district-provider partners and systems should:

1. Analyze the current situation;
2. Engage stakeholders in the vision;
3. Agree on data priorities and processes;
4. Design an improvement agenda;
5. Implement, monitor, and evaluate;
6. Use accountability to create incentives for continuous improvement (for systems).

4.1 Analyze the current situation

Program leaders should start a continuous improvement process by analyzing the current situation with leaders from their district partners. Continuous improvement requires a culture change: using data as part of the improvement process itself, not merely for summative purposes.

By first taking stock, leaders can better determine how and why the collection and use of data should change in order to foster continuous improvement. The stocktake will also allow partners begin to think strategically about what data they collect and why.

District-provider leaders may ask themselves:⁵⁷

1. What data are collected now? Who collects it and from whom? Is it bundled up or broken down by program and candidate? Answering this question requires mapping out all data the district and provider collect relevant to ITE.
2. Why are the data collected? How are they used? It is important to consider the difference between these two questions. Are a lot of data being collected for one purpose but used for another, or not used at all?

⁵⁶ Feuer, Floden, Chudowsky, & Ahn, 2013

⁵⁷ These questions are also applicable to a system to review its use of data for continuous improvement.

3. What capabilities do our staff have for working together and using data? Have they used an improvement cycle before? Are they used to collaborating across institutions and faculties? What is the data literacy of our staff?
4. How will our staff react to this new initiative? Do they understand the need to use a continuous improvement process? Are they willing to be involved?

Leaders should invite key stakeholders to be a part of analyzing the current situation. Their perspectives can inform issues about data collection and use.

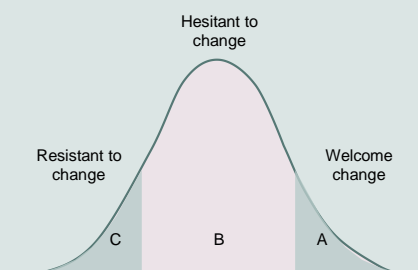
How different stakeholders may react to ITE reform

In their work on ITE reform, the Florida Department of Education found that it should expect different reactions from stakeholders:

Reactions to the [improvement] process have varied depending on the provider's level of understanding of the intent and purpose of the...process, and based on the provider's lived commitment to the concept of critical friendship for the purpose of continuous improvement. Reactions have ranged from discontent to confusion to acceptance to enthusiasm.

The following diagram illustrates the different responses to change by different groups of stakeholders. The groups in the diagram can be used to consider the spectrum of how much ITE providers and partnerships in a system are ready for change. For example, providers and their partners who welcome innovation are part of Group A.⁵⁸

Figure 3: Responses to change



⁵⁸ The groups in the diagram can also be used to consider the spread of teacher educator attitudes towards change in an ITE provider. For example, a Dean of Education trying to improve his ITE program may have a group of staff that are resistant to change (Group C).

Much as teachers need to differentiate their instructional techniques for different types of students, those wishing to enact ITE reforms should consider how they might differentiate their system policies for different stakeholders.

Group A welcomes change and does not need convincing or further evidence that a problem must be addressed. People in this group are looking for specific feedback and support to implement change – they need to see the details of how things are working and how they could be improved. For example, a program leader in Group A may receive external feedback that certain elements of reading instruction are not being taught in her program. She wants to address this but needs to know which elements are missing, in which courses, and how best to improve components of her program.

Those in Group B need more convincing. They are hesitant to change, think business as usual is working fine, but they are not entirely dismissive of change – they just need a strong and clear rationale. For this group, it is important to use data to establish a sense of urgency for change.⁵⁹ ITE providers and their district partners need to be made aware of problems and feel they can be a part of the solutions. They need specific data on their program outcomes, and of those of others. These could be licensure tests showing that graduates lack subject matter knowledge.

Those in Group C resist change. They may be ideologically opposed to the change, unwilling to believe they should be doing something differently, or simply find change too difficult. For these kinds of stakeholders, most systems use accreditation processes to set clear expectations and instigate program improvement. Programs not meeting standards and unwilling or unable to improve are usually monitored more closely, put on improvement plans and may ultimately risk losing accreditation.

It could be a useful exercise to map which stakeholders fall under categories A, B and C.

4.2 Engage stakeholders in the vision

After analyzing the current situation, partners and systems should think about their vision for continuous improvement. Why are they doing it? How will we get program stakeholders to buy into it? What should the continuous improvement

⁵⁹ Kotter, 1996

process look like to support this vision? Does it need to be highly structured and mapped out?

