



NATIONAL STUDENT
SUPPORT ACCELERATOR

equalizing access to quality tutoring

NSSA 2025 CONFERENCE

*Scaling High-Impact Tutoring:
Uniting Research and Decision Making
for Effective Solutions*



Stanford

SCALE Initiative
Accelerator for Learning



WELCOME

Welcome to our 2025 National Student Support Accelerator Conference, our 4th annual gathering, *Scaling High-Impact Tutoring: Uniting Research and Decision Making for Effective Solutions*.

In just four short years, the high-impact tutoring field has evolved into a powerful, coordinated movement. Nearly 40% of schools across the country now offer high-impact tutoring. Despite funding challenges, states, districts, and schools are finding creative ways to make tutoring sustainable, and implementation continues to improve. We are also seeing exciting opportunities to enhance human-led tutoring through AI, all while staying rooted in the power of relationships and high-quality instruction.

Since NSSA launched in 2021, schools and districts across the country—and globally—have been scaling tutoring efforts to help students thrive. There’s no one-size-fits-all model. Some districts partner with specialized providers, others build programs in-house, and many are rethinking schedules and staffing to make tutoring a core part of the learning experience. This diversity of approaches reflects a shared goal of providing every student with access to meaningful relationships and high-quality instruction.

We know this is not easy work, but it is essential. That is why we are so grateful you are here. Throughout today’s event, we will learn from each other, explore innovative solutions to funding and implementation challenges, discuss the potential of AI, and hear the latest research shaping the future of high-impact tutoring. We will dive into practical strategies in smaller sessions and build new connections to support this work long after the conference ends.

NSSA’s efforts would not be possible without the support of many partners. Thank you to our initial funding partners for believing in this work including Bill & Melinda Gates Foundation, Kenneth C. Griffin, Jamie Halper, Overdeck Family Foundation, Schusterman Family Philanthropies, and Walton Family Foundation. Thank you also to our research partners including Arnold Ventures, J-PAL North America, Overdeck Family Foundation, and Smith Richardson Foundation. A special thank you to Pete Lavorini, Yashna Jhaveri, and the Overdeck Foundation for your thought-partnership and support of this conference, to our champion sponsors PEARL and Pencil Spaces, as well as to all of our event sponsors.

This year is a chance to celebrate how far we have come and to deepen our commitment to expanding high-quality tutoring for students in every school. We know that many of us are facing uncertainties. During these times, keeping our focus on students and their wellbeing is even more important. We are honored you are taking time from your busy schedules to be with us and to focus on what we can do—and we hope this is a time of real learning, inspiration, and momentum for all of us.

Best,
Susanna Loeb
and National Student Support Accelerator Team

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Conference Agenda - May 1, 2025

8:00 - 9:00 AM	Breakfast and Registration		
9:00 - 9:30 AM	Welcome Remarks and Introduction		
<i>McCaw Hall</i>	Now is the Moment		
9:30 - 10:15 AM	Fireside Chat		
<i>McCaw Hall</i>	Sustaining Successful High-Impact Tutoring		
10:15 - 10:30 AM	Break		
10:30 - 11:30 AM	Learning Communities (Concurrent Sessions)		
	Researchers Strategies for Conducting High-Quality Applied Research in Educational Settings <i>Barnes/McDowell/Cranston</i>	State & District Leaders Building Resilient High-Impact Tutoring Programs <i>Lane/Lyons/Lodato</i>	Tutoring Providers From Insight to Impact: Practitioner Implications of Recent Findings <i>McCaw Hall</i>
11:30 - 11:45 AM	Break		
11:45 - 12:15 PM	Research Lightning Rounds Part 1 (Concurrent Sessions)		
	Learning from Tests of Program Effectiveness <i>Barnes/McDowell/Cranston</i>	Strategies for Embedding Tutoring <i>Lane/Lyons/Lodato</i>	Understanding Tutor-Student Interactions <i>McCaw Hall</i>
12:15 - 1:15 PM	Lunch		
1:15 - 1:45 PM	Research Lightning Rounds Part 2 (Concurrent Sessions)		
	Overcoming Common Implementation Barriers <i>Barnes/McDowell/Cranston</i>	Design Spotlight: HQIM + Tutor Training <i>Lane/Lyons/Lodato</i>	Scaling Insights: Research Across Contexts <i>McCaw Hall</i>
1:45 - 2:00 PM	Break		
2:00 - 3:00 PM	Breakout Sessions (Concurrent Sessions)		
	Implementation and Scaling Solutions <i>Barnes/McDowell/Cranston</i>	State-level Solutions <i>Lane/Lyons/Lodato</i>	Funding Solutions <i>McCaw Hall</i>
3:00 - 3:15 PM	Break		
3:15 - 4:15 PM	Plenary Panel		
<i>McCaw Hall</i>	AI & Tutoring: Hype or Hope?		
4:15 - 5:00 PM	Closing & Reflections		
<i>McCaw Hall</i>	End of Day Reflections		
5:00 - 6:30 PM	Evening Reception		

