LEARNING TOGETHER

Through Evidence

INSIGHTS FROM YEAR 1

Deans for Impact's
Common Indicators System Network

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ACKNOWLEDGEMENTS

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INTRODUCTION

Those who prepare our nation's educators have endured criticism for decades, weathering a persistent narrative that the field of educator preparation does not want to improve. Public policy has largely followed suit, wielding shame and sanctions rife with compliance exercises as levers for change. The implicit assumption seems to be that schools of education know what they should be doing to prepare effective teachers, but they simply refuse to do it.

We disagree.

We have worked with passionate leaders of educator-preparation programs across the country who are highly motivated to improve – but, in our experience, they often lack the information they need to make meaningful improvements. Programs are awash in data, but little of it is actionable. Reports to accreditation agencies or government departments describe the structure of programs and how many people move through them, but rarely include data that speak to a program's effectiveness, much less *why* and *in what ways* a program is (or is not) effective.

To improve systematically, the field of educator preparation needs data that is collected for the express purpose of program improvement. And while a small number of states have made positive strides in this direction, as a national organization – and in the absence of any federal leadership on this issue – Deans for Impact and its members needed to take action to address this glaring need.

Over the past three years we have partnered with 14 educator-preparation programs in 12 states to build the Common Indicators System (CIS) Network, a first-of-its-kind shared data system designed for improving teacher-candidate learning. Our first step was to identify which data we wanted to collectively gather, and to select common measurement instruments each participating institution would agree to use. The next stage was to actually gather data on teacher-candidates and programs, which we did for the first time over academic year 2017-2018. And now participating programs are making changes to their programs based on that data, working together as a network to solve problems, and collecting data for the next cycle of improvement work.

This report shares preliminary insights from the CIS Network's first year of data collection, including what we've learned from this new source of teacher-candidate data, and how to build systems across institutions to make better use of data for improvement.

WHAT WE'RE LEARNING:
INSIGHTS FROM THE DATA

After two years of development, the CIS Network has now completed its first full year of common data collection, amassing a cross-institutional dataset on over 3,500 teacher-candidates, 400 program graduates, and 100 of their employers. We collected information across four dimensions:

(1) **Student teaching observations** using the CLASS observation rubric developed at the University of Virginia

(2) **Teacher-candidate perceptions** about their own abilities using a newly-developed "Teaching Beliefs and Mindsets" survey that draws on previously-validated scales of self-efficacy and grit

(3) **Feedback from recent graduates** on their perception of the quality of the program that prepared them, using a survey developed by the University of North Carolina

(4) **Feedback from employers** on the effectiveness of teachers they've hired, using a survey developed by the Massachusetts Department of Elementary and Secondary Education[1]

CIS NETWORK

WE COLLECTED DATA FROM

3,500
Teacher-candidates

400
Program graduates

100
Employers
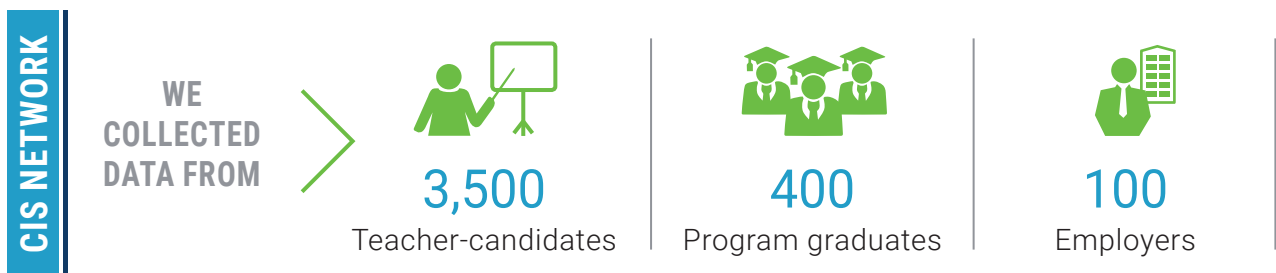
FOUR MAJOR TAKEAWAYS[2]

1. **Teacher-candidates feel more effective – and appear to teach more effectively – by the end of their clinical experience, but we find little relationship between how they feel and their actual observed practice.**