Since shifting to a focus on continuous improvement is as much a cultural as a structural change, it is essential to get buy-in from stakeholders.

Many stakeholders from district-provider partnerships should be involved in creating a vision for continuous improvement, as stakeholders need to feel empowered to own the change rather than have it forced upon them. Encouraging staff to undertake inquiry to improve the program is far more likely to win their engagement than using data for compliance reasons.⁶⁰ A good vision and rationale explains how the change will affect teacher educators' work. Sharing baseline data with staff may help them to see the need for improvement.⁶¹

Engaging district and provider staff in the vision also means respecting their concerns.⁶² Frank discussions help to embed local values, meanings, and contextual knowledge into the process. Working together to define the vision for improvement helps to create a cultural shift that makes individual players feel they are part of a collaborative partnership.

System leaders are in a strong position to bring people together to support the broad vision for continuous improvement.⁶³ But because continuous improvement is most effective when stakeholders feel they own it,⁶⁴ system leaders would do well to consult widely to ensure that stakeholders support a system-wide focus on continuous improvement and not feel it is being imposed on them.

For example, Tennessee first introduced the edTPA to a handful of early adopter providers. Once these providers were comfortable with the new teacher assessment, the state asked them to run training sessions on how edTPA operates

⁶⁰ C. A. Peck et al., 2010

⁶¹ For more information refer to a case study on [Motivating and Engaging Faculty](#) prepared by the University of Washington and AACTE.

⁶² C. A. Peck et al., 2010

⁶³ Data Quality Campaign, 2017

⁶⁴ C. A. Peck et al., 2010

and how other providers could best use edTPA data.

Florida's Department of Education supported four university-based providers and their district partners to establish Centers of Excellence for elementary teacher preparation. The Centers' leaders have served as critical friends to Department staff and helped to create and pilot new site review processes. The leaders provided invaluable input on the types of information that the Department could provide to help programs improve. In the past, site review reports typically provided information on a broad problem and left it at that. Now, reviewers provide detailed feedback alongside potential steps the program should take to improve its performance in each area (see Box 1). The Department learned that:⁶⁵

Gaining stakeholder buy-in is critical, and that only can be done by including stakeholders from the onset in discussions, planning meetings, implementation stages and policy development.

4.3 Agree on data priorities and processes

Improvement must be part of the ITE ecosystem, not an afterthought. The data collection, governance structures, job responsibilities, and staff incentives must all be re-examined. Not all policies and process will need to be overhauled, but they should be assessed on how they help or hinder continuous improvement.

Some questions district-provider leaders may ask themselves:

1. What data are most needed for improvement?
2. How will we create a common understanding of data?
3. What kind of improvement cycle will we use?
4. How will we embed data use for improvement in our processes?

⁶⁵ Internal ITE CoP documentation provided by the Florida Department of Education

Data priorities in district-provider partnerships

Implementing a new data collection regime requires partners to know which data, and in what form and level of detail, are most useful for improvement. Because providers often find that state data requirements do not meet their needs, agreement among stakeholders over what data each is required to collect and analyze will help create cultural change. As Section 1 describes, some types of data are more relevant to program improvement than others.

By bringing stakeholders together to discuss their data needs and constraints, teacher educators are more likely to see data collection as an opportunity for improvement than as a compliance exercise. The change also provides an opportunity for teacher educators to articulate which data are most useful to collect and analyze, to give them an accurate picture of their practice. Collaboration helps to build a shared language about data and data use, which helps to ensure that staff accept and trust the reliability of data.

Data processes used by district-provider partners

District-provider partners must decide what type of improvement cycle suits their needs and context. Like Harvard's Data Wise Improvement Process⁶⁶, it might be a highly structured improvement process, with a lot of support available, (see Box 5), or it might be a more flexible, or custom-designed series of steps.

Either way, district and provider leaders should embed disciplined improvement processes into their organizational practices. Harvard's Data Wise improvement process calls this "organizing for collaborative work", and it involves teachers and school leaders setting aside regular time for collaborative data review, establishing norms for analyzing data, and devising efficient meeting processes.⁶⁷ Texas Tech University schedules bi-annual "data days," or retreats, for university, school-university and school-based teacher educators, and district and provider leaders, to review data in an open and collaborative but structured manner (see Section 2.3). Others may incorporate data review into monthly meetings, and devote time to preparing digestible and

prioritized data for analysis during limited meeting time.