Transforming Learning Through Relationships and Instruction



The National Student Support Accelerator (NSSA) is a project of the SCALE Initiative at Stanford University. NSSA conducts and translates research about intensive, relationship-based, individualized instruction – or high-impact tutoring – into tools and strategic advising practices that meaningfully increase students access to these supports and accelerate learning and well being.

Launched by a diverse community of education experts and scholars from around the country, NSSA conducts research to advance the knowledge base on effective tutoring and builds a comprehensive set of tools and resources to make it possible for tutoring organizations, schools and districts to implement high-impact tutoring at scale. Research shows that high-impact tutoring – tutoring delivered three or more times a week by consistent, trained tutors using quality materials and data to inform instruction – is one of the most effective academic interventions, providing an average of more than four months of additional learning in elementary literacy and almost ten months in high school math. Going forward, NSSA’s researchers will continue to conduct, synthesize, and leverage tutoring research with a focus on embedding tutoring into core instructional approaches and advancing understanding of how generative AI tools can enhance human-led tutoring.



NSSA Annual Conference on High-Impact Tutoring

Tutoring has long been available to well-resourced students. But low income students and students of color have rarely had access to the kind of intensive tutoring that could improve their learning trajectories, and previous efforts to scale up tutoring initiatives have not been successful in maintaining quality or reaching all students in need. NSSA’s open-source tools and resources provide support for districts, states, and tutoring providers to increase access to high-impact tutoring. Please see highlights of NSSA’s tools on the following pages.

What We Offer

Cutting-Edge Research

Catalyzing the field of tutoring by building consensus around standards, and conducting and coordinating research efforts.

Practical Tools and Frameworks

Accelerating the growth of high-impact tutoring by providing open access tools and strategic advising to schools, districts and states interested in implementing tutoring and to tutoring providers interested in improvement.

Strategic Advising

Engaging and activating stakeholders to build demand and ensure funding.

Visit our website for free tools or download the latest reports on high-impact tutoring: <https://nssa.stanford.edu>



Tutoring Quality Improvement System (TQIS)

TOOL

The Tutoring Quality Improvement System (TQIS) provides local education agencies (LEAs) and tutoring programs with three interconnected tools:

- **High-Impact Tutoring Quality Standards:** Developed by an external Advisory Group, these standards are grounded in research.
- **Self-Assessment:** A free, research-based assessment of a tutoring program’s quality accompanied with tailored recommendations for improvement.
- **NSSA Program Design Badge:** An assessment that requires a third-party validation of the program’s alignment to the standards.



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Tutoring Quality Standards

CHARACTERISTIC	QUALITY STANDARD	RESEARCH BASE
TUTOR		
Tutor Recruitment and Selection	The program has a clear recruitment and selection process that results in tutors with the skills and mindsets necessary to be successful in that program.	Emergent: Research has not explicitly focused on the most effective way to recruit tutors. However, experts in the field generally agree that programs should have clear processes and standards for recruitment.
Tutor Preservice Training	The program provides high-quality onboarding and training, tailored to program context.	Research-Informed: Research shows that highly skilled educators have a greater impact on student achievement. Therefore, programs that implement high-quality training to improve a tutor's skill level will likely positively impact student achievement.
Tutor Coaching and Feedback	The program provides ongoing support to tutors such as through coaching on the effective use of research-informed practices that foster academic success and overall student well-being.	Research-Informed: Research shows that educators improve by receiving ongoing support and feedback. Providing tutors with support in utilizing research-based instructional practices is, thus, likely to improve their practice and the program’s effectiveness.
DATA USE		
Program Effectiveness and Improvement	The program has demonstrated a commitment to understanding overall program effectiveness and processes for ongoing improvement.	Research-Informed: Research provides evidence that management practices that include data collection and analysis can improve organizational outcomes. As a result, tutoring programs that use data in their design and improvement process are likely to increase program effectiveness over time.
Formative Assessment	The program provides tutors with support to collect, analyze, and use formative assessment data to inform design of future sessions.	Research-Based: Research on formative assessments in other settings suggests that they can provide valuable data for educators. As a result, similar formative assessments are likely to help tutors improve tutoring sessions and personalize instruction. Research suggests tutors need time and support to review formative assessment data, as well as the ability to act upon them.

