Challenges and Solutions to Implementing Tutoring at Scale

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Many districts sought to provide students with high-impact tutoring in response to pandemic-induced learning needs. Some started earlier than others, and we aimed to learn from the experiences of the early adopters to help inform a smoother implementation among those beginning the process later. During the 2021-22 school year, we partnered with school districts, tutoring providers, and quarterback organizations that support implementation across districts to learn from their efforts in implementing tutoring.

This brief shares some of the results of this cross-district implementation study. Our goal is to provide a snapshot of lessons learned about common barriers to implementing highly-effective programs and the ways that districts have overcome these barriers with success. We draw on findings from 112 interviews with 90 interviewees participating in a study examining the national landscape of tutoring efforts in the United States. Interviewees included teachers, administrators, tutors, and other program staff from nine school districts and one charter management organization, seven tutoring providers, and six quarterback organizations that support implementation across districts.

The implementation of high-impact tutoring is much like complex implementations of other academic programs; the work teachers, principals and administrators do is difficult and requires deliberate coordination, communication, time, and effort. However, the body of evidence on the potential effectiveness of extended tutoring from a consistent tutor is unusually powerful. Across multiple studies and reviews of education interventions, researchers have found tutoring to have large, positive impacts on student achievement in both math and reading (Dietrichson, et al., 2017; Fryer, 2017). So, while the complexity of implementation can be predictably difficult, the results can be atypically positive for students.

Tutoring Facilitators

Overall we found two key facilitators for the implementation of high-impact tutoring.

The large federal investment, with earmarked funds for learning recovery, substantially reduced, and in many cases even eliminated, financial constraints to investing in relationship-based personalized instruction.

A fundamental belief by most educators is that instruction focused on each student's strengths and needs by an educator who knows them well and has high-quality instructional materials can be successful. Families with financial resources have invested in tutoring for their children for centuries, and most people believe that this approach can accelerate learning if done well.
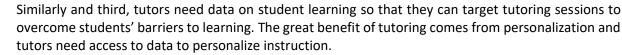
Tutoring Barriers

Funding and belief in the potential of tutoring facilitated the takeup of tutoring; however a number common barriers emerged as well. Overall, the pandemic presented challenges to educators and education leaders and many were unable to fully engage in the educational reform process needed to implement tutoring with quality. As a result, implementation of new programs or even the adjustment of existing approaches could be challenging no matter what the approach. We identified six areas of challenge for implementation and potential solutions for

each of them. The challenges below are not unique to high-impact tutoring but identifying solutions is key to the success of high-impact tutoring.

First, high-impact tutoring needs tutors, and recruiting educators tends to be resource intensive, especially with the particularly tight labor market following the pandemic.

Second, once tutors are hired they need training, oversight and instructional materials. In our study, these needs did not prove as challenging as recruitment but were nonetheless a challenge for districts.

Similarly and third, tutors need data on student learning so that they can target tutoring sessions to overcome students' barriers to learning. The great benefit of tutoring comes from personalization and tutors need access to data to personalize instruction.

Fourth, scheduling tutoring during the day can be one of the toughest challenges. Within-school tutoring requires a change of routines. In early elementary school, tutoring can fit relatively smoothly into the school day because students often remain in the same classroom for most of the day and having adults in addition to the teacher move in and out of the classroom is relatively common. However, in high schools, schedules are more complicated and rigid, making the implementation of intensive tutoring for students far more difficult.

Relatedly and fifth, once scheduled, tutoring sessions only work if students show up. Student attendance at tutoring was a challenge for some schools in our study.

Finally, in order to implement this unusually effective strategy with fidelity, schools and districts needed to build buy-in across a broad range of stakeholders. Principals and teachers, in particular, need to be flexible in scheduling and, often, in providing tutors with information on students. This type of contribution, especially in light of the pandemic, often required deliberate focus.

The districts and schools we studied approached these barriers in a variety of ways and identified solutions that worked in their contexts.