Involving as many staff members as possible in the analysis and interpretation of data is important for embedding improvement processes into daily work.⁶⁸ For example, a provider might modify its standard work routines or reduce workload in other areas, perhaps suspending coursework and field supervision for a week to enable school and university-based teacher educators to collaborate on scoring for edTPA.⁶⁹ Others may change job descriptions to highlight the work of continuous improvement, and promote staff who engage in it.⁷⁰

System supply of data to inform improvement

Systems that value continuous improvement supply their providers and district partners with data that are timely, reliable, and at a helpful level of detail (the type of data useful to improvement is described in Section 1).⁷¹

Systems may have access to data that individual providers and districts may not have access to, especially if state-wide teacher evaluation processes are in place.⁷² These data can provide district and provider partners with a much clearer picture of how their graduates need to improve in relation to the rest of the state. Systems can also work with districts and providers to collect and share data on workforce needs to inform program enrolment and district hiring policies.⁷³

In Tennessee, for example, much data collection is centralized, standardized, cleaned, and fed back to providers. In other systems, the burden can be on providers to collect and analyze their data. Policymakers should balance the cost

⁶⁸ Charles A. Peck & McDonald, 2013

⁶⁹ Charles A Peck et al., 2014

⁷⁰ For more information on refer to a case study on [Making Time and Space for Data Use](#) prepared by the University of Washington and AACTE.

⁷¹ Data Quality Campaign, 2016

⁷² Data Quality Campaign, 2017

⁷³ The Massachusetts Department of Elementary and Secondary Education compiles statistics on the preparation to employment pipeline for districts and gives [detailed guidance](#) on how to use this data for improvement. The Tennessee Department of Education also provides [Human Capital Data Reports](#) that help districts reflect on evaluation data, retention rates, equitable access to effective educators, and where the district gets its new teachers.

⁶⁶ Boudett et al., 2013

⁶⁷ For more information on Harvard's Data Wise Improvement cycle refer to their [website](#).

implications of centralized data systems against the risk of providers being overburdened or reluctant to submit sensitive information.

System publication of data

It is important to determine whether data should be published or remain private. While publication can help candidates to compare programs and thereby hold programs accountable, it can also have unintended consequences and encourage programs to be more secretive, hindering the continuous improvement process.

Using data for improvement requires trust. It hinges on the willingness of providers to honestly identify areas for improvement and to openly discuss ways to address them. Providers may be less willing to identify and discuss their areas for improvement if they think their reputations will be damaged or they will be punished.

Yet both public and private data are important. Publishing comparable and transparent data on program outcomes provides an incentive for programs to improve. It enables candidates – as well as other stakeholders, including providers themselves – to assess which programs are producing better candidates, and how.

Some things to consider when determining whether data should be published are:

1. Is the information useful for candidates to select a program?
2. Do the data signal what the system believes is important?
3. Do the data accurately reflect program performance?
4. Could publishing the data have any unintended consequences?

In Tennessee, data are published on the placement and retention rates of graduates, the teacher evaluation data of graduates, and the profiles of candidates before they enter a program. All these data help candidates to decide which program is right for them.

The third category, candidate profiles, shows both the average standardized test scores and the diversity of entrants to a program. It helps to paint a more complete picture of programs, since

the high performance of some programs' candidates could be related to the academic qualifications of those who entered them.

Tennessee uses public data requirements to signal its priorities to ITE providers as well as to potential candidates. Programs are ranked on both the racial diversity of their cohorts and on graduate teachers' evaluation scores. Tennessee has invested heavily in a strong teacher evaluation system, and it wants ITE programs to prepare graduates to meet the standards.

The potential unintended consequences of publishing data should be considered. Publishing data on the percentage of teachers who pass licensure exams may induce some programs to discourage some students from sitting the test, in order to keep pass rates high.

Box 4: Tennessee's use of public versus private data

Tennessee policymakers have thought carefully about the distinction between what data should be provided privately to ITE providers to help them improve, and what data should be made public for accountability purposes.

All ITE providers in the state are given a public Teacher Preparation Report Card. The card focuses on data that is measurable and reflects the state's goals. It includes data on the percentage of completers who are underrepresented minorities, the percentage of high demand endorsements (such as math, science and special education teachers), teacher value-added scores, and teacher observation scores. These data show providers what the state believes they should focus most on improving. Yet these types of statistics only provide information to identify which programs need to improve. In some cases, they provide the focus for what should improve (a lack of diversity in some programs' candidates, for example) but most of this information does not provide enough detail for providers to know *how* to improve.

Therefore, Tennessee also privately provides disaggregated information on program graduates. Providers receive completer, employer, and partner satisfaction data, as well as assessments of graduates from in-school observations. They also receive data from compulsory reviews, conducted by a trained team every seven years (more often if they are underperforming).