CHARACTERISTIC	QUALITY STANDARD	RESEARCH BASE
Student Progress Measure	The program has a system for measuring individual student progress over time and responding to those results; measures of progress include both academic growth and adaptive indicators (i.e., student engagement; student confidence).	Research-Informed: Tutoring programs can measure student progress over time by analyzing grades, assessment results, and standardized test scores. Monitoring individual student's progress over time can improve tutor's practice as well as allow the program to adjust or change tutors to better reach goals.
INSTRUCTION		
Student Grouping	The program strategically groups students by skill level or language need to allow the tutor to deliver relevant instruction to the full group.	Research-Informed: Research on supplemental educational supports (not tutoring explicitly) suggests that grouping students by skill level or ability level can increase effectiveness.
Tutor Consistency	Students receive consistent tutoring from the same tutor; any adjustments to groupings occur sparingly and strategically.	Research-Informed: Limited research on the effects of tutor consistency on student achievement exists. However, evidence does suggest that the practice of "looping" - students having the same teacher for multiple years - may positively impact student achievement. The general consensus is that it is beneficial for students to receive instruction from a consistent tutor.
Student-Tutor Relationship	The program has an intentional strategy and supporting systems to build strong, positive relationships between students and tutors.	Emergent: Many educators highlight the importance of relationships in effective tutoring, though research has not directly tested the role of relationships in driving student outcomes. The well-researched benefits of same-race teachers points to the importance of cultural competency in building those relationships and improving student outcomes. Tutors who are able to foster positive and professional relationships with students likely have great potential to engage students and improve outcomes.
High-Quality Instructional Materials	The program uses high-quality instructional materials (HQIMs) that are user-friendly, rigorous, and research-based.	Research-Based: HQIMs positively impact student achievement in the classroom setting; therefore, the use of HQIMs is likely to improve the success of tutoring programs.
Instructional Practices	Tutors use research-based instructional practices aimed at fostering academic success and overall student well-being.	Research-Based: Research-based instructional practices, by definition, promote student outcomes. One driver for the strong impacts of teacher led tutoring may be their expert facilitation of learning using these practices. Providing tutors with support in utilizing research-based instructional practices, thus, is likely to increase the effectiveness of the program.
Routines and Structures	The program has consistent lesson structure, set instructional routines, and standard procedures to maximize learning. Tutor-specific modifications are intentional and informed by student needs.	Research-Informed: The evidence base does not provide detailed information on how the structure of specific tutoring interventions affect student learning. However, students generally tend to benefit from a consistent lesson structure, procedures, and routines in educational settings.

