Q1 Update: EmpowerK12 Educator Continuous Improvement Networks (ECINs)

Grounded in the principles of improvement science, teachers in ECINs engage in rapid, iterative inquiry cycles. They create evidence-based change ideas, continually reflect on data to analyze what works and why, and spread best practices throughout the network, thus creating meaningful change to improve outcomes for students.

2 NETWORKS

21 TEACHERS

3 LEAs

11 SCHOOLS

76 HOURS OF INDIVIDUALIZED COACHING

150+ STUDENTS WITH DISABILITIES SERVED

600+ TOTAL STUDENTS SERVED

100% OF **TEACHER PARTICIPANTS** AGREE THAT THE PROCESS OF CONTINUOUS IMPROVEMENT HAS **HELPED THEM TO THINK** ABOUT THEIR INSTRUCTION IN A **DEEPER AND MORE CRITICAL WAY**

Promising Early Returns

As we move into the second academic quarter and reflect on the progress of the ECINs in Q1, we are excited to share the initial successes of our networks and our teacher participants.

- 71% of teachers who completed one full improvement cycle said that they already see student growth on key outcome metrics.
- 94% of teachers, through collaboration with other network participants, gained a new insight or strategy that will help improve their practice.
- 100% of teacher participants state that ECIN coaching has helped them develop new strategies for thinking critically about instruction, collecting data, and reflecting on their practice. In short, they are gathering better data and gleaning more from it.

About This Report

Two Educator Continuous Improvement Networks (ECINs) designed by EmpowerK12 with a focus on outcomes for students with disabilities were created as part of a collaborative SEEF grant written pre-COVID. Improvement science forms the backbone of ECINs' work and has been a useful process for improving distance learning outcomes during the pandemic. This report provides additional context on ECINs as a strategy for helping educators break the reform fatigue rut and a progress report on this year's two ECINs through the first quarter.

In Q1, we introduced teachers to the principles of improvement science, while discovering how to best utilize the principles in practice via distance learning. During biweekly teacher coaching sessions, our team introduced teachers to rapid inquiry cycles, known as Plan-Do-Study-Act (PDSA) cycles, as a tool to create evidence-based change ideas and then put them to the test. Teachers, alongside EmpowerK12 staff with expertise in translating data to action, engaged in continuous reflection based on data collection to improve outcomes for all students, especially those with disabilities. Continue reading for examples of how ECINs have helped teachers improve their everyday practice even in the face of distance learning and a pandemic.

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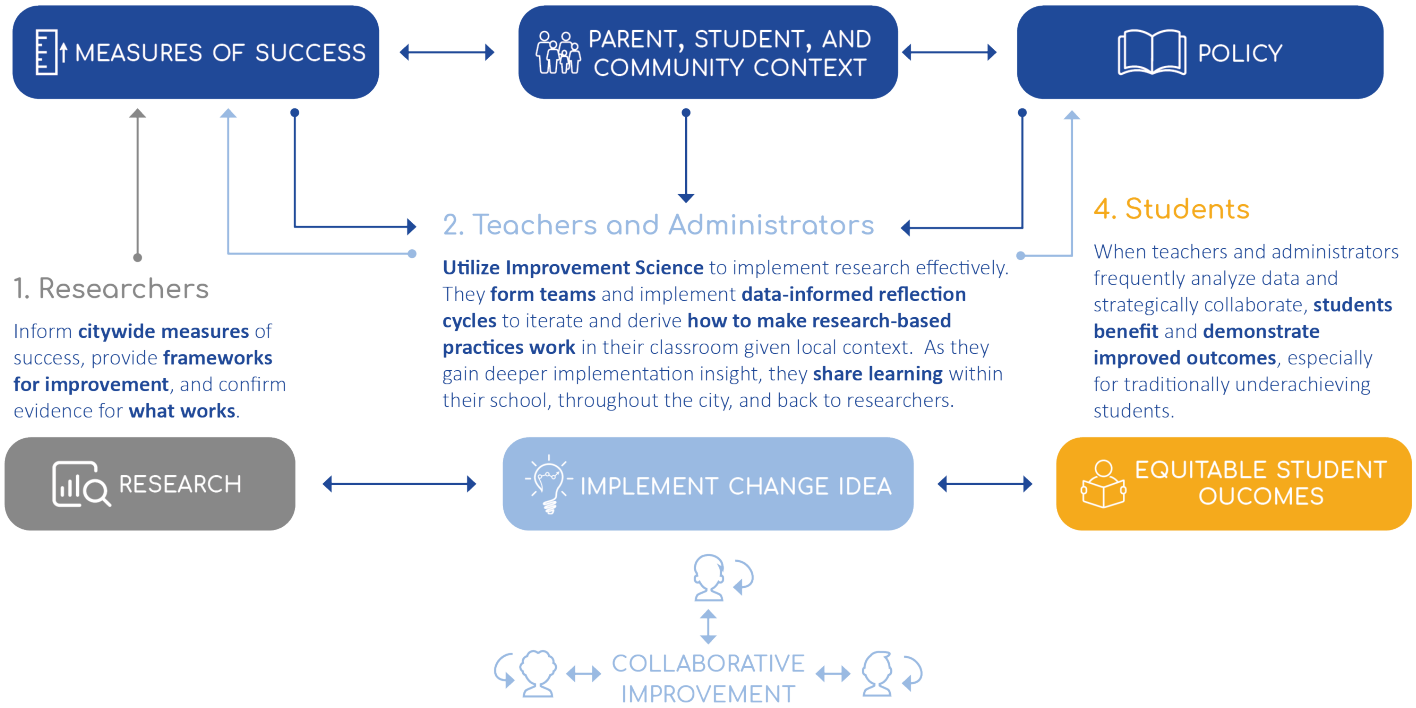
About EmpowerK12