Teacher-candidates report feeling increasingly effective over the course of their clinical experience, particularly in their ability to deploy instructional strategies, *and* they generally show observable changes in the quality of their instruction, though the magnitude of these changes is relatively small.[3]

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[1] For more information on development of the CIS and its measures see the technical appendices at **deansforimpact.org/our-work/cis-network**

[2] Though many programs piloted the CIS Beginning Teacher and Employer Surveys, sample sizes and response rates remain too small to draw meaningful conclusions across the network on these measures. As a result, we only present insights from the data we collected on candidates' self-efficacy, from the Teaching Beliefs and Mindsets Survey, and observed classroom practice, from CLASS, for this report. Additionally, results presented in this report are purely descriptive and we do not present them as generalizable beyond CIS Network programs. As the CIS Network grows and more data become available, we look forward to sharing more robust insights on what matters, for whom, and why, in the preparation of beginning teachers.

[3] For all teacher-candidates in our sample, CLASS observations and Teaching Beliefs and Mindsets Survey data were gathered at two time points during their clinical experience. For teacher-candidates in our sample serving as full-time student teachers, Administration 1 occurred at the start of their culminating student teaching placement while Administration 2 occurred at the end of their culminating student teaching placement. For teacher-candidates in our sample serving as full-time teachers of record while enrolled in the preparation program, Administration 1 occurred at the middle of their first year as a full-time teacher of record while Administration 2 occurred at the end of their first year as a full-time teacher of record. Regardless, the window for pre-and post-data collection on these two CIS measures is relatively small across the network, just a few months of clinical experience on average. This window reflects practicality for programs, but it may be too small to capture meaningful growth. At the very least, it is unclear how much growth we might expect from candidates over this period – an area we are eager to explore further as more data become available across programs with a diverse set of clinical experience structures.
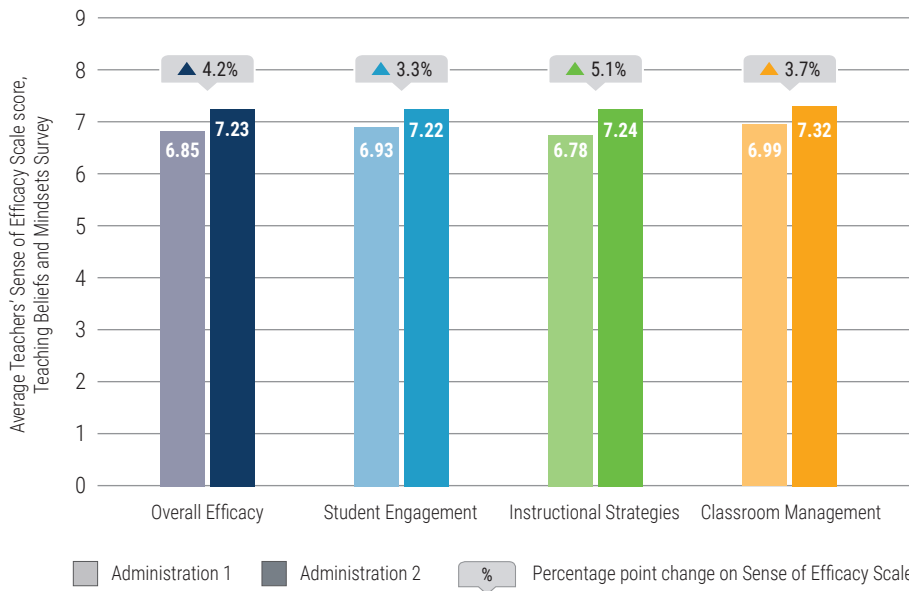
Change in Average Sense of Efficacy Scale Score, Overall and by Subscale

Note: Results reflect average change based on 1900 observations from the 7 CIS Network programs that collected data across both administrations of the Teaching Beliefs and Mindsets Survey. Self-efficacy is measured in Section 1 of the Teaching Beliefs and Mindsets Survey using the Teachers' Sense of Efficacy Scale, scored 1-9.