CHARACTERISTIC	QUALITY STANDARD	RESEARCH BASE
Dosage	The program provides each student with at least three tutoring sessions per week, with ample time (usually a minimum of 30 minutes per session) for students to engage fully with the material.	Research-Informed: Overall, tutoring interventions appear to be more effective as the number of tutoring sessions per week increases. Although research does not identify the most effective combination of duration and frequency, it does provide evidence that at least a minimum amount of exposure is necessary for high-quality tutoring to lead to desired outcomes.
Ratio	The ratio of students to tutor in the program is low and does not exceed 4:1.	Research-Informed: Multiple studies suggest 1:1 tutoring has a greater impact on student achievement than any other grouping. However, research also suggests that tutoring is effective up to a ratio of 4:1. Some considerations when defining the student-tutor ratio are cost, resources and tutor type.
LEARNING INTEGRATION		
Setting	The program occurs during the school day.	Research-Based: Studies on tutoring programs find that the effects of programs conducted during the school day are roughly twice as large as those conducted outside of school. However, out-of-school tutoring programs can be effective if the necessary structures and systems are in place to ensure student participation and engagement.
Integration with School Schedule	If occurring during the school day, the program strategically considers the tradeoffs of students attending tutoring instead of alternative uses of time.	Emergent: Substantial evidence makes clear that classes vary in their benefits for students. Integration of tutoring into a student's schedule requires them to substitute tutoring for other uses of their time, which might also be important for their learning and well-being.
Curricular Alignment	If classroom instruction is based on rigorous and high-quality materials, the tutoring program aligns to classroom curricula.	Emergent: Aligning tutoring with work in the classroom reduces the potential for student confusion from differences in the approach and facilitates communication between the tutor and the student's teachers. However, if the materials are not high quality, the benefits of alignment may not exceed the drawback of low quality materials.
School and Teacher Engagement	The program regularly engages with school leaders and/or teachers regarding instructional alignment and student progress.	Emergent: A number of effective tutoring programs engage regularly with school leaders and teachers, though researchers have not directly tested the importance of school engagement. Experts suggest that strong tutor-teacher communication may improve tutors' understanding of students and, as a result, the effectiveness of tutoring.
Student Enrollment and Retention	The program has a defined approach to enroll and retain students; particular attention is paid to reducing barriers to participation.	Research-Informed: Tutoring programs vary based on how students are chosen (i.e., required participation, opt-in or opt-out participation). While these different features have not been researched, it is suggested that required opt-out programs (where students are automatically enrolled unless parents actively ask that they not be enrolled) reduce barriers to participation.

CHARACTERISTIC	QUALITY STANDARD	RESEARCH BASE
Caregiver Engagement	The program ensures regular engagement with caregivers and updates on student progress.	Emergent: While no studies have directly tested the benefits of tutors interacting with caregivers, a number of studies have shown caregiver involvement can positively impact student achievement. Therefore, tutoring programs may benefit from proactively encouraging tutors to engage with caregivers.
SAFETY		
Safety Protocols	The program has health, physical safety, and emergency management protocols in place to provide an environment conducive to learning and fosters awareness and understanding of the protocols. Note: This standard, as all others, is applicable for both in-person and virtual tutoring programs.	Emergent: Researchers have not studied the importance of safety protocols for tutoring programs. However, common consensus is that programs cannot operate without making student safety a pillar of operations.
Data Privacy and Security	The program has reasonable data security infrastructure and data privacy policies and practices in place in order to keep student information safe.	Emergent: Researchers have not studied the importance of data security infrastructure for tutoring programs. However, common consensus is that tutoring programs cannot operate without making data privacy a pillar of their operations.
COHESION		
Program Design	The program is designed to successfully meet the needs of the community it serves.	Research-Informed: Research on organizations generally suggests that programs that have a clear logic model and sense of what drives impact in their program may be more effective. This is likely true for tutoring programs as well.
Leader Role Clarity	The program has clearly defined roles and responsibilities for the leadership team, with particular attention to clearly defining tutor coaching responsibilities.	Evidence Informed: Research on nonprofit organizations generally suggests that programs with clearly defined leadership roles may be more effective. This is likely true for tutoring programs as well.
Leader Professional Development	Program leaders receive support to implement their roles with fidelity.	Evidence Informed: Research on nonprofit organizations generally suggests that programs with leaders who have the necessary skills and knowledge for their role may be more effective. This is likely true for tutoring programs as well.
Organizational Culture	The program has a defined mission, vision, and set of organizational goals; and these guiding documents are aligned with the broader context and well understood by stakeholders.	Research-Informed: Research on organizations generally suggests that programs that have a clear mission and goals and an aligned organizational culture tend to be more effective. This pattern is likely to hold for tutoring programs as well.

Tutoring Program Design Badge

TOOL

Benefits of the Tutoring Program Design Badge

The Badge provides benefits for tutoring providers and the districts and states who seek to partner with providers by:

- **Distinguishing tutoring programs that align with high-impact tutoring standards:** With many providers to choose from, it is difficult for states and districts to identify which providers align with high-impact standards. The Program Design Badge indicates that the badged program's tutoring model aligns with high-impact standards.
- **Informing the field of effective model design features:** Less effective tutoring programs dilute the value of high-impact tutoring. The Program Design Badge seeks to recognize and communicate the design features that research indicates will lead to effective programs in a clear and engaging way.