Source: For more information refer to Tennessee Department of Education's briefing on their [teacher preparation reforms](#).

4.4 Design an improvement agenda

Successful district-provider partners build a deliberate, coherent, and shared agenda for improvement, and a method to build partnership capacity for innovation and change.

Using data effectively does not involve stakeholders reviewing data and then going off in different directions to design individual improvement initiatives. Small groups of staff may work on improvement projects to address identified problems, but proposed solutions should be brought back to the broader group and aligned with an agenda for program improvement. Texas Tech University, for example, invites representatives from district and school partners to participate in faculty “data days” to review candidate performance and set a coherent improvement agenda (see Section 2.3).

A coherent improvement agenda outlines the relative priorities of improvement projects (guided by data analysis), and stakeholder responsibilities for joint projects. The agenda should consider the capability of district-provider partners to use an improvement process, because they may need to invest time significant time in building those skills as they go. Implementation should start small to build internal capacity, processes, and culture (see Box 5). If partners try to do too much too soon, they risk failing and alienating staff members. Some partners might take explicit action to build data literacy through training on data validity, reliability and interpretation.

Systems should also consider how they will build an improvement agenda, and, in particular, how they will build the capabilities of providers to implement continuous improvement processes. The Tennessee and Florida Departments of Education, for instance, offer providers training and technical assistance on the use of state, program, and district data for program improvement.⁷⁴

Some systems identify and share examples of best practice, and convene meetings of provider and district leaders to share challenges and learn

from one another.⁷⁵ Florida, for example, ensures that providers with certain action items in their improvement plans take part in learning communities with providers that have similar improvement goals. Florida also uses program leaders from the Centers of Excellence to help other providers to implement new continuous improvement processes.⁷⁶

Box 5: Massachusetts and Endicott College

After the introduction of new accreditation standards to encourage continuous improvement, the Massachusetts Department of Education sponsored a pilot program to enable two providers to build their capabilities for data use. Endicott College was one of the providers.

At the start of the pilot, Endicott Dean of Education Sara Quay said that she struggled to use data in a way that was meaningful for program improvement and not just for compliance:

“I’ve been collecting data for years, and I’ve been using it, but I felt like it wasn’t systematic... I didn’t have a way of thinking through it that felt deep.”

The pilot involved Endicott working with Harvard’s Data Wise Project, which provides a concrete framework to guide the use of data for continuous improvement. While the Data Wise Improvement Process was originally designed for K-12 schools, district leaders in Prince George’s County, Maryland Public Schools developed a “universal version” of the process for use by central office teams. Endicott and other teacher preparation providers in Massachusetts have now piloted the “universal” version of the Data Wise Improvement Process in higher education.

The steps in the process include:

1. Organize for collaborative work
2. Build data literacy
3. Create data overview
4. Dig into data
5. Examine own practice
6. Develop action plan
7. Plan to assess progress
8. Act and assess

⁷⁴ Internal ITE CoP documents submitted by the Tennessee and Florida departments of education

⁷⁵ Data Quality Campaign, 2017

⁷⁶ Internal ITE CoP documents submitted by the Florida Department of Education

Source: [Using data wisely at the system level](#) (Lockwood, Dillman, & Boudett, 2017)

The program helped Endicott team members to shift their internal culture to collect and use data to shape program decision-making, rather than for compliance. The lessons they learned were:

The importance of stakeholder buy-in

Endicott's dean made it clear that using data for improvement was a major priority, and ensured that staff had the time to collaborate and that their decisions were acted upon. Representatives from the Department of Elementary and Secondary Education also took part in some of the data meetings, demonstrating the importance the system placed on the work.

Start small and build internal capacity and culture

In the first year, Endicott focused on small, highly refined problems to get the use of data for continuous improvement right. It put internal systems and culture in place to support the process. In the second year, Endicott extended the process to include two school principals from a partner district, who collected observation data to give Endicott more detailed information on their candidates.

Source: [Data Quality Campaign case study, Using Data to Drive Success in Educator Prep: Massachusetts and Endicott College collaborate for continuous improvement.](#)

4.5 Implement, monitor, and evaluate

After designing a vision, improvement processes, and an improvement agenda, district-provider partners must implement their approach, then evaluate whether it is achieving results. It is also important to ensure that data are being used for the right purpose, which in turn helps to ensure that all stakeholders are on board. Achieving these goals involves ongoing measurement and review of data, feedback discussions with stakeholders, and making adjustments as required.