Barrier	Potential Solutions
Tutor Recruitment Districts and tutoring providers had difficulty recruiting the number of tutors needed to execute their programs.	● Deploy existing teachers and paraprofessionals as tutors ● Recruit community members including retirees ● Recruit university students ● Hire high school students, though research has not evaluated their potential effectiveness ● Employ virtual tutors

Solution 1: Deploy existing teachers and paraprofessionals as tutors
Using existing teachers and paraprofessionals as tutors is the first option many districts explore. Building on relationships between teachers and students allows for a smooth transition between classroom instruction and tutoring, especially when using materials for tutoring that are supplemental to or aligned with the school's classroom curricula.

Not surprisingly, time is the biggest challenge to using existing school employees as tutors within the school day. Having a sufficient number of tutors to meet the need requires teachers and paraprofessionals to reallocate time in their schedule to devote to tutoring. When tutoring is done immediately before or after school, using teachers and paraprofessionals is easier, but student attendance is typically lower than during the school day.

Solution 2: Recruit community members
Research shows that with training and ongoing support, many people can be strong tutors. Districts find that hiring community members – parents and grandparents of students, retirees, and others – may fill the need for tutors within a school and deepen ties to the community.

Most community members need greater support than classroom teachers to be effective tutors and districts recognize this need. In addition, even when using community members as tutors, paying for tutors' time leads to more consistent attendance and commitment, mirroring the finding from prior research that volunteers are not as effective as paid tutors (Robinson & Loeb, 2021).

Solution 3: Leverage university students
In communities near institutions of higher education or those that choose to have virtual programs, university students are a rich source of tutors. University students can serve as role models when they have similar backgrounds to the students they tutor in addition to benefiting from tutoring themselves. The U.S. federal work-study program allows students to tutor to earn money to pay for educational expenses. In other cases, students work as tutors to fulfill community service requirements or in part-time jobs. Additionally, university students who excel at tutoring may be drawn to careers in education, strengthening the teacher pipeline and giving a boost to the education workforce.

Students enrolled in teacher training programs have shown to be particularly good sources of tutors. Some programs have integrated tutoring into their training for aspiring teachers and require it as a part of teaching method classes. Others allow students to tutor as part of their required field experience. In each of these cases, aspiring teachers are able to hone their skills by spending more time in an instructional role with students.

However, college students can present some challenges as tutors. In some cases, their own class schedules made it difficult to be available during the school day; and their schedules change from semester to semester, limiting their ability to tutor at the same time over the course of a school year. Additionally, university students may prioritize their own classes at times (e.g. during final exams) leading to absences as tutors. Both pay and incorporation of tutoring into course requirements, such as for teacher preparation, can reduce the potential downsides of using university students as tutors.

Solution 4: HIre high school students

Some districts employed their own secondary school students as tutors. One district administrator stated, "Our best tutor that we had…was our high school junior." This "near peer" approach gives secondary school students early experiences in an instructional role and provides younger students with role models of successful students. High school students require particular training on job skills as well as working with students and pedagogy. Coordinating schedules for both the tutors and tutees sometimes presentes challenges.

Solution 5: Employ virtual tutors

Districts and tutoring providers in our sample found that hiring virtual tutors to provide instruction from across the country, or even internationally, increased the pool of tutors significantly. While these tutors may not have ties to the local community, they can significantly expand the capacity of tutoring programs when local tutors are in short supply, which is frequently the case in tight labor markets or in rural areas. Tutors with specialized content knowledge, such as in higher level math, may also be easier to find via virtual tutoring. Virtual tutors are generally able to manage assignments in different geographic locations without the logistical burden of getting from one place to another. Even for relatively local tutors, online options for tutoring can be appealing because of reduced commute times.

Challenge	Potential Solutions
Tutor Training and Instructional Materials Tutors have varying training needs; they also need high quality instructional materials to use in tutoring sessions.	● Provide pre-service training to tutors that complement their prior experiences ● Invest in experienced tutor coaches ● Use a tutoring curriculum paired with ongoing formative assessments ● Facilitate regular communication between tutors and teachers ● Develop strong curricular and training resources that can be used across jurisdictions

A wide range of individuals can be effective tutors if given the right support. Ideally, tutors are able to draw on pedagogical skills and content knowledge, as well as strong instructional materials, to adapt tutoring sessions in response to each student's skill level and interests, supporting students' progress toward long-term academic goals (Robinson & Loeb, 2021). In practice, different types of tutors need different levels of support given their prior teaching experiences. The quality and quantity of tutor training and instructional materials varied significantly among the school districts and tutoring providers with whom we spoke.