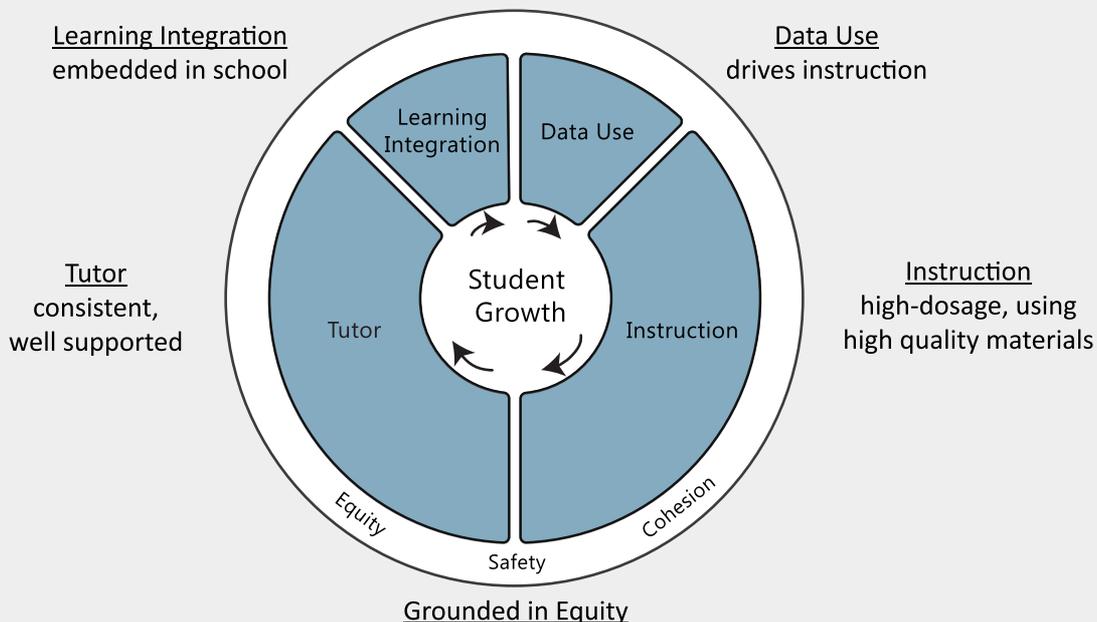


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Toolkit for Tutoring Programs

TOOL

The Toolkit for Tutoring Programs aims to identify the choices and practices that define high-quality tutoring programs, while also providing resources and tools to help with common challenges that programs face in implementing these choices and practices. The Toolkit is designed to support both launching a new tutoring program and improving an established one. The Toolkit includes guidance, templates, and examples for tutoring program design and implementation and is aligned with the High-Impact Tutoring Framework below:



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District Playbook for High-Impact Tutoring

TOOL

Newly updated, the **District Playbook** is designed for school district staff interested in implementing high-impact tutoring programs. While district staff members are the primary audience, state educational officials and school administrators will also be able to leverage many of the resources in the Playbook. The Playbook draws from research and the deep knowledge of districts, tutoring providers and other experts across the country. It is one of several interrelated research-backed tools provided by the National Student Support Accelerator to make it easier for states, districts, schools and nonprofits to develop and implement high-impact tutoring programs with quality.

High-impact tutoring is personalized, high-quality instruction in one-on-one or small group settings that creates positive relationships between tutors and students that are motivating and engaging. Numerous studies confirm strong benefits for student academics and overall well-being when high-impact tutoring is implemented with fidelity.



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The Playbook has a distinct structure for each section that organizes content around your specific needs:



Tutoring Database

TOOL

This database* includes organizations that offer tutoring, technology platforms, or academic interventions along with relevant information.

- **Tutoring programs** are those organizations that offer one-on-one and/or small group tutoring directly to students, either in-person, virtually, or through both modes of delivery.
- **Technology platforms** are technology platforms that facilitate tutoring programs.
- **Interventions** offer materials (e.g., an instructional scope and sequence, placement assessment, progress monitoring tools) that are used by a tutoring program, but do not offer tutoring directly.

This database is intended for districts, states, or nonprofits to identify potential tutoring partners, for potential tutors to identify potential employers and for tutoring organizations to have a clearer understanding of the landscape and to identify interventions that might be useful to their programs.