Administration 1 · Administration 2 · % Percentage point change on Sense of Efficacy Scale

Yet, how effective a teacher-candidate feels about their practice does not correlate with their observed teaching growth. In fact, we see little to no relationship between a candidate's self-efficacy in any area and the quality of their observed practice in that area.[4] Though candidates self-rated their efficacy in instructional strategies about as highly as they did other aspects of teaching, their corresponding classroom observations consistently rated instructional support skills among the lowest-scoring dimensions, both before and after clinical experience. Feeling strong doesn't correspond to being strong, at least in instructional practices.
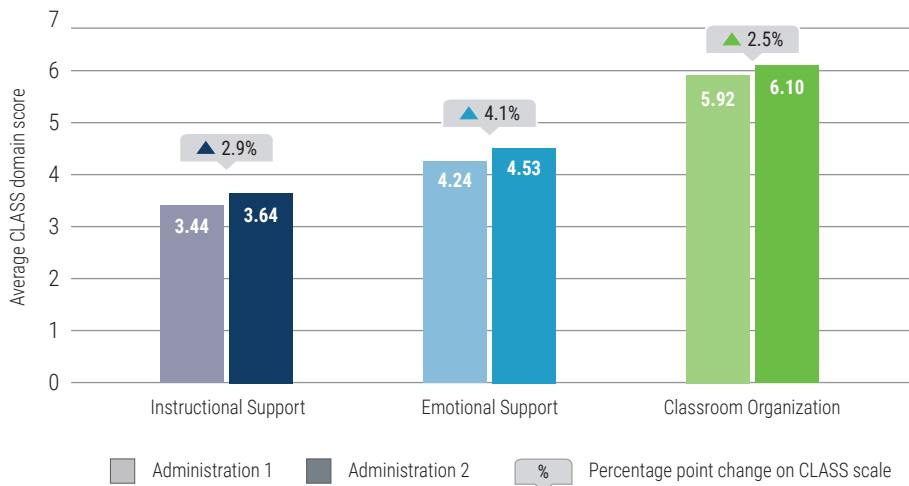
Change in Average CLASS Domain Scores

Note: Results reflect average change in CLASS domain scores from the Upper Elementary and Secondary tools based on 436 observations from the 6 CIS Network programs that collected CLASS data across both administrations. CLASS is scored on a 1-7 scale.

Administration 1 · Administration 2 · % Percentage point change on CLASS scale

So what does this mean? First, it is important to note that we wouldn't expect to see a perfect correlation between candidates' self-efficacy and observed practice as measured by CLASS, in part, because the two measures do not perfectly align in how they describe instruction. At the same time, it seems reasonable to expect a candidate's own self-efficacy with respect to delivering instruction to be at least somewhat associated with their actual observed instruction, making the small magnitude of the correlations and lack of significance somewhat surprising.

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[4] Pearson's correlation coefficients between candidate self-efficacy overall and for each of the three subscales and the CLASS domains are small to negligible, ranging from −0.05 to +0.08, and none are statistically significant.

Content Understanding

This dimension emphasizes a teacher's ability to draw meaningful, real-world connections across concepts, facts, and skills; the use of varied examples and non-examples to communicate about a concept; activation of prior knowledge and attention to misconceptions to help students make connections; use of content-appropriate terminology; and multiple, varied opportunities for practice.

CIS Network members hypothesize that candidates may struggle to assess their own performance in part because as novices, they may not know what they don't know. Candidates are still building mental models of what excellent teaching looks like, and cognitive science research suggests novices cannot inquire into problems as effectively as experts due to their still shallow background knowledge on the subject.[5]

Whatever the reasons for this mismatch, valid and reliable observational data becomes all the more important to better capture a candidate's actual classroom abilities. And while it is unclear from current research what magnitude of change could be considered true growth on either measure, we will be able to better clarify the nature of the relationship between the two as the CIS Network matures and the depth of our data matures with it.