Solution 1: Provide pre-service training to tutors that complement their prior experiences
Most high-impact tutoring providers require tutors to participate in training prior to working with students. Trainings are sometimes lengthy; some high schools and colleges integrate tutoring training into full courses on instructional practices providing pedagogical training as well as opportunities to address issues that arose during tutoring sessions in real time. Others receive one to two weeks of training prior to beginning tutoring, while others complete simple online training programs that take as little as four hours.

Tutors reported finding training helpful when it included information on specific instructional approaches, opportunities to practice instructional moves, and honest discussions about challenges they were likely to face as tutors. They also noted the importance of training in equitable practices.

Solution 2: Invest in experienced tutor coaches
At least as important as pre-service training, ongoing oversight and coaching was required to identify tutors in need of additional support and provide additional feedback. One tutoring program identified two coaches for each tutor, one school employee and one tutoring provider employee.

Solution 3: Use a tutoring curriculum paired with ongoing formative assessments
Because many tutors were not experienced teachers, they needed instructional materials to plan and run effective tutoring sessions. Some tutoring providers developed effective materials specifically for tutoring. In other cases, tutors worked with the classroom materials but often needed support in using these materials effectively.

A number of early-literacy tutoring programs have dramatically increased students' reading skills through short, scripted tutoring sessions (Cortes et. al., 2023; Markovitz et. al., 2021). Students participated in ongoing assessments provided by their tutor or through an associated technology-based app. Based on their results, tutors were prompted to use a specific lesson or instructional approach. Scripted curricula can be helpful for

tutors with less prior teaching experience as they provide specific guidance on tutoring session structure and content.

Solution 4: Facilitate communication between tutors and teachers
In some cases, conversation between teachers and tutors helped align the content of tutoring sessions with classroom instruction, strategically identifying gaps in student knowledge and working to address these across both settings. When tutoring was delivered virtually, tutors found it harder to interact with teachers as they were not crossing paths in person and described feeling isolated and unsure of students' classroom contexts. Some virtual programs work to implement additional strategies to foster tutor-teacher communication to combat this challenge such as regular email updates.

Solution 5: Develop strong resources that can be used across jurisdictions
Some states and regional organizations sought to support tutoring programs by creating vetted lists of strong curricular materials with a focus on tutoring instruction; investing in the development of curricula for subject areas, grade levels, and student groups (e.g. English language learners) where existing materials are lacking; and developing virtual training modules on best practices in instruction for particular content areas (e.g. secondary math). Many districts described drawing on these resources to build out strong curricular plans and hoped to see additional resources developed in the future for more subjects and grade levels.

Barrier	Potential Solutions
Scheduling Tutoring Sessions During the School Day While it is hard to change schedules and routines, more students attend consistently when tutoring is held during the school day.	● Create intervention blocks at secondary schools ● Incorporate tutoring into master scheduling plans ● Provide state-level supports and guidance and examples

High-impact tutoring takes place at a frequency and duration that is developmentally appropriate and sufficient to meet students' learning goals. Programs are better able to meet these dosage requirements when tutoring is embedded into regular school day instruction. Within school tutoring is more likely to provide adequate dosage and consistent student attendance. However, schools encountered challenges with scheduling tutoring sessions into the school day, resulting in insufficient frequency of sessions and delayed implementation during the school year.

The challenge presented by scheduling affects schools and grade levels differently. With elementary schools, where daily schedules are typically less regimented and more flexible, scheduling was less burdensome. Furthermore, many elementary school classrooms already have adult-supervised interventions embedded into day-to-day practice, which makes tutoring sessions easier to integrate as a regularly scheduled classroom activity.

For high schools, where periods are typically regimented during the day, scheduling tutoring with adequate frequency is a greater challenge. While teachers and school leaders were interested in having students meet with tutors, the difficulty of scheduling tutoring without competing with critical instructional periods affected staff buy-in.

