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State Implementation and Scaling-up of Evidence-based Practices

Leading by Doing: A Practice-Based Approach to Improving Mathematics Outcomes

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Introduction

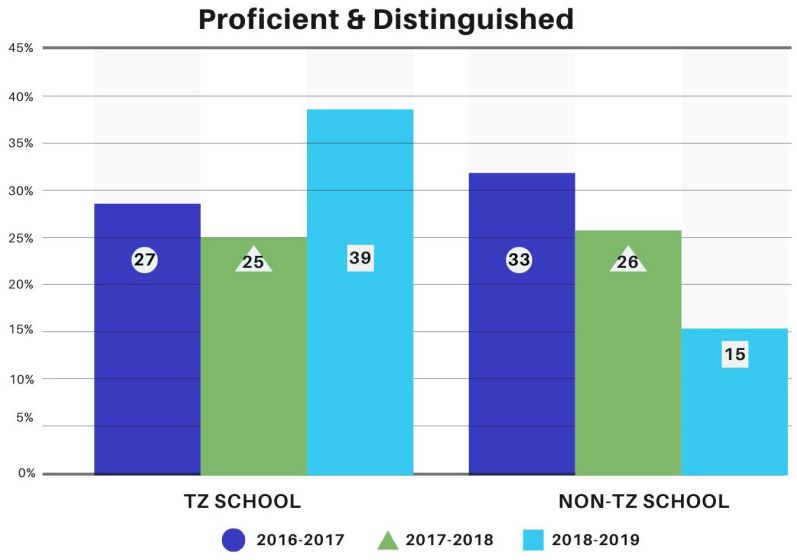
Leading by doing takes an unwavering and visible commitment to an intentional, continuous improvement process. Teams at every system level distribute leadership to support effective practice so outcomes improve. Using a practice-based approach to improving mathematics outcomes, the Kentucky Department of Education (KDE) facilitated a continuous improvement process led by teachers and educators to improve mathematics outcomes for all students, especially students with disabilities. Four districts participated in Kentucky's first iteration of their Transformation Zone.

In this brief, we highlight the stellar work of one of those districts: Madison County School District. Madison's administration collaborated with teachers and coaches to leverage instructional practice data. This facilitated the identification and provision of targeted support to enhance teaching methods. Everyone believed this effort would give students the skills to engage in mathematical thinking, especially students with disabilities. Using continuous improvement cycles, Madison strengthened the links between (a) teachers' use of effective instructional practice; (b) ongoing training, coaching, and data-based decision-making; and (c) improved mathematics outcomes (National Council of Teachers of Mathematics [NCTM], 2000). There is an indication that the two schools receiving intensive support in Madison's Transformation Zone (TZ) outperformed two schools that did not receive intensive support using Kentucky's Statewide Assessment Scores for Mathematics.

When comparing two Madison elementary schools (one TZ and one non-TZ) from 2016-17 to 2018-19 using Kentucky State Assessment Scores for mathematics, the percentage of 3rd-5th grade students with a disability and IEP in the Proficient and Distinguished category (See Figure A and Supplemental Analysis):

- Increased from 27% to 39% in TZ school.
- Decreased from 33% to 15% in non-TZ school (Figure A; see the Supplemental Document for a complete description of the analyses and further results).

Figure A. Percentage of 3rd to 5th grade students with a disability and an IEP categorized as



As we all know, improved outcomes only come after educators' unwavering and intentional efforts to use a continuous improvement process. Yet, the details are always in the **how**. Kentucky's **how** is woven into the Formula for Success - it is their secret sauce with three key ingredients.

Unwavering Commitment to the Use of Continuous Improvement Cycles

EFFECTIVE PRACTICE	X	EFFECTIVE IMPLEMENTATION	X	ENABLING CONTEXT	=	SOCIALLY SIGNIFICANT OUTCOMES
Key Ingredient #1 **A Quality Standard for Mathematics, Training, and Coaching:** Co-created, used, and tested by educators		**Key Ingredient #2** **Distributed Leadership:** • Teachers lead mathematics improvement • Implementation Teams lead systems improvement		**Key Ingredient #3** **Linked Teams** • State, region, district, school, and teacher • Using Improvement Cycles to remove barriers and replicate successes		**A Collective Commitment to Accountability** • Clear Aim • Monitoring progress • Adjusting supports • Scaling a proven process

Effective Practice: A quality standard for mathematics instruction co-created by educators

A quality standard for mathematics is the first key ingredient in Kentucky's secret sauce. First, they set out to co-create a quality standard for mathematics practice, called Kentucky's Math Practice Profile. Utilizing evidence-based mathematics research and the NCTM's eight mathematical teaching practices, the team of Kentucky educators defined the core components of quality mathematics instruction so it was easily observed and measured in the classroom. All staff (teachers and administrators) agreed on what effective mathematics instruction looked like in practice while honoring the individual styles of teachers.