Partners might expand their improvement agenda after they have built strong internal processes, or they may introduce innovations, such as improved data analysis tools or collaborative frameworks. One provider for example, introduced advanced analysis of teacher performance data and built maps to link ITE coursework content and components to

teacher performance assessments and in-service teacher outcomes.⁷⁷

Systems should evaluate whether their policies are achieving the desired results. This involves measuring and reviewing the impact of policies, adjusting them as needed, and communicating openly and honestly with stakeholders. One effective way to evaluate what is working is to implement new continuous improvement policies as a pilot, and to set the expectation that these policies and their associated process will be adjusted based on stakeholder feedback. By continually revisiting the design and implementation of their policies, systems model a continuous improvement approach, making clear the importance of both responding to stakeholder input and of using data to inform practice.

4.6 Use accountability to create incentives for continuous improvement

Systems can use program accreditation and teacher licensure processes to set clear expectations and incentives for continuous improvement in providers and their district partners.

Effective systems embed such incentives in their system infrastructure. They assess system policies and processes on whether they help or hinder continuous improvement, and update them accordingly. For example, thoughtful policymakers do not add a continuous improvement criterion to an existing accreditation process without considering how current accountability arrangements or incentives could be hindering a provider's ability to continuously improve. They know that such a change would merely create more compliance for its own sake.

Using information gathered from stakeholders, policymakers can begin to revise existing accountability systems – and in some cases, create new ones – in order to focus providers and their district partners on using data for continuous improvement.

An interesting example is the use of edTPA for teacher licensure. As Section 3.1.1 describes,

⁷⁷ Bastian, Lys, & Pan, 2017

edTPA gives providers and their district partners rich information for improvement. The edTPA tool can also be used to license candidates in a way that gives a system comparative program data. Tennessee is implementing edTPA across the state in a way that serves both accountability purposes (for licensure) and program improvement.⁷⁸

Accreditation is traditionally used to set minimum standards, rather than as a tool for continuous improvement of programs. Yet accreditation can be modified to focus on improvement and partnerships, as the Massachusetts example in Section 2.4 shows. In Massachusetts, programs are given incentives to aim for the top tier approval designation rather than just ‘pass’ program accreditation. They also must show how they have implemented an improvement cycle, by demonstrating that they have used data and evidence, solicited feedback (including from district partners), monitored their improvements and linked it all to their goals. However, programs can focus their cycle on work that is meaningful and relevant for them, not just another “box-checking” activity.⁷⁹ The Netherlands takes a similar approach to program accreditation (see Box 6).

System leaders designing accountability processes should also, where possible, consider the district’s role in teacher preparation and continuous improvement.⁸⁰ Used in this way, accreditation can be a powerful tool to instigate system-wide change.

Box 6: University accreditation in the Netherlands

In the Netherlands, providers must provide evidence of their “internal quality assurance” as a major part of their university accreditation process. A key question in the process is whether “the institution is continuously working on development and improvement”

The reviewers ask questions that give them an idea of how a provider approaches continuous improvement. The accreditation review looks at two dimensions:

- A quality assurance system, and
- A quality culture.

The quality assurance system component of the review looks at a program’s structural features. It must have aims and objectives, procedures to safeguard quality, an improvement cycle, periodic evaluations, and systematic monitoring of improvements.

The quality culture component assesses the institution’s ability to create a sustained culture of improvement. A program’s culture is reviewed during site visits to determine whether there is a distinct and manifested vision, a shared focus on improvement, leadership, cooperation and self-management, professionalism, and a commitment to improving learning for candidates.

Both quality assurance systems and an embedded culture of improvement are vital to the way providers operate.

Source: Accreditation Organisation of the Netherlands and Flanders, 2016

⁷⁸ Charles A Peck et al., 2014

⁷⁹ Data Quality Campaign, 2016

⁸⁰ Accountability processes for districts in relation to teacher preparation are discussed in our companion paper *Developing partnerships to improve teacher preparation*

5 Conclusion

Continuous learning and improvement is essential to any organization in a complex world,⁸¹ including those institutions involved in the multifaceted work of preparing teachers. States, districts, schools, and providers should implement processes to systematically use data to identify areas for improvement, create and execute plans to address those areas, then evaluate the impact of their actions.

Continuous improvement is not just about a system of checks, or collecting data for their own sake. It is about district-provider partners and systems interrogating what they do, then using that knowledge in order to collaborate on how to better prepare teachers for the classroom.

⁸¹ Senge, 1992

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