3. City, LEA, and Community Forces

Influence school improvement in dynamic, complex ways. Measures of success set at the city level (e.g. accountability ratings such as STAR and PMF) **impact what school leaders work to improve**. Parents and communities are critical stakeholders that shape a **school's vision of success** and affect citywide policies and measures. Citywide policies such as funding, graduation requirements, teacher certification requirements, etc. **govern many aspects of how schools can operate and improve.**



EmpowerK12 formed as a nonprofit in 2015 to support DC education stakeholders by providing data systems, strategic analysis and research, and improvement science best practices that translate into action and close student outcome gaps. We believe schools and educators continuously improve when they have timely, valid, and reliable data to make the best decisions possible. With high-quality data systems, robust strategic analysis, and a collaborative improvement mindset, our education sector can emerge from this pandemic stronger and on track to close the national achievement gap this decade.

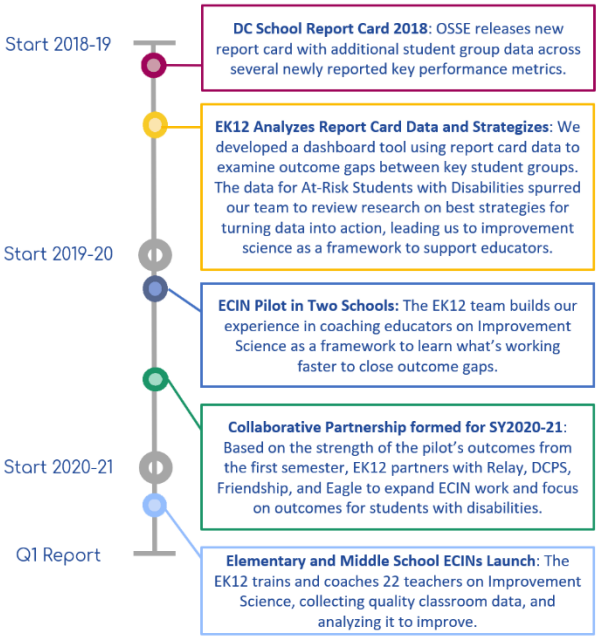
Introduction to ECINs

Teachers and school leaders are the single biggest drivers in achieving equitable outcomes for students, and the pandemic rapidly changed the mode by which they operate. In March, when schools closed with little time to plan and prepare for the upcoming challenge of distance learning, educators needed to quickly understand their students' situations and adapt to best support them and their families. We believe the collaborative principles of improvement science, a research-based process for continuously improving practices that lead to better outcomes, help provide educators and leaders with the tools necessary to thrive during and, eventually, emerging from the pandemic by turning data into action. ECINs represent our approach, grounded in the principles of improvement science, to the collaborative process of continuously improving equitable outcomes for students.