The Kentucky Toolkit provides teachers with all of the tools, resources, and tips that educators have co-created to support their effective mathematics instruction in the classroom. Yet, to use the resources in the Toolkit and differentiate instruction to meet the needs of all students, especially students with disabilities, they knew teachers required ongoing training and coaching. So, Kentucky experts in training and coaching replicated the process used to develop a quality standard for mathematics. They co-created standards of practice for training and coaching so they could be used, observed, and measured in practice at the local level. The final step was to make all the data usable by teams at every level of the system - because not making data usable by all can be a core issue of low test scores because we cannot improve what we do not measure.

To make implementation and outcome data easily accessible and usable, the Kentucky Department of Education committed to designing and maintaining a data dashboard so teams could use implementation and outcome data in continuous improvement cycles. The data dashboard allows teams to enter and store fidelity, training, coaching, capacity, and outcome data for use in real time during their monthly meetings (e.g., teacher, school, district) or quarterly meetings (e.g., region and state). A demonstration website for Kentucky's Data Dashboard is available to the general public.

Simultaneously, Kentucky's first iteration of its Transformation Zone was established. It comprised three regional education agencies and four school districts: small rural, medium suburban, and large urban. The variety of size, geographic location, and student population resulted in a representative slice of the state's districts. This variety would allow any district in the state to see themselves in the work in regards to replication and scaling. One of the first districts to commit to participation in the Transformation Zone was Madison County School District, a medium-sized district in Southeast Kentucky, composed of small rural and mid-size suburban schools. As a Transformation Zone district they had access to all of the support systems developed by Kentucky educators, as well as intensive coaching support from SISEP, the state's implementation specialists, and coaches from their Regional Education Agency.

Madison County School District Case Study

In 2015, the Madison County School District agreed to participate in Kentucky's Transformation Zone. They committed to learning how to apply the Active Implementation Frameworks to support continuous improvement of mathematics instruction. At the same time, they engaged in a curriculum review and adopted the Math Design Collaborative (MDC), a research-based mathematics program consisting of instructional tools and professional services that aligned with the NCTM eight mathematical teaching practices and Kentucky's quality standard for mathematics. In 2016, two schools within the district agreed to participate in the Transformation Zone: one elementary and one middle. A building implementation team was formed at each school, and every participating teacher was an active member. The team's focus was continuous improvement of instructional practice and delivery of the effective implementation supports teachers said they required. District administrators committed to teachers; they would be their champions, listen to their needs, and deliver the support they requested to improve.

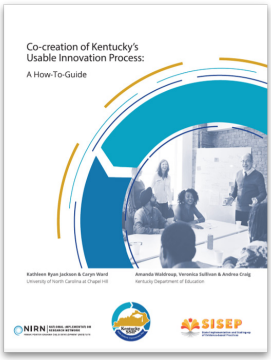
Early in the process, regional coaches, district staff, and school administrators met with teachers to understand the current context of mathematics instruction in their classrooms. Teachers agreed regarding "what" quality instruction looked like in the classroom (e.g., Kentucky's quality standard for mathematics). However, they were clear that they needed support with the "how" of quality mathematics instruction because they were credentialed in multiple subjects—they were not content experts in mathematics. With conviction, they explained that they needed support to develop their instructional skills in math. They requested support from a mathematics coach to provide ongoing and consistent guidance with their daily instruction. While district administration was reluctant due to past failed efforts to use instructional coaches, they were willing to "test" the science behind coaching (Kraft, Blazar, & Hogan, 2018). After all, they committed to being champions for teachers' requests.