Several organizations listed have earned the **NSSA Tutoring Program Design Badge**. An organization earns the NSSA Tutoring Program Design Badge when they submit sufficient evidence that their program design aligns with research-backed Tutoring Quality Standards.

** Please note that the Tutoring Database is not exhaustive nor does inclusion imply endorsement by the National Student Support Accelerator or Stanford University. All information is self-reported.*



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High-Impact Tutoring: Family and Caregiver Toolkit

TOOL

NSSA and Innovate Public Schools created this tool to help families understand and advocate for high-impact tutoring in their communities. By equipping families with this tool, we aim to foster greater parent leadership and engagement with high-impact tutoring to support students across the nation. The toolkit's purpose is to:

- Understand what high-impact tutoring is
- Contribute to your child's success in school
- Empower yourself and other families to advocate and partner with schools

Complementary to this toolkit is the **High-Impact Tutoring: Family & Caregiver Toolkit for School Districts** that provides guidance for district leaders in engaging families in their high-impact tutoring programs. The toolkit is designed to support district efforts in building meaningful relationships and developing programming with families in order to collectively scale and sustain high-impact tutoring.



Specifically, the district-facing toolkit is designed to support district leaders to:

- Empower families to partner and advocate for high-impact tutoring;
- Share high-impact tutoring opportunities for families;
- Align high-impact tutoring to students' academic progress.



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Higher Education Institution Playbook

TOOL

High-impact tutoring occurs in numerous ways including in district or school developed programs, partnerships between districts and tutoring providers and partnerships between districts and higher education institutions (HEIs). HEIs have the particular potential to combine the benefits of tutoring for K-12 students with benefits for tutors, who, as college students, are developing skills and learning about future employment opportunities.

This Playbook aims to support HEIs in partnering with school districts to offer high-impact tutoring services. While HEI staff members are the primary audience, state educational officials, school district staff, and school administrators can leverage many of the resources in the Playbook. This Playbook includes materials, templates, and examples covering why HEIs should consider tutoring, program design, program implementation, challenges and solutions, and example program profiles.



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Funding for High-Impact Tutoring

TOOL

This brief provides an overview of available funding for high-impact tutoring programs beyond Covid-19 relief funding (ESSER). Many streams of funding, on their own or braided together, can pay for high-impact tutoring in U.S. schools, including:

- **Student Specific Funding:** General Education Support and Enrichment; Economically Disadvantaged Students; Newcomers and English Language Learners; Students Returning from Correctional Facilities; Special Education Students
- **Tutor Specific Funding or Compensation:** Full-time Tutors; Post-Secondary Students as Tutors; Secondary and Post-Secondary Students as Tutors
- **Philanthropy**
- **Blending, Braiding, and Prioritizing Funding**

As ESSER funds come to an end, policymakers and school leaders will need to secure alternative funding and resources for research-backed high-impact tutoring to continue to make a difference in the lives of students. Leveraging existing systems, such as Multi-Tiered Systems of Support (MTSS), and resources, such as paraprofessionals, can be a sustainable, cost-effective way to sustain high-impact tutoring for the long-term.



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Tutor Training Toolkit

TOOL

This Tutor Training Toolkit provides tutor program leaders with training development guidance, profiles of specific tutor trainings, and a searchable database of open-access tutor training materials intended to support tutor program leaders in developing their own tutor training and ongoing support. Training materials were sourced through established tutoring programs, including tutoring companies, universities, and school district-designed programs. This toolkit includes:

Rationale and Usage Guide: This section outlines the rationale for tutor training and recommends the best ways to use this Tutor Training Toolkit.

Training Development Guidance: This section outlines critical guidance for practitioners to consider when designing tutor training. It covers best practices in the design and delivery of training to tutors and the most critical knowledge, skills, and mindsets of effective tutors to inform the content of

tutor training. This guidance can be used to design and improve the effectiveness of your tutor training.

Tutor Training Profiles: This section outlines the tutor training design for 10 tutoring programs, including a sampling of tutor training developed by districts, higher education institutions, and tutoring organizations. Each profile includes an outline of the tutoring program's design and its alignment with the components of high-impact tutoring and link(s) to the majority of the training for each source, along with a summary of the format, topics, and a list of recommendations for using these trainings.

Tutor Training Library: The library is a searchable database of more than 100 different sessions aligned to each of the topic areas identified in the training content recommendations section.