2. **Contrary to widely held concerns about classroom management, teacher-candidates seem to excel in classroom organization – yet they struggle to deliver rigorous instruction.**

Teacher-candidates excelled in areas ranging from behavior management to efficient use of instructional time to an absence of negativity in their interactions with students. These results at first glance seem to contradict the challenges we hear many novice teachers articulate related to classroom management. While it is possible that programs have responded to classroom management concerns and intently supported

Change in Average CLASS Dimension Scores
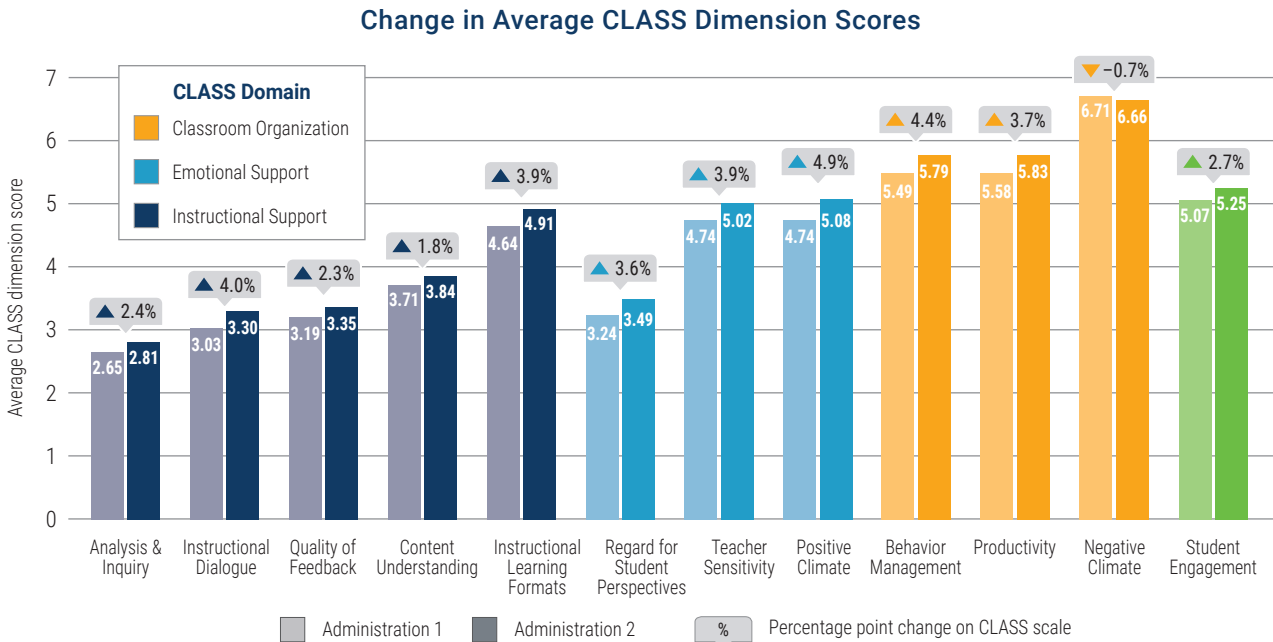
Note: Results reflect average change in CLASS dimension scores from the Upper Elementary and Secondary tools based on 436 observations from the 6 Network member programs with CLASS data across both administrations. The Negative Climate dimension is reverse coded: higher values indicate less negativity. Additionally, the Student Engagement dimension is not included within a specific CLASS domain and is therefore reported separately. CLASS is scored on a 1-7 scale.

[5] For more on this, see *The Science of Learning* at **deansforimpact.org/resources/the-science-of-learning/**

candidates in this domain of instruction, it is also possible that these results stem from the fact that many teacher-candidates are teaching in classroom climates first established by their mentor teachers. As these candidates graduate into classrooms of their own and the CIS Network obtains data on their performance, we'll be able to better understand this phenomenon.

More concerning is that candidates appear to struggle most in areas central to delivering rigorous instruction. In fact, when looking across all dimensions of practice assessed by CLASS, candidates begin on average lowest in three dimensions of practice within the instructional support domain – *content understanding, analysis and inquiry, and quality of feedback (see sidebar)* – and they improve least out of all dimensions in these same areas.

Why does this matter? These three skill sets are particularly essential for soliciting deeper student learning. Students develop rich content understanding by referencing things they know. Receiving effective feedback to correct misconceptions and prompt thinking also boosts learning. The movement toward ambitious content standards makes it all the more important to equip new teachers with the content knowledge they need to teach to these standards, yet many may lack exposure to rigorous standards in their own education. Our data may indicate the effects.