Solution 1: Create intervention blocks at secondary schools
School leaders and district administrators often mentioned that elementary school scheduling was less challenging due to intervention blocks built into their school week. Middle and high schools could adapt flexible intervention blocks into their schedule and offer tutoring sessions as a support course for secondary school students.

Solution 2: Incorporate tutoring into master scheduling plans
Scheduling issues often arose from tutoring entering the discussion after master schedules had been constructed. Furthermore, the scheduling process often treated tutoring sessions as supplemental. Solidifying tutoring as a regular part of instruction not only benefits the process of scheduling, but may also help with staff and student buy-in and destigmatize the intervention.

Solution 3: Provide state-level supports and guidance
Legislative efforts at the state level can facilitate implementation of high-impact tutoring as they prioritize accelerated instruction and increase district urgency to engage in tutoring initiatives. States can offer support for initial and ongoing attempts to implement tutoring at scale by supplying a range of resources and guidance to mitigate administrative burden and scheduling challenges. For example, states can provide example master schedules for districts to adopt and support district leaders in identifying the best school time for tutoring.

Challenge	Potential Solutions
Data Use Data collection is often uneven and incomplete for program evaluation as well as for use in instructional planning.	● Create systems to regularly interpret and apply student data ● Utilize virtual tutoring platforms to collect program implementation data ● Plan early to assess program effectiveness

When thoughtfully collected and utilized strategically, data can help educators identify students who could benefit the most from tutoring, empower tutors to personalize instructional content, and allow leaders to assess program implementation and effectiveness. However, many existing educational data systems lack information necessary to inform tutoring programs.

Educators often hoped to promote educational equity by providing tutoring to students who were struggling academically and did not currently have the support needed to succeed. Many identified information on students' prior academic skills and performance as useful in identifying students for tutoring. However, state and district leaders struggled to provide specific guidance for utilizing student academic data given the wide range of assessments used by different schools.

Challenges also emerge when educators attempt to use existing data collection strategies to evaluate tutoring program implementation. For example, while many districts collected school attendance data (i.e. whether students are present at school each day), fewer collected information about what types of interventions students receive during the school day. This lack of data made it challenging to understand whether students were receiving tutoring frequently, over an extended period of time, and meeting with a consistent tutor – hallmarks of a high-impact tutoring program implemented with fidelity.

Additionally, programs were often interested in understanding whether their tutoring effectively improves students' academic skills and socioemotional well-being. However, programs must be designed with evaluation in mind from the start and be able to identify a comparison group of students, similar enough to the students receiving tutoring to provide a convincing example of how students would have performed without the tutoring program (NSSA, 2021).

Solution 1: Create systems to regularly interpret and apply student data
Educators facilitated the ongoing use of data to support tutoring instruction by creating systems and schedules to regularly interpret student data including developing data dashboards, conducting formative assessments, and meeting regularly to discuss student data with a range of program stakeholders. For example, one district leader recognized that educators were struggling to access data when determining which students should receive tutoring. To support this process she created a data dashboard which included academic and attendance data for each student all on one page. She then used this tool in her discussions with educators. Another district convened regular data team meetings including school leaders, teachers, and tutors to discuss how students are performing and what adaptations should be made to their instruction.

Some tutoring providers build in regular formative assessments to their tutoring curriculum. The tutors conducted the short assessments and then worked with students to plot their results over time. These are then

used to initiate conversations with students, teachers, and tutoring program leadership about their progress and plan for the pace and content of future instruction.

Solution 2: Use virtual tutoring platforms to collect program implementation data
Virtual tutoring provides a unique opportunity to collect program implementation data by incorporating existing features of online conferencing and scheduling platforms. In particular, some virtual tutoring programs in our study were able to collect data on when students were scheduled for tutoring, which sessions students actually attended, which tutor met with which student during a session, and how long sessions lasted. Importantly, programs that assigned unique identifiers for each student, tutor, and tutoring session could track students' tutoring dosage and the consistency of student-tutor match over time.