Brief History of Our ECIN Work

When the new 2018 DC School Report Card was released, the EmpowerK12 team dug deep into outcome gap data between different student groups (e.g. "At-Risk Students with Disabilities" and "Not-At-Risk Students without Disabilities) and found vast academic and attendance gaps for students with disabilities, especially in high school. As a result of the analysis, EmpowerK12 decided to act and shift our DC work from an primary focus on technical data systems solutions, policy research, and our Bold Schools initiative to providing teacher and leader support in translating the data systems we built and strategic analysis we generate into action that closes equity gaps.

An exhaustive literature review of data-to-action frameworks across multiple industries led us to improvement science (initially created in the manufacturing world and refined by the medical field) as an approach that could be effectively replicated in schools. During the 2019-20 school year, EmpowerK12 piloted our first Educator Continuous Improvement Network (ECIN) with three teachers at two DC public charter schools focused on improving the rate of first-time 9th graders, including students with disabilities, who were on track to graduate in four years after their freshman campaign. Teachers received coaching on how to implement improvement science in their own classrooms and authentically evaluate whether their change ideas resulted in improved outcomes for students.



With strong results from the first semester of the pilot, EmpowerK12 joined a collaborative partnership in winter 2019-20 (prior to the pandemic) with Relay Graduate School of Education, DC Public Schools, Friendship PCS, and Eagle Academy PCS to expand ECINs and focus on outcomes for students with disabilities. An OSSE grant, the Special Education Enhancement Fund (SEEF), supports the two ECINs, one for elementary school teachers and one for middle school, this academic year. We adapted our coaching and facilitation to be virtual and embedded a focus on distance learning in the work that we accomplish with teachers.

Research Basis for Continuous Improvement Networks

The mission of our ECIN work more broadly is to proactively address the challenges of hybrid teaching and learning, dismantle systems of oppression, and close outcome gaps in the District by empowering teachers to adopt principles of improvement science and become the strongest cogs in a system that maximizes the promise of all students.

Our work is founded on the research-based principles of improvement science, a practice the education sector borrows from years of refinement and implementation in the patient health care sector. The National Institutes of Health (NIH) published a six-volume definitive meta-analysis of improvement strategies across the patient care spectrum between 2004 and 2007 called *Closing the*

Quality Gap: A Critical Analysis of Quality Improvement Strategies. Upon reviewing hundreds of scientific studies, researchers found statistically significantly positive outcomes for patients with hypertension, asthma, and diabetes when doctors utilized the core principles of Improvement Science with their patients. Early education results for improvements in student outcomes in places like Baltimore where the Baltimore Education Research Collaborative supports the local school system to employ an Improvement Science process are positive.[1]

By ensuring teachers are the strongest cogs of educational improvement efforts, we can create lasting system-wide change and close outcome gaps. Empowering teachers with a research-based improvement process helps them manage the opportunity to improve in sustainable and meaningful ways no matter the context of the challenges before them. As networks focused on a common goal, we bring together those best practices, and educators share what they have learned to create system-wide improvements for students.

About the 2020-21 ECINs

EmpowerK12 facilitates two networks, comprised of teachers from three different LEAs. Each of the teachers in the networks were recommended by their administration for having strong core academic instruction skills and a willingness to improve their practice and leadership within their school.

Our middle school network includes five teachers, three of whom are special educators and two who teach English-Language Arts in a general education setting. The educators, from DCPS and Friendship PCS, work together to meet our overall aim, also known as our "North Star Goal," which is to increase both GPA and attendance rates for students with disabilities. We chose those goals because the Graduation Pathways Project found that over a quarter of the variation in high school graduation rates in DC is explained by middle school predictors, meaning that middle school educators need to intervene before students move on to high school.[2] More specifically, grades and attendance in middle school are the best indicators of how students will perform in high school, compared to other statistics, such as test scores, suspensions or background characteristics, such as race, or family income.[3] Eighth-grade GPA, in combination with attendance, provides a better prediction of who will be on-track in high school than either alone; adding other indicators only marginally improves the prediction.[4] Teachers in EmpowerK12's middle school network are working together to target the

The ECIN helps me improve by....