As a result, the teachers and administrators developed selection criteria, interview questions, and hiring protocols to select math coaches after completing and using data from the school-level capacity assessment that measures systems, activities, and resources required to initiate and sustain improved education outcomes (Drivers Best Practices Assessment: Ward et al., 2019). This process led to the employment of two math coaches in the 2017-18 school year. The newly hired school coaches supported teachers in the initial Transformation Zone schools: Kirksville Elementary and Madison Middle School. Teachers were valued as leaders of instructional improvement as they worked side-by-side with coaches and administrators to identify the systems of training and coaching required to improve mathematics instruction. A high value was placed on using a distributed leadership model where teachers and implementation teams were empowered with a sense of shared responsibility that elevated the collective efficacy of all (Spillane, 2012).

> **Teachers see their opportunity to influence the work and lead others.**
> ***-District Coach***

Effective Implementation: Distributed Leadership of Teachers and Teams

Distributed leadership is the second key ingredient in Kentucky's secret sauce. It is known to result in higher levels of collaboration and engagement. Kentucky educators knew that teachers would need to lead mathematics improvement and implementation teams would need to lead systems improvement. When used as a management style, leadership responsibilities are shared, and the authority to make decisions spans every level of an organization. With a shared vision to improve outcomes for all students, especially students with disabilities, educators in Kentucky with different skill sets and lived experience took ownership in the use and testing of the support systems available to all schools and districts. The Kentucky Department of Education facilitated the collaboration of teams with a variety of skill sets; they did not design the systems that would be used. Instead, implementation specialists at the state leaned in with the research on what it takes to implement effectively. It was the teams who identified what it would look like in the district and their schools. This process took time because everyone worked to suspend the belief that their specific program or practice was the right practice - whether it was a mathematics, training, or coaching program.



Every step of the process, including tools and examples, was made public so it could be replicated in the Co-creation of Kentucky's Usable Innovation. Educators at every level of the system became champions for effective implementation, and they appreciated how the mathematics, training, and coaching systems could be used with a district's chosen programs. Teachers, coaches, and administrators routinely reviewed multiple forms of data. They used capacity assessment data, instructional

walkthrough data, anecdotal data from observations and coaching sessions, and teacher surveys. The data was used to set coaching and instructional goals for mathematics improvement. Everyone was invested in supporting the continuous improvement of teachers' effective instruction with fidelity because they believed it was one of the most powerful influences on student achievement (Hattie, 2009).

> **As one of the first teachers, it not only changed my teaching but the confidence I had in myself.**
> ***-Teacher, Kirksville Elementary***

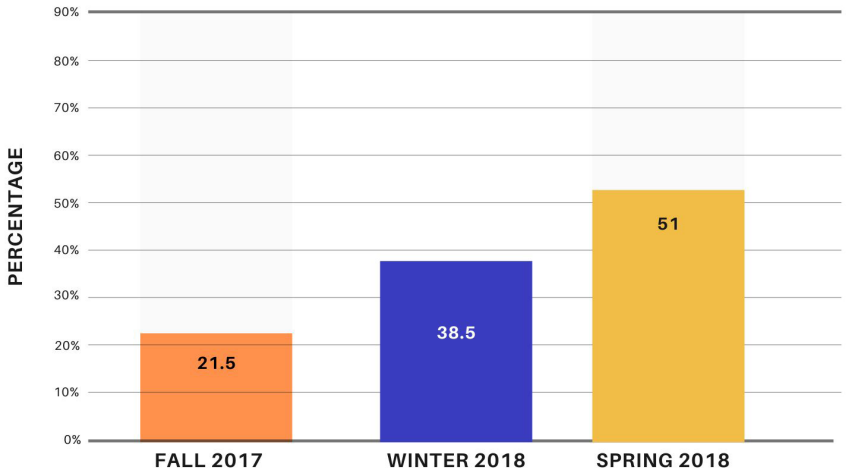
Teachers in Madison Lead Mathematics Improvement

In the Transformation Zone, school leadership was distributed. The everyday work of teachers was valued and viewed as critical to ensuring the successful use of the Math Design Collaborative (MDC) program. Teachers were viewed as leaders, so they naturally developed ownership through a scalable and sustainable process. When the teachers identified a need, solutions were identified, and action plans were implemented. For example, if the teacher team identified a need for training on student engagement strategies, the training was secured, delivered, and evaluated for effectiveness to determine if follow-up training was needed.