Solution 3: Plan early to assess program effectiveness
Not all districts identify the data needed before tutoring begins or collect the necessary basic information to assess whether their tutoring program is working. For example, some districts in our sample did not track student attendance at the sessions. Many districts ultimately do choose to track attendance, student learning outcomes from formative and summative assessments, and some include student experience measures from surveys students take over the course of tutoring.

These data are essential for assessing program effectiveness and making adjustments to the program as needed. In order to convincingly measure program effects, districts also need to design the program implementation so that they have a comparison group of students who are similar to those who receive tutoring. A number of districts in this study partnered with our research team to identify this comparison group and conduct studies of program effectiveness. New programs usually choose to do fast turnaround studies with a less convincing causal estimate of effectiveness so that they can use the information to improve, while well-established programs may want a stronger causal study that they can use to attract more funding and buy-in. The process of designing strong effectiveness studies usually spans multiple years and requires ongoing coordination between district leaders and the research team (NSSA, 2021).

Challenge	Potential Solutions
Student Attendance High-impact tutoring can only improve student outcomes if students actually attend tutoring sessions.	● Embed tutoring in the school day ● Designate on-site personnel to support attendance and technical issues ● Proactively communicate with teachers about tutoring schedule

High-impact tutoring can only improve student outcomes if students actually receive tutoring. Additionally, high-impact tutoring can only help address inequality in learning experiences if it reaches those students who need it most. Some districts in our sample were plagued by low attendance to tutoring sessions separate from attendance to school in general. While many factors can negatively affect attendance, opt-in programs and programs that took place outside of school time experienced the most attendance challenges in this study.

Opt-in tutoring, like opt-in educational resources in general, tend to have low participation and have difficulty reaching the lowest performing and least engaged students (e.g., Robinson et al., 2022; White et al., 2022). For example, before or after school programs need parent/caregiver support for the additional time students spend at school, which is not feasible for many families. Because more engaged students are more likely to have the capacity to take up tutoring offered outside of school than are less engaged students, scheduling tutoring out of school hours can further differences in outcomes across students.

Technical issues surrounding connectivity and hardware created additional attendance issues for some students receiving virtual tutoring. These technical issues were exacerbated for virtual tutoring sessions taking place from students' homes after school.

Solution 1: Embed tutoring during the school day
Embedding high-impact tutoring into the school day, when attendance does not depend on students' out-of-school schedules, resources, and internet connectivity, was an effective strategy districts used to address some of these attendance issues. Tutoring that is embedded during the school day can be targeted to the students with the highest need, better positioning it to increase equity in learning opportunities within the school. Schools are often better equipped to ensure internet connectivity and availability of equipment to allow virtual tutoring sessions to run smoothly.

Solution 2: Designate on-site personnel to support attendance and technical issues
Even tutoring programs delivered during school hours sometimes experienced attendance challenges, especially with virtual tutoring. Virtual tutoring often required students to go to separate computer rooms and log on to a virtual tutoring platform. The logistical and technical challenges associated with virtual tutoring meant that students would often not make it to the designated location for tutoring, or that they would not be able to log on to sessions. In these cases, it was beneficial if the school had identified individuals on site who could monitor attendance and support students to log on to sessions and troubleshoot in the case of technical difficulties. In some cases this was existing school-level staff such as a librarian, instructional coach, or computer teacher, but in other cases districts or schools had separately hired tutoring coordinators to support successful implementation at the school level.

Solution 3: Proactively communicate with teachers about tutoring schedule

While the benefits of embedding tutoring into the school day are clear, scheduling during school hours introduced a tension with activities planned by classroom teachers, who could be wary of relinquishing instructional time. To address this, some school leaders described the importance of clear and proactive communication with classroom teachers about the tutoring schedule so teachers could build this into their lesson plans. Additionally, clearly communicating to teachers that tutoring was meant to support rather than supplant their instruction deepened teacher buy-in, and positioned teachers as building-level supports for student attendance to tutoring sessions.