So what can be done? Instructional support remains an improvement priority across the CIS Network. This means that programs must work together with their district partners to align expectations for aspiring and beginning teachers, ensure that models of standards-aligned instruction are made explicit and unpacked for candidates, and provide candidates with opportunities to practice and receive feedback on their ability to enact these standards.[6]

Analysis & Inquiry

This dimension emphasizes the facilitation of higher-order thinking through analysis, hypothesizing, and brainstorming; opportunities for novel application through rigorous and open-ended tasks; and encouragement of metacognition through teacher modeling and student self-reflection.

Quality of Feedback

This dimension emphasizes the creation of feedback loops between the teacher and students and among students that deepen understanding, scaffolding learning through effective prompts, building on student understanding to clarify thinking, and affirmation to encourage persistence.

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3. **The number of subject-matter *content courses* required for entering a program doesn't seem to matter for candidate performance, except in math.**

Instructional support scores (which include content understanding measures) for candidates teaching English Language Arts, science, and social studies were all relatively unaffected by a candidate's exposure to content courses in those same areas. But for elementary and secondary candidates, requiring more math content courses before entering a program was positively associated with their clinical experience performance.[7]

This provides some evidence that simply requiring more subject-matter preparation (at least in the core subjects we measured) won't necessarily improve teacher-candidates' ability to deliver the content. Recent research suggests that course requirements for prospective teachers at many programs across the country are broad and wide-ranging, leaving many taking courses that are not well aligned to the content they likely

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[6] For examples of how programs make modeling, practice, and feedback meaningful for candidates, explore our Building Blocks resources at **deansforimpact.org/building-blocks/**

[7] Coefficients were highly statistically significant for elementary teacher-candidates (p<0.05) and marginally significant for secondary teacher-candidates (p<0.10).

need for teaching.[8] While we can't know with certainty if this is true for teacher-candidates within our dataset, it suggests that programs might want to provide candidates with more explicit direction about the content coursework that might be most valuable for them as they prepare to teach.

4. **The number of subject-specific *methods courses* required for program graduation also does not seem to affect candidate performance, except in elementary math.**

Subject-specific methods coursework is intended to give candidates concrete strategies for teaching their content, yet these courses often are not linked to meaningful practice opportunities. Though the results for secondary instruction are less clear, only in elementary math did any meaningfully positive relationship with observed instruction emerge.[9] These findings seem to suggest that with few exceptions, the courses designed explicitly to teach prospective teachers *how* to teach are falling short. Our data don't allow us to understand exactly why this might be, but a few hypotheses come to mind.

Methods coursework is intended to give candidates concrete strategies for teaching their content, yet these courses often are not linked to meaningful practice opportunities. With few authentic opportunities to transfer what they are learning into the classroom, let alone get the type of immediate and targeted feedback they need as novices to refine those strategies, candidates may not be reaping much benefit from their methods courses on average. We also know that in many places, those responsible for designing and teaching methods coursework may not be the same individuals responsible for coaching and supporting candidates during their clinical experiences. This lack of alignment between what candidates are learning in courses and what is expected of them in the field creates confusion for novice teachers. Though we cannot be certain the extent to which this is the case for teacher-candidates in our sample, our data suggest at the very least a need to better understand the relationship between subject-specific methods coursework and teacher performance, and provide suggestive evidence that mandatory credit-hour requirements for these methods courses may be misguided.

WHAT WE'RE LEARNING:
INSIGHTS FROM IMPLEMENTATION

Higher-quality data is only useful if it actually informs practice. In addition to collecting better data for improvement, CIS Network members are working together to build their capacity to turn data into meaningful insights that drive improvements. Here are three techniques employed by the CIS Network to accelerate data use for improvement across programs.

1. Start with a diagnostic assessment of current data practices.

A central focus of the CIS Network is to cultivate a culture of data use on campus. Toward that end, participating programs make use of a proprietary **Data Diagnostic Tool** developed by Deans for Impact. Programs self-assess their own data use practices across four domains, from collecting and organizing

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[8] Putnam, H. & Walsh, K. (February 2019). *A Fair Chance: Simple Steps to Strengthen and Diversify the Teacher Workforce.* National Council for Teacher Quality. Retrieved from **www.nctq.org/publications/A-Fair-Chance**.