Staff learned how to use instructional walkthrough data to identify instructional goals for improvement. They collected and used data from the Math Design Collaborative Fidelity Walkthrough Tool to set schoolwide goals for instructional improvement of mathematics. Simultaneously, they collected walkthrough data using the Observation Tool for Instructional Supports and Systems (OTISS; Fixsen et al., 2020) that is grounded in the research of Hattie (2009). All walkthrough data was viewed in aggregate and not used for teacher evaluation. Instead, the data was used to determine what was missing in the system to support continuous improvement of teachers' mathematics instruction. Teachers analyzed the aggregate walkthrough data monthly and identified their instructional goals for improvement. Then, they identified the training and coaching support they required. Teachers used best practice instruction videos to study effective instructional practices using lesson study methodology (Murata, 2011). For example, teachers would use an iterative process to design a lesson together, analyze the effectiveness of delivery, and reflect on improving the design of future lessons as needed.

The walkthrough data from both measures began to reveal continuous improvement in teachers' mathematics instruction. At the same time, student benchmark data in mathematics was improving in Transformation Zone schools (from 21.5% meeting the Benchmark in the fall of 2017 to 51% in the spring of 2018; Figure B).

Figure B. Percent of Students Meeting Math Benchmark in TZ schools



The improvement in instructional practice data and students' mathematics scores suggested teachers, coaches, and administrators were developing organizational capacity for continuous improvement.

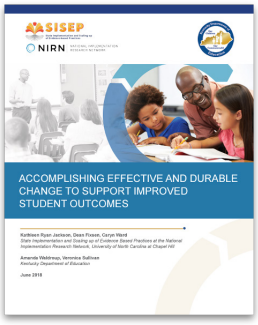
Teachers and their schools were developing organizational capacity, a culture of collective self-efficacy, and a commitment to accountability. Throughout the process, participating teachers spoke of how this work felt different from other attempts to improve mathematics instruction and how they felt empowered to make instructional decisions. Teachers spread the word to other teachers and schools as they shared how they lead instructional improvements in their schools. Given the promising data that was surfacing, teachers, coaches, and school teams presented the data to the Madison County School Board. It was time to share mathematics coaches' influence on teacher practice and student outcomes. Their goal was to ensure the sustainability of mathematics coaches in their schools, and they were successful. Two additional school coaches were hired in the 2018-19 school year, and Madison scaled the process to Daniel Boone Elementary and Foley Middle School. Then, the fifth coach was hired in the 2019-20 school year, and a teacher leader joined the coaching team. With six coaches in place, the district was prepared to scale the work in mathematics to additional schools, Silver Creek and Kit Carson Elementary.

> **I am thrilled you are helping the teachers help the students love math. We are extremely proud of the work that's happening.**
> ***-MCSD Board Member***

Enabling Context: Linked Implementation Teams Lead Systems Improvement

The third key ingredient in Kentucky's secret sauce is a Linked Teaming Structure. Madison County School District used Kentucky's Linked Implementation Team structure to develop and sustain capacity from the ground up: teachers and coaches, school administration and staff, district administrators and school board, the Regional Education Agency, and the Kentucky Department of Education.

In Accomplishing Effective and Durable Change, Kentucky shared its implementation process and testimonials from participants at every level of the system. It was becoming clear that any one level of capacity without the other levels is insufficient for effective and sustainable change at scale. Equally important was the communication between teams. A communication protocol was established at the onset of the Transformation Zone in 2014. The use of this protocol ensures teams celebrate successes and remove implementation barriers. When a barrier was identified, the



team with the authority and resources understood they must stop and solve it. This intentional act stimulated creative and inventive thinking. It cultivated a mindset for shared accountability and continuous improvement at every system level. Everyone knew they had an essential role because leadership was distributed at every level of the system.

Building Implementation Teams Ensure Teachers Have What They Need

During the initial implementation stage, Madison teachers, school coaches, a school administrator, and a district administrator worked side-by-side at monthly Building Implementation Team meetings. For two years, they met monthly. They also received the support of a regional coach skilled at systems and instructional coaching. The goal of the regional coach was to develop the capacity of the school team to use implementation data (capacity, fidelity, training, coaching) to support teachers' effective use of mathematics practices in the classroom. The regional coach commits to providing Just In Time support to the teachers and the team, or the right type and amount of support, at the right time (Nahum-Shani et al., 2018). Coaching focuses on using data to reduce the variability of support available to teachers from classroom to classroom.