- "Having the planned and expected time with a mentor to collaborate with has helped me to ensure I am working on instructional goals that I would like to tackle but don't always have the time. It is so nice to have a thought partner one on one." – **Elementary School Teacher, DCPS**
- "Keep[ing] me on my toes about data collection!!" – **Elementary School Teacher, DCPS**
- "Giv[ing] me the opportunity to implement new strategies, reflect on those strategies and make the necessary changes." – **Elementary School Teacher, Eagle Academy PCS**

[1] (Bryk, Gomez, Grunow, & LeMahieu, 2015)
[2] (Raise DC, 2014)
[3] (Allensworth, Gwynne, Moore, & de la Torre, 2014)
[4] (Allensworth, Gwynne, Moore, & de la Torre, 2014)

noncognitive factors that impact their students' attendance and GPA to ultimately increase their likelihood to graduate on time.

Our elementary school network includes nine special education teachers and seven general education teachers from eight schools across the District who are working together to improve reading proficiency rates for students with disabilities. Research has shown that one in six children who are not reading proficiently in third grade fail to graduate on time, four times the rate for children with proficient third grade reading skills. Additionally, 75% of students who are not reading proficiently by third grade will continue to struggle with literacy in future grades.[5] Teachers in our elementary school network are working to help support our youngest learners to set them up for future success.

> Most useful part of our network is …
>
> "Engaging with other teachers from other schools on how they are challenging scholars and giving strategies to better their instruction. I love we were able to discuss what we were working on and having them give feedback/advice." – **Middle School Teacher, Friendship PCS**

Each teacher participant receives biweekly coaching and support from EmpowerK12, which involves support in generating evidence-based change ideas, planning for potential barriers to implementation, and collecting relevant data in the virtual space. In addition to the one-on-one support that teachers receive, they also meet with the other participants in the network at the end of every quarter. Through our networks, we acknowledge that each teacher has expertise, experience and knowledge that is valuable in meeting our collective goal while also recognizing that we are stronger together.

Our Approach to Continuous Improvement

To ground our work and understand the multitude of factors that impact the aims for our networks, educators collaboratively develop driver diagrams utilizing data and research as step one of our guiding framework. Driver diagrams are used in improvement science to organize the various change ideas that the network will test as well as establish the key drivers for improvement, including the ways in which they can, and often do, intersect. The diagram focuses on a small set of hypotheses about key levers for improvement and shows how they all connect back to the overall aim. Primary drivers are research-based and shown to have a direct impact on our aim but tend to be more general while secondary drivers function as the levers for change.

At network kickoff meetings and initial coaching sessions, every teacher considers which driver has the potential for the biggest impact given what they know about their students. To respect autonomy and create investment, teachers create individual change ideas to generate excitement and ownership over their improvement work. Using our framework as a shared foundation allowed us to move forward as a unified network, while also allowing for teacher autonomy to individualize their plans to meet the needs of students in their given context.

[5] (Fiester, 2010)

The Middle School Network's Action Plan

Middle school teachers are targeting two secondary drivers, academic mindsets and learning strategies, linked to one primary driver of academic behaviors. Research has shown that academic behaviors, like student absences and self-reported study habits explain most of the variation in GPA and predicts getting high grades.[6]

> "This work has made me more cognizant of the other needs of my students. I have often focused solely on academics, which has resulted in me lacking some excitement in lessons and students being able to see relevancy to what we are doing and why." -**Middle School Teacher, Friendship PCS**

One teacher from DCPS and two from Friendship PCS are targeting mindsets that affect students' academic behaviors. A sense of belonging allows students to connect to the school community. These mindsets about self and school contribute to higher-order skills and mindsets, such as resilience and academic tenacity.[7] If students are going to invest their effort and energy in school, they need to believe the effort will pay off.[8] One DCPS teacher and one Friendship PCS teacher are targeting the strategies that students must have in their toolbox to have productive academic behaviors. Utilizing appropriate learning strategies can make students' academic behavior more productive and efficient, and effective learning strategies tend to increase students' self-efficacy. The inverse is also true. Students are less likely to complete schoolwork if they do not know how to organize themselves or effectively review material. Research has shown that self-regulation predicts student performance and that students learn more when they have better metacognitive strategies and use them appropriately.[9]