[9] For teacher-candidates with data across the first and second observation periods, the number of math and science methods courses significantly and negatively predicted secondary candidates' instructional scores, while we saw no significant relationship for English and social studies methods courses.

data strategically to actually using it for improvement.[10] Each program develops a plan to improve in weaker areas and Deans for Impact leverages their reflections to target support to the Network overall. During the CIS Network's first year, all programs using the Data Diagnostic saw improvements in at least one of four domains of data-use practice, and two-thirds saw improvement in two or more dimensions.

UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE
CATO COLLEGE OF EDUCATION

UNC CHARLOTTE

If you ask Teresa Petty, Associate Dean at the University of North Carolina at Charlotte's Cato College of Education, about the role of the CIS Network in her team's work, she frequently uses the phrase "*jump start.*" When her team participated in the inaugural CIS convening last August, they found their spark through a tool that would become a key element of their improvement strategy: the Deans for Impact Data Diagnostic.

Building a Data Culture

Petty and her team — comprising two elementary education faculty, the accreditation & assessment director, and a teacher-candidate supervisor — returned from their first CIS Network convening with two goals: Build a culture of spending time with actionable data at both the individual program and full college levels, and involve external partners in their newly elevated data expectations. "*We wanted to make most of our decisions rather than some of our decisions from data,*" Petty said.

To build an authentic discussion throughout the college about how they approach data, the team introduced the Data Diagnostic gradually. "*We came back after that first convening and replicated the Data Diagnostic activity and discussion protocols*

we saw modeled by Deans for Impact staff with our college-level leadership team first, then with our program directors," Petty said. "*Those program directors then did the same activity with their program faculty, then we finally came together with the full faculty and staff to discuss what we'd learned across programs.*" At that full college meeting, the CIS team shared program-level data and led a structured discussion about patterns emerging across programs. "*Working across teams helped us surface our story as a college,*" Petty said.

Throughout this process, the CIS team met monthly to review progress against their goals, revisiting the Data Diagnostic each time to ground discussions in evidence. In keeping with their goal of spending meaningful time with actionable data, the college recently integrated CLASS observation data into the data dashboard each program uses to assess progress.

After a year of this enhanced data work, the CIS team asked program directors to revisit the Data Diagnostic, and according to Petty, there was clear progress: "*We take more time now to dive into data, to talk among programs and the college as a whole about how we move forward based on what the data tell us.*"

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2.   **Build collective energy by developing shared tools for examining data together.**

CIS Network participants make use of a **Shared Inquiry Tool** to analyze their CIS data and benchmark it to that of the Network overall. The tool facilitates careful investigation by allowing participants to filter data for each common indicator they collect by a variety of program and candidate characteristics, and participants can compare their results to that of the Network overall and to similarly situated programs and candidates.

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[10] The Deans for Impact Data Diagnostic was developed based on site visits, observations, and interviews with faculty and program leaders at 17 institutions across the country and informed by existing research related to data use in educator preparation. The tool has benefitted from the feedback of more than 50 program leaders as well as of leading researchers and practitioners.

For the University of Southern California's Rossier School of Education (USC), examining their CIS data on candidate's observed classroom practice helped them improve the quality of feedback their candidates provide to K-12 students. Even though USC is fortunate to have access to a variety of data sources and staff to analyze them, participation in the CIS Network unearthed new information about the quality of feedback in their candidates' classrooms. What prompted those revelations? Comparing against CIS Network data using the Shared Inquiry Tool.

When Project Specialist Lindsay Kwock Hu and her team compared their CLASS observation data against other available data on candidate practice — the state-mandated edTPA and an internally-developed assessment — they realized the same pattern persisted in candidates' ability to deliver high-quality feedback to students. CLASS emphasizes teacher and student interactions in the moment, while edTPA focuses on written feedback after the fact. "*It strengthened our confidence in our conclusions to see the same gaps represented consistently across three instruments,*" Kwock Hu said.

In partnership with the rest of USC's CIS team, Kwock Hu took their CIS data and a draft action plan for improvement back to campus and presented the team's learnings to the full faculty. Using screenshots from the Shared Inquiry Tool and protocols borrowed from CIS Network convenings, she led a conversation that re-affirmed the team's focus on feedback and clarified their improvement strategy. A faculty member suggested providing models of candidates who provide excellent feedback, a project currently in the works.