"We are much more focused and I would like to say I feel so fortunate to be part of this work. I know we are going to build teachers' capacity, but not only are we going to build it, we are going to be able to sustain it."
-School principal

District Implementation Team Ensures Schools have what they need

The District Implementation Team in Madison met monthly using school level data to ensure they were continuously strengthening the support requested by teachers. Since 2015, the district's support has been unwavering; they were champions. They advocated for and supported teachers' requests in Transformation Zone (TZ) schools. At the onset of the TZ work, district administrators, math coaches, and principals were trained to use the OTISS walkthrough fidelity measure. Annually, they completed OTISS reliability training to ensure all staff in TZ schools had inter-observer agreement. This ensured that OTISS observations and scores were reliable and consistent from teacher to teacher and school to school. As evidence of improved teacher practice and student outcomes emerged, the district got ready to replicate the process in non-TZ schools. With the support of the regional coach, non-TZ school principals were trained to collect OTISS observation data.

"Implementation with fidelity makes change much more sustainable…. We are beginning to get data linking outcomes to use of math instruction with fidelity."
-Teacher and staff discussing OTISS data

Regional Implementation Team Ensures Districts have what they need

In Kentucky, the Regional Education Agency and the Special Education Regional Technical Assistance Centers (SERTACs) are the critical link between districts and the state. They support Transformation Zone (TZ) districts with systems coaching and mathematics instructional coaching. Initially, they train TZ districts to use the Five Active Implementation Frameworks to develop the readiness (willingness and capacity) to use implementation science for continuous improvement. Simultaneously, they work with the school's mathematics coaches to train and coach teachers on how to use the resources in Kentucky's Mathematics Toolkit. They play a pivotal role in delivering the support districts require because, in the words of a Kentucky team member, "**The problem is most districts don't have the time or resources to develop all of the systems and measures needed to use an innovation effectively – now they have resources and support from their Regional Implementation Team**."

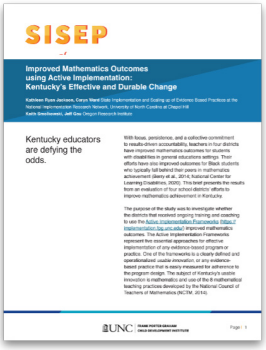
> **Teachers are empowered, they see their leadership come through, see it working, see their voices being heard, and not just by their principal but by the district office, they got to see that positive action happens.**
> ***- Regional Coach***

Kentucky's ***how*** is woven into the Formula for Success - it is their secret sauce with three key ingredients.

Teams at every level of the system use a continuous improvement process to use and scale the three key ingredients in Kentucky's Secret Sauce:

EFFECTIVE PRACTICE	X	**EFFECTIVE IMPLEMENTATION**	X	**ENABLING CONTEXT**	=	**SOCIALLY SIGNIFICANT OUTCOMES**
Key Ingredient #1 A Quality Standard for **Effective Practice**		Key Ingredient #2 Distributed Leadership to Ensure **Effective Implementation Supports**		Key Ingredient #3 Linked Teams Who Create **Enabling Context**		**A Collective Commitment to Accountability for** Improved Outcomes

The critical connections between educators create the conditions for distributing leadership from team to team. Those teams make a collective commitment to continuous improvement, so a proven process improves outcomes and is scalable systems-wide. In Improved Mathematics Outcomes, analysis of students' mathematics outcomes from the 33 schools who participated in the first iteration of Kentucky's Transformation Zone demonstrates how educators defied the odds with focus, persistence, and a collective commitment to results-driven accountability.



The words of Margaret Wheatley ring true in Kentucky when we consider all that Kentucky's first four TZ districts, including Madison County School District, were able to accomplish in the first iteration of the Transformation Zone:

"In this exquisitely connected world, it is never a question of critical mass, it is always about critical connections."