The Elementary School Network's Action Plan

The elementary school teachers are targeting the skills most associated with early literacy gaps. "For low-income children in particular, a 'readiness gap' fuels much of what has become known as the achievement gap…an acute readiness gap often begins at birth, continues growing until school entry, and leads to an achievement gap that persists through each subsequent year of schooling."[10] To close the gap, teachers generated change ideas and plans to improve either foundational literacy skills (including phonological awareness and other decoding strategies), or literature and informational text skills (including comprehension and metacognition).

Numerous studies demonstrate that the absence of direct phonic and phonemic awareness instruction impedes reading growth in later grades. Providing students with a solid foundation in decoding skills increases the likelihood that they were be able to read more complex texts that contain unfamiliar words. [11] Teachers are targeting text skills because comprehension becomes increasingly important for students in the later elementary grades[12] as it provides the foundation for further learning in secondary school.

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[6] (Farrington, et al., 2012)
[7] (Stafford-Brizard, 2016)
[8] (Dweck., Walton, & Cohen, 2011)
[9] (Farrington, et al., 2012)
[10] (Fiester, 2010)
[11] (District Leadership Forum, 2019)
[12] (Sweet, 2003)

ECIN Bright Spots from Q1

At the end of the first quarter, teachers have moved into their second inquiry cycle, iterating on their change idea based on data from the first cycle. Teachers are beginning to utilize the checks for equity built into the EmpowerK12 Plan-Do-Study-Act tool, which helps them focus on student groups who may have experienced disproportionately less improvement during the first inquiry cycle. With coaching and support, teachers have started to think through ways to collect, disaggregate and analyze data that will highlight any inequitable outcomes and how to respond when those outcomes occur. We highlight three of the many "bright spots" from our networks in this first quarter as exemplars of the promise that ECINs hold.

Third Grade Special Ed Teacher, Improved Independent Student Practice, Friendship PCS

Based on the students' prior-year NWEA scores, this teacher targeted the secondary driver of literature and informational text skills, specifically focusing on comprehension. The EmpowerK12 coach pointed the teacher towards intervention strategies with positive evidence from the What Works Clearinghouse, including the use of Peer-Assisted Learning Strategies.[13] The Friendship teacher generated a change idea about using peer coaching and assistance to help students internalize comprehension strategies, with the use of a graphic organizer.

However, as a part of the reflection practice and data check for equity, this teacher noticed one student was not engaging in the activity at all and decided to partner with the student's parent to identify different ways to encourage her active participation. Based on conversations and information from the student's IEP, the teacher is now using visual cues to prompt conversation and help her student attend to the small group lesson, and has given her an extra sense of responsibility by teaching her to be the discussion leader. Without the check for equity, it is possible that the student would not have been specifically targeted for additional support.

> "[My students] are writing paragraphs when last year they wrote 1-3 sentences. They are talking about aspects of the text that they couldn't talk about before." -**Elementary School Teacher, Friendship PCS**

By the end of the first quarter, students improved their ability to assist and coach each other, specifically in building upon each other's thoughts and comments. The data collected demonstrates an increase in students' ability to accurately complete all parts of the graphic organizer independently.

Third Grade General Education Teacher, DCPS

Typically, this 3rd grade teacher would not focus on explicitly teaching phonological awareness skills to her students since explicit teaching of these foundational skills is usually the focus of early elementary. However, after analyzing student data, she discovered that phonological awareness is what her students need to become stronger readers. Her theory of change is that as students

[13] (U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, What Works Clearinghouse, 2012)

increase their phonological awareness skills, they will become stronger decoders and improve their ability to accurately read more difficult texts.

To best carry out her theory of change, she implemented a research-based phonological awareness curriculum as a warmup activity for her students in their reading small groups. By capturing both daily and weekly data, she is learning what works best for her students and analyzing how explicit and systematic instruction in these skills improves their ability to recognize challenging words and independently read complete texts. Through her reflective improvement cycles and data coaching sessions, the teacher incorporated additional phonological awareness activities to ensure that her students had opportunities to practice sound-symbol correspondence which ultimately leads to stronger readers.