Challenge	Potential Solutions
School-level buy-in School staff must change routines and assumptions to implement high-impact tutoring; their buy-in is necessary for successful implementation.	● Foster a school-level belief in the efficacy of high-impact tutoring ● Share early successes to demonstrate the effectiveness of high-impact tutoring ● Identify clear roles and processes including a lead at each school and communicate between roles frequently and clearly

School-level buy-in is critical for the launch and ongoing implementation of district tutoring initiatives because it facilitates activities necessary across levels of a school's organization. Lack of buy-in can stem from limited school-level autonomy over implementation and minimal information solicited from school leaders and teachers (Wohlstetter, Datnow, & Park, 2008) or high degrees of autonomy that result in uneven program implementation and subsequently, less effectiveness. Even when district leaders believe tutoring is the best approach for accelerating student learning, school personnel must share this enthusiasm as many implementation activities occur at the school level.

In some cases, implementation delays and unclear communication at the district level contributed to an erosion of school-level buy-in. For instance, hiring and procurement challenges delayed the start date by six months in one school district. By the time tutoring launched in January, teachers had already established systems for alternative interventions and opted to continue with them even after tutoring became available.

Tutor providers and quarterback organizations believed low levels of teacher buy-in affected tutors' ability to consistently meet with the same students. School leaders and supporting staff noted the need for more teacher incentives to ensure students attend tutoring sessions. Virtual tutors reported meeting as few as one time with a student in some cases and never successfully completing a tutoring session with others due to absences or technical difficulties. As a result, tutoring attendance was sporadic in schools with low levels of buy-in.

Solution 1: Foster a school-level belief in the efficacy of high-impact tutoring
The broad belief in high-impact tutoring as an effective approach to improving student outcomes promoted a sense of coherence within districts in our sample. One district leader stated: "The goal was to communicate, communicate, communicate: do we communicate with schools that what we want there is high-impact tutoring and high-impact tutoring meant?" Establishing a shared vision of overarching goals, programmatic elements, and intended outcomes of tutoring helped them to achieve effective implementation. Similarly, consistent communication of this vision and any changes that might occur over the year with stakeholder groups during design and implementation phases (i.e., district- and school-level admins and staff, tutoring providers, tutors, quarterback organizations) allowed educators to adjust and continuously improve implementation.

Solution 2: Share early successes to demonstrate the effectiveness of high-impact tutoring
Piloting with a smaller group of schools or students and providing examples of well-functioning programs can lead to wider buy-in from other stakeholders. Seeing schools successfully implement high-impact tutoring and its positive impact on students helps educators see how it might work in their schools and the potential effect it could have on students.

Solution 3: Identify clear roles and processes including a lead at each school
School-level administrators indicated their roles and responsibilities in selecting students and monitoring their progress were unclear. Others were dissatisfied with the level of collaboration and communication with tutors and the student selection process. With the competing demands and stretched capacities of educators, clearly identifying roles at the school and district level helped in implementing tutoring with fidelity. By creating structures for communication and collaboration, the tutoring provider and schools fostered school-level and circumvented implementation barriers early on. For example, some district and tutoring provider site leads tracked issues, troubleshot, and communicated strategies to key stakeholders at the school level. Schools that were most successful with alleviating these challenges designated a tutoring coordinator to ensure implementation on the ground.

Clarity of roles is necessary, not only during development but throughout implementation. Invested principals and teachers can support tutoring attendance by prioritizing high-impact tutoring as an intervention and assigning staff to help students log on and troubleshoot technical issues during scheduled sessions. Improved communication between school leaders and tutoring providers may also promote coherence between tutoring and teachers' classroom instruction, a key feature of effective tutoring (Robinson et al., 2021). In sum, program success can be facilitated by involving school-level stakeholders at both the early stages of the design and in the continuous improvement process as tutoring is implemented and maintained.

Conclusion

Overall, high-impact tutoring is difficult to implement well because it requires changes: new adults or adults in different roles, shifting student schedules, new instructional materials often for less-experienced educators, and, when using virtual tutoring, working technology. School systems across the world are implementing this complex approach with concerted effort. As new districts and schools seek to emulate their success, keeping in mind the importance of all actors and, in particular, the importance of school-level educators increases the likelihood of successful implementation, and, in turn, increases in positive outcomes for students.

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