Scaling a Proven Process

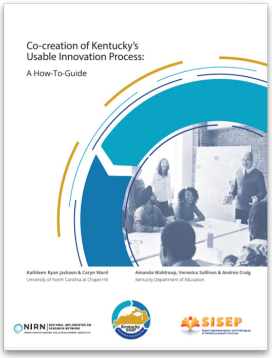
Sustainable change at scale is achieved when an organization is ready to replicate a proven process, and staff are poised to make a collaborative commitment to continuous improvement because they have made critical connections. Madison County School District believed they built and tested a scalable system to improve teacher practice and students' mathematics outcomes. So, the district planned to fade coaching support from the original Transformation Zone schools and transfer those supports to Silver Creek, Kit Carson, Waco Elementary, and Clark Moores Middle School. In 2019, all schools completed orientation meetings, and some completed baseline capacity assessment data. Unfortunately for all, the COVID pandemic hit, and the best-laid plans were disrupted. An immediate shift was required to support teachers and school staff using a hybrid teaching method. Much of the coaching and professional learning was halted. To understand the Kentucky context, the number of job openings rose from 77 in 2019 to 277 in 2023, and teachers holding emergency certificates rose from 547 in 2020 to 2,935 in 2023 (Ragusa, 2023). In response to the needs of teachers and students, three of the five mathematics coaches were reassigned to the classroom. Teacher turnover was so significant that the remaining coaches continually provided training and coaching for new teachers with ***Just-In-Time Support***. They stayed the course - everyone focused on the needs of teachers.
During times like a pandemic, the temptation is to abandon what is and start something new - abandoning what has promise. Madison did not fall prey to this temptation. In 2021, there was a reboot for everyone. Coaching support and professional learning were embedded within the school's schedules. They were getting back on solid footing. In the spring of 2022, they selected their ninth school, Glenn Marshall Elementary. In the ever-changing educational context, from 2015 to 2022, Madison County School District stayed the course, and they did not get distracted. It was a true testament of practicing distributed leadership. Their willingness to share their implementation story provides other districts with a model of how teachers as leaders focus all efforts on their continuous improvement of instructional practice and their improvement of students' skills to engage in mathematical thinking.

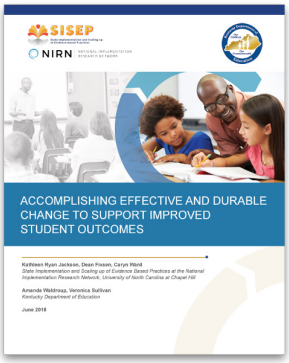
> **My child's teacher makes learning fun and she is always available, she sees them struggle and if they don't have the right answer she says, "its OK, you know the process," and then builds on that to help them get the correct answer.**
> ***-Madison Middle School Parent***

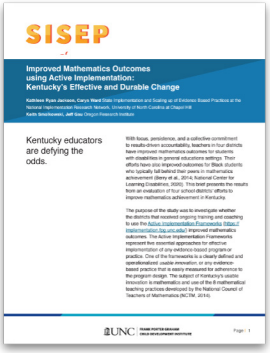
Resources to Scale a Proven Process

In this brief, Madison County School District provides a national model for districts to replicate in their unique context. Throughout the process, Kentucky educators documented their implementation journey with the Kentucky Department of Education's steadfast support. They make public the tools, resources, and reflections of educators so anyone focused on continuous improvement can replicate their process. To share their implementation Journey, educators in Kentucky embrace the notion that there is a Formula for Success, and they bring it to life in four Kentucky publications.

EFFECTIVE PRACTICE	X	**EFFECTIVE IMPLEMENTATION**	X	**ENABLING CONTEXT**	=	**SOCIALLY SIGNIFICANT OUTCOMES**
Key Ingredient #1 A Quality Standard for **Effective Practice**		Key Ingredient #2 Distributed Leadership to Ensure **Effective Implementation Supports**		Key Ingredient #3 Linked Teams Who Create **Enabling Context**		**A Collective Commitment to Accountability for** Improved Outcomes
Kentucky Mathematics Toolkit to Support Students with Disabilities		Kentucky's How To Guide		Accomplishing Effective and Durable Change		Improved Mathematics Outcomes







Conclusion and Acknowledgements

This brief is dedicated to a team of teacher leaders in the Madison County School District (MCSD) in the Commonwealth of Kentucky. From teacher to teacher and school to school, they Led by Doing. Through a practice-based approach to improving mathematics outcomes, they confirm what has long been known: the quality of teachers' instructional practices in the classroom is the largest factor in teaching mathematics for closing long-standing deficits and disparities in student outcomes (Hattie, 2003; NCTM, 2000). We also dedicate this brief to the Madison County School District administrators and Board of Education members who recognized teachers as leaders and co-creators of the systems of support (ongoing training, coaching, and data use) required to improve instructional practices.