7th & 8th Grade Math Special Education Teacher, Friendship PCS

One middle school teacher from Friendship PCS built upon previous work, which involved engaging students in tracking their progress towards their IEP goals. During the foundation-setting portion of the improvement science process, she created a thorough change idea to answer why it's important for students to be a part of the IEP goal process and how that impacts their growth? During her reflection and using research the EmpowerK12 brought to coaching sessions, she theorized that if students understand their goals, reflect on their progress towards them, and plan for potential obstacles, then they will be motivated to continue progressing and overcome challenges.

During her first improvement cycle, a portion of the planning phase involved students submitting a survey detailing what they knew about their goals. To her surprise, only one student on her caseload could accurately name a goal, and none of her students were able to name more than one. She adjusted her change idea to spend more time explaining and discussing student goals while giving examples of what success looks like in practice. This process of collecting student data highlighted previously undefined challenges that limited the teacher's previous success in building student self-efficacy, specifically an underlying assumption that students knew their IEP goals. The planning phase embedded in the PDSA cycle allowed her to gain valuable insights about her students and their needs. At the end of her first improvement cycle, all students accurately named and described at least one IEP goal, and they are beginning to monitor their progress along a visual continuum. As students self-monitor, the teacher is noticing students can accurately mark their progress and feel a sense of accomplishment when they visually see themselves moving closer to a larger goal.

Implementation Challenges We Are Addressing

As with implementing any new approach, we encountered challenges. Our first challenge was supporting teachers in creating change ideas based on research and evidence. Teachers constantly thought of new and innovative ways to best support their students, but we needed to ensure their chosen change ideas had evidence of its likelihood to positively affect driver outcomes. To combat this challenge, we generated a coaching tool that specifically prompts teachers to create a theory of change that relies on evidence. The EmpowerK12 team compiled research about best-practices,

utilized our partnership with Relay GSE, and brought in subject matter experts to help ensure our network participants began their improvement journey with an evidence-based change idea.

We also needed to support teachers in creating ideas that work while distance learning and help them take meaningful data in this virtual space, our second challenge. We quickly learned data collection needed to be efficient with the limited screen time available between teachers and students, allowing our ECIN teachers to consistently track and analyze their progress. Additionally, as a part of their coaching, teachers are prompted to think through potential data collection obstacles and proactively plan to navigate them. As distance learning is still new for teachers, it is even more important for them to work together as a network to share what they have learned and collectively problem solve. We plan to create additional spaces where teachers support each other and work collectively to reach larger ECIN goals.

The third challenge we are navigating is how to better ensure teachers can prioritize this work. Our team assists teachers with creating and maintaining plans that are realistic and achievable, while also providing them with supportive coaching that helps improve their practice. For teachers to make improvement science a priority, it needs to be helpful and result in meaningful change. At the end of the first quarter, we starting to see progress in overcoming this challenge. Ninety percent of coaching meetings met fidelity by occurring on-time, discussing data and progress towards goals, and proactively addressing current and potential forthcoming barriers to success. All teachers who started this academic year as an ECIN member have continued to receive coaching and still actively participate in network activities, a strong signal that this process works and is valued by teachers.

Looking Ahead

Given that all ECIN participants remain teaching from a distance learning posture during the second quarter, EmpowerK12 is helping teachers iterate their change ideas and plans to closely monitor which practices are best adapted for the distance learning space. We plan to dedicate space in our Q2 update to what we learn from ECIN data.

100% of teacher participants agreed that this process will help them improve in the next quarter and throughout the rest of the year.

These are unprecedented times for education, and there is no handbook for how to best teach students during a global pandemic. However, there are tools that best assist us in learning how to get better faster no matter the hybrid context, and those are the principles of improvement science. In the first quarter, ECIN participants have already seen growth in their distance learning practice as well as in student outcomes. We expect additional growth in the quarters ahead as participants familiarize themselves with the improvement science approach to continuous improvement as a process. The progress that ECIN participants made during Q1 demonstrates the transformative promise improvement science holds for the education sector as we transition from pandemic to recovery.