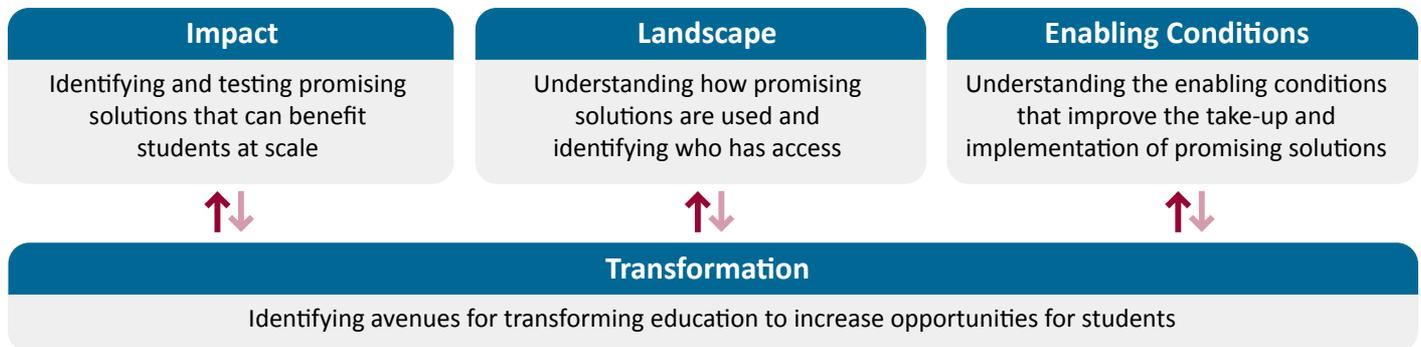
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Systems Change Advancing Learning and Equity

RESEARCH

In 2025, we launched the SCALE Initiative, where we focus on conducting rigorous research in partnership with educators on how to scale promising educational solutions to advance the knowledge base, empowering practitioners and policymakers to make informed decisions that make education systems more equitable and effective for all students. NSSA is a flagship project under the SCALE Initiative.

Our research focuses on the **landscape**--where students are receiving quality opportunities and where they are not; on **effectiveness**--which approaches work for which students in which context; and on **enabling conditions**--how we can implement high-impact tutoring at scale. Underpinning this approach is the potential for identifying avenues that can transform education practice and policy to increase opportunities for all students.



Some of our most recent research includes the following:

Exploring the Potentials of Outcomes-Based Contracting: Findings from Initial Implementations. Amanda Lu, Leah Groom-Thomas, Susanna Loeb. (2025). *EdWorkingPapers.com*.

Outcomes-Based Contracting (OBC) ties vendor payments to performance metrics, aiming to enhance accountability in public education. This study examines its implementation in tutoring services through the Southern Education Foundation pilot program. Interviews with district leaders and vendors reveal that OBC fosters collaboration, improves service alignment with student needs, and enhances data tracking. However, financial risks for vendors and the complexity of implementation pose challenges. While OBC shows promise in strengthening district-vendor relationships, its broader adoption requires capacity building, equitable risk-sharing, and further research on long-term student outcomes.

Educator Attention: How computational tools can systematically identify the distribution of a key resource for students. Qingyang Zhang, Rose E. Wang, Ana T. Ribeiro, Dorottya Demszky, Susanna Loeb. (2025). *EdWorkingPapers.com*.

Educator attention is critical for student success, yet how educators distribute their attention across students remains poorly understood due to data and methodological constraints. This study presents the first large-scale computational analysis of educator attention patterns, leveraging over 1 million educator utterances from virtual group tutoring sessions linked to detailed student demographic and academic achievement data. Using natural language processing techniques, we systematically examine the recipient and nature of educator attention. Our findings reveal that educators often provide more attention to lower-achieving students. However, disparities emerge across demographic lines, particularly by gender. Girls tend to receive less attention when paired with boys, even when they are the lower achieving student in the group. Lower-achieving female students in mixed-gender pairs receive significantly less attention than their higher-achieving male peers, while lower-achieving male students receive significantly and substantially more attention than their higher-achieving female peers.

Transforming learning opportunities by leveraging knowledge for better education decision-making

RESEARCH

Effects of High-Impact Tutoring on Student Attendance: Evidence from the OSSE HIT Initiative in the District of Columbia. Monica G. Lee, Susanna Loeb, Carly D. Robinson. (2024). *EdWorkingPapers.com*.