We also acknowledge the pivotal role the SouthEast South-Central Educational Cooperative (SESC) and their Special Education Regional Technical Assistance Center (SERTAC) played in supporting the ongoing, job-embedded training and coaching needed to develop the knowledge, skills, and abilities of all staff in MCSD to use implementation and improvement research. The partnership between SESC and the MCSD has been instrumental in the success and support experienced by teacher leaders, schools, district administrators, and the School Board of Education.

Finally, we would be remiss if we did not acknowledge where this work began in October of 2014. Leaders and policymakers at the Kentucky Department of Education's Office of Special Education and Early Learning (OSEEL) saw the wisdom in the emerging research from the National Implementation Research Network on the use of Implementation Science to solve long-standing barriers and the real challenges teachers face in the classroom. Utilizing this research, they provided the support and resources regions, districts, and schools required to co-create implementation-informed processes. Everyone was focused on supporting teachers' use of effective instructional strategies in the classroom. They have made it a priority to support the study, spread, scale, and sustainability of effective implementation of mathematical practices.

Please direct questions or comments to: Kathleen Ryan Jackson, Implementation Specialist, National Implementation Research Network krj@email.unc.edu.

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References

Fixsen, D. L., Ward, C. S., Ryan Jackson, K., & Chaparro, E. (2020). Observation Tool for Instructional Supports and Systems (OTISS): *Walk through and observation form.* State Implementation and Scaling-up of Evidence-based Practices Center, National Implementation Research Network, University of North Carolina at Chapel Hill.

Hattie, J.A.C. (2003, October). *Teachers make a difference: What is the research evidence?* Paper presented at the Building Teacher Quality: What does the research tells us. ACER Research Conference, Melbourne, Australia. Retrieved from http://research.acer.edu.au/research_conference_2003/4/

Hattie, J. (2009). *Visible Learning.* Routledge.

Hill, C. J., Bloom, H. S., Black, A. R., & Lipsey, M. W. (2008). Empirical benchmarks for interpreting effect sizes in research. *Child Development Perspectives*, 2(3), 172–177. https://doi.org/10.1111/j.1750-8606.2008.00061.x.

Kentucky Department of Education (2016). *State Systemic Improvement Plan: Phase II*. https://education.ky.gov/specialed/excep/instresources/Documents/Kentucky%20SSIP%20Phase%20II

Kraft, M. A., Blazar, D., & Hogan, D. (2018). The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research*, 88(4), 547–588.

Murata, A. (2011). Introduction: Conceptual overview of lesson study. In L. C. Hart, A. S.

NCTM (2000). *Principles and standards for school mathematics.* New York: National Council of Teachers of Mathematics.

Ragusa, J. (2023, November, 2). Legislators discuss teacher shortages during Education Assessment and Accountability Review Subcommittee meeting. Kentucky Teacher. https://www.kentuckyteacher.org/news/2023/11/legislators-discuss-teacher-shortages-during-education-assessment-and-accountability-review-subcommittee-meeting/

Ryan Jackson, K., Fixsen, D., Ward, C., Waldroup, A., & Sullivan, V. (2018). *Accomplishing effective and durable change to support improved student outcomes* [White Paper]. National Implementation Research Network, University of North Carolina at Chapel Hill.

Ryan Jackson, K, Ward, C., Waldroup, A, Sullivan, V., & Craig, A. (2020). *Co-creation of Kentucky's usable innovation process: A how-to-guide.* Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill.

Ryan Jackson, K. R., Ward, C., Smolkowski, K., & Gau, J. (2021). *Improved mathematics*

outcomes using active implementation: Kentucky's effective and durable change. State Implementation and Scaling-up of Evidence-based Practices Center.

Sánchez-Meca, J., Marín-Martínez, F., & Chacón-Moscoso, S. (2003). Effect-size indices for dichotomized outcomes in meta-analysis. *Psychological Methods*, 8(4), 448–467.

Spillane, J. P. (2012). *Distributed leadership.* John Wiley & Sons.

Ward, C., Metz, A., Louison, L., Loper, A., & Cusumano, D. (2018). *Drivers Best Practices Assessment.* Chapel Hill, NC: National Implementation Research Network, University of North Carolina at Chapel Hill. Based on: Fixsen, D.L., Blase, K., Naoom, S., Metz, A., Louison, L. & Ward, C. (2015).

Wheatley, M. (2011). *Leadership and the new science: Discovering order in a chaotic world.*

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