For Margo Pensavalle, CIS team lead and Professor of Clinical Education at USC, the experience also prompted reflection on her own instruction. She reorganized her course syllabus to host an extensive discussion with her practicum students about the components of high-quality student feedback. By the end of that practicum, her students' average CLASS observation scores had improved and one student earned the highest possible score on the rubric for Quality of Feedback on edTPA.

For the current academic year, Pensavalle and her team are eager to more actively use data on candidate beliefs and mindsets alongside their existing observational information, and to build faculty engagement in using CIS data tools. An upcoming spring faculty retreat creates space for the CIS team to demonstrate their progress in improving the quality of feedback provided by candidates and to engage faculty in planning for other improvements based on data. All of these forms of feedback — from CIS instruments, other network teams, and Deans for Impact staff guidance — are collectively shifting how USC approaches their work.

In the words of Kwock Hu: "*So much of this is getting in front of faculty and putting time on calendars to actually make changes based on what they see. The CIS gives us that leverage and credibility. It moves us forward.*"

3. Be thoughtful and intentional in creating the conditions for data inquiry.

Tools are not used in a vacuum. Deans for Impact models protocols with program teams to support them in leading change around data use. **Data discussion protocols** encourage participants to move from inquiry to action through a thoughtful consideration of multiple sources of evidence and discussions with stakeholders. A **structured root cause analysis** enables teams to brainstorm reasons for a particular program challenge and prioritize potential core causes, and **action planning templates** help leaders set improvement goals. CIS Network members are encouraged to adapt these resources for their own use. However they choose to use them, these resources are designed to cultivate collective ownership, shared understanding, and an orientation toward action.

"The idea that you make decisions based on data and research is coming home to roost."

So says Bobbette Morgan, Interim Associate Dean of Assessment and Accreditation at the University of Texas Rio Grande Valley (UTRGV). UTRGV has embarked on a multi-year effort to align their programs around data, an effort that has enriched and been enriched by the CIS Network. In a recent blog post, Dean Alma Rodriguez writes, *"There were existing efforts underway within our college to build a culture of inquiry, including work to develop and revise assessments that would support evidence-based decision making. We decided to align our participation in the CIS Network to this work in order to maximize the impact."*[11]

Rodriguez, Morgan, and their team have found particular value in adapting CIS tools and protocols to further faculty engagement with data. After attending the summer CIS Network convening, known as Inquiry Institute, this past year, Morgan and the college's Assessment Coordinator, Luis Azpeitia, replicated the Shared Inquiry Tool training for the college's annual Data Summit, held just before classes begin in the fall. *"We did it exactly the way we saw it [modeled] in Austin,"* says Morgan, *"No one had seen the data before, and we seated people by programs rather than departments to generate conversations."*

Not only were Data Summit participants engaged, but they generated action steps for the year ahead. Rodriguez tasked the program coordinators with using the CIS data to inform their existing program review processes. How? Following the Data Summit at the beginning of the fall semester, program coordinators met with their program faculty to record goals and action steps emerging from their interpretations of the data. After the semester's end, the programs will return to their commitments and review new data — both from the CIS and from existing instruments — to re-assess their progress.

> *"Being members of the CIS Network gives us the huge advantage of having a comparison group as a benchmark... We don't have that with locally-developed assessments."*
>
> Dr. Alma D. Rodríguez

As for what focus areas emerged from the data, it varied across programs, but parent communication and classroom management surfaced as consistent concerns. The team realized their students needed a stronger background in how to work meaningfully with parents, and programs were encouraged to set up new systems to boost candidate family engagement skills. Wherever their work takes them this year, the team at UTRGV knows those decisions will emerge from data.

WHERE WE'RE GOING

The CIS Network is proof that diverse educator-preparation programs can work together to improve how they prepare teachers – and do so in an empirically-informed way. As the CIS Network grows, so too will the quality of our data and our ability to generate and synthesize insights for the field.

📢 WANT TO GET INVOLVED?

Deans for Impact is opening the Network for the first time to any educator-preparation program in the U.S. beginning in the 2019-2020 academic year.

To learn more, visit >>> **deansforimpact.org/our-work/cis-network**

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[11] Read Dean Rodriguez's full blog post at deansforimpact.org/amplifying-the-culture-of-inquiry-at-utrgv-through-the-common-indicators-system-network/