Student absenteeism, which skyrocketed during and after the COVID-19 pandemic, has negative consequences for student engagement and achievement. This study examines the impact of the High-Impact Tutoring (HIT) Initiative, implemented by the Office of the State Superintendent of Education in Washington DC, on reducing absenteeism. The HIT initiative was designed to mitigate learning loss by providing additional academic supports with a focus on students affected by the pandemic's disruptions. Leveraging detailed daily school attendance and tutoring session data, we employ a within-student approach with student and date fixed effects to isolate the causal effect of having a scheduled tutoring session on daily school attendance. We find that the likelihood of being absent decreases by 1.2 percentage points on days when students have a scheduled tutoring session; this translates to a 7.0% reduction in absenteeism. Bundling key features of high-impact tutoring—such as in-school delivery, smaller tutor-to-student ratios, and increased frequency of sessions—further amplifies the effect.

The Effects of Virtual Tutoring on Young Readers: Results from a Randomized Controlled Trial. Carly D. Robinson, Cynthia Pollard, Sarah Novicoff, Sara White, Susanna Loeb. (2024). *Educational Evaluation and Policy Analysis*.

In-person tutoring has been shown to improve academic achievement. Though less well-researched, virtual tutoring has also shown a positive effect on achievement but has only been studied in grade five or above. We present findings from the first randomized controlled trial of virtual tutoring for young children (grades K-2). Students were assigned to 1:1 tutoring, 2:1 tutoring, or a control group. Assignment to any virtual tutoring increased early literacy skills by 0.05-0.08 SD with the largest effects for 1:1 tutoring (0.07-0.12 SD). Students initially scoring well below benchmark and first graders experienced the largest gains from 1:1 tutoring (0.15 and 0.20 SD, respectively). Effects are smaller than typically seen from in-person early literacy tutoring programs but still positive and statistically significant, suggesting promise particularly in communities with in-person staffing challenges.

The Impact of Tutor Gender Match on Girls' STEM Interest, Engagement, and Performance. Joshua Bleiberg, Carly D. Robinson, Evan Bennett, Susanna Loeb. (2025). *EdWorkingPapers.com*.

Gender disparities in STEM persist despite girls performing as well as boys academically, suggesting girls may benefit from role models who shape their perceptions of STEM. We examine whether female math tutors influence girls' STEM interest, attendance, and performance. We randomly assigned 422 ninth-grade students taking Algebra 1 to a same-gender or opposite-gender tutor. Girls assigned to female tutors reported higher STEM interest (0.73 SD) and were more likely to pass the course with a C- or better (3.9-percentage points) than those with male tutors. We found no impact on attendance. Effects were stronger for students working with tutors in-person rather than virtually. We provide the first experimental evidence that female tutors can boost girls' STEM self-concept and academic outcomes.

Tutor CoPilot: A Human-AI Approach for Scaling Real-Time Expertise. Rose E. Wang, Ana T. Ribeiro, Carly D. Robinson, Susanna Loeb, Dorottya Demszky. (2024). *National Student Support Accelerator*.

Generative AI, particularly Language Models (LMs), has the potential to transform real-world domains with societal impact, particularly where access to experts is limited. For example, in education, training novice educators with expert guidance is important for effectiveness but expensive, creating significant barriers to improving education quality at scale. This challenge disproportionately hurts students from under-served communities, who stand to gain the most from high-quality education and are most likely to be taught by inexperienced educators. We introduce Tutor CoPilot, a novel Human-AI approach that leverages a model of expert thinking to provide expert-like guidance to tutors as they tutor. This study presents the first randomized controlled trial of a Human-AI system in live tutoring, involving 900 tutors and 1,800 K-12 students from historically under-served communities.



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About The National Student Support Accelerator

The National Student Support Accelerator (NSSA) is dedicated to ensuring every student in need has access to an effective tutor who champions their learning and success. Launched in 2021, NSSA conducts research on high-impact tutoring and translates findings into practical guidance. Through collaboration with states, districts, schools, and tutoring providers, NSSA develops tools and offers strategic advising to expand access to tutoring that transforms learning through strong relationships and effective instruction. NSSA is a flagship project of the SCALE Initiative and a part of the Stanford Accelerator for Learning.

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