High-Impact Tutoring: Accelerating Student Learning by Expanding Opportunity

GUIDE FOR LOCAL EDUCATION AGENCIES

PURPOSE OF THIS GUIDE

After more than two years of uncertainty and upheaval caused by the coronavirus (COVID-19) pandemic, teachers, school leaders and caregivers are moving with urgency to meet the profound needs of the District of Columbia's children, particularly those who have been historically marginalized. While District schools were making steady progress before the pandemic, inequities that previously existed were laid bare and exacerbated during COVID-19 and related distance learning. DC's education system must ensure that the global public health emergency does not set back student learning for years to come. The need is particularly acute for students who have been furthest from opportunity, students with disabilities and students who are English learners. To mitigate both short-term and long-term effects of the pandemic, local education agencies (LEAs) are working to identify and address any unfinished teaching and learning that has resulted from extended distance learning during the public health emergency.

What is high-impact tutoring (HIT)? HIT is a research-based strategy for accelerating student learning that is a core part of the District's recovery strategy. HIT in Washington, DC has expanded significantly since 2021 in schools and in community-based settings as leaders learn more about the strong body of evidence for its effectiveness and how to integrate HIT into their programming.

Who is this guide for? This guide is meant to help **school leaders** and **educators** understand the essential components of a strong HIT program and the commitment to continuous improvement that it takes to achieve the quality that students deserve.

WHAT DOES THE RESEARCH SAY ABOUT THE EFFECT OF HIT?

HIT is among the most well-examined educational interventions in the field. A recent rigorous review of 96 experimental studies of well-run tutoring programs declared an "overall pooled effect size estimate of .37 [of a standard deviation]." (Nickow, 2020). But what does that mean? Consider a point of comparison: The opportunity gap in math between eighth graders who are low-income and 8th graders who are not low-income is about .8 of a standard deviation. (Lipsey, 2012) So, low-income eighth graders receiving HIT with an effect size of .37 (while at the same time going to school) have been studied to make up almost half of the opportunity gap in the course of a year.

The above analysis pools together studies on many different programs to give a sense of tutoring's potential. One example of a specific program's impact comes from research on SAGA Education's model that shows what a scaled-up version of an *actual* HIT program can do for students. SAGA selects, trains and manages Americorps volunteers across the country who hold daily tutoring sessions on algebra with one or two ninth or 10th grade students. Here are its demonstrated effects (Guryan, 2021):

- Impact of .37 of a standard deviation on math knowledge – the equivalent of **one to two years of high school math**
- **63 percent drop in math course failures**
- **26 percent drop in course failures in other subjects**
- Attendance increases of up to **18 days** across the academic year

STANDARDS FOR HIT

HIT programs can help students make impressive gains if the program model follows the research and educators consistently strive to meet the following standards. Programs designed to meet all of the standards below are borne out in research to produce positive academic results more frequently than those meeting only some of the standards. For example, tutoring frequency (sometimes called dosage) is important but insufficient without a high-quality curriculum and trusting relationships. Conversely, a tutor can have a great relationship with a student but insufficient frequency of tutoring sessions can negatively impact academic progress. Programs that find it difficult to meet one or more of the standards (e.g., after-school programs that are unable to easily collaborate with teachers) should strengthen their efforts to meet the standards within their locus of control.

STANDARD	KEY ACTIVITIES
1. Grounded in trusting relationships	• Recruit caring tutors • Train tutors in establishing rapport with students
2. Focused on tutor effectiveness	• Select tutors for commitment and content knowledge • Train in tutoring program • Observe tutors and give regular feedback for improvement
3. Supported by high-quality curriculum	• Ground in research • Align to state educational standards
4. Occurring frequently	• Occur multiple times per week • Occur at least 90 minutes per week • Occur for at least 10 weeks total for each individual student
5. Organized in small groups	• Limit tutoring groups to no larger than 4 students • Understand 1:1 tutoring is ideal for personalization but limits number of students who may access tutoring
6. Data-driven	• Regularly assess student progress • Use assessment data to adjust tutoring
7. Collaborative with schools	• Connect tutors and tutoring program leads with teachers regularly • Hold tutoring, ideally, during the school day or immediately adjacent to it (i.e., just before or after school) • For tutoring taking place in other non-school community settings, connect what tutors are doing with what students are learning in school

RESEARCH AND PRACTICE EVIDENCE FOR HIGH-IMPACT TUTORING STANDARDS

The sections that follow show evidence from research with formal studies linked for reference, and the gray boxes share related anecdotal evidence gathered from experience from Washington, DC implementations of high-impact tutoring during 2021 and 2022.

1 GROUNDED IN TRUSTING RELATIONSHIPS

The care that tutors show fuels the motivation necessary for students to move forward academically. When a tutor cares who the student is and how the student learns best, attendance and engagement follow.

EVIDENCE FROM RESEARCH

- Meta-analysis of studies on computer-assisted instruction (CAI) without a tutor vs. tutoring without CAI shows the latter is much more effective in reading, suggesting that relationships may make the difference. (Neitzel, 2021)
- Math Corps has found that responsive relationships between tutors and students are associated with greater academic gains and has adjusted its training to help tutors build rapport.
- SAGA Education works to keep tutors with assigned students for the entire school year to maintain relationships intact and builds in a relationship-building activity in every session.

Learning from the field: Virtual tutoring and relationship building

DC LEAs are working with virtual tutoring providers that meet standards for high-impact (and emerging, independent research suggests virtual tutoring can be effective). However, some children may not respond as well to virtual tutoring because it can be harder for younger students to log in and toggle between screens, and virtually establishing the tutor-student relationship to maximize engagement is more challenging. On the other hand, the flexibility of virtual tutoring – which can recruit qualified tutors from anywhere in the country – makes it simpler to recruit outside of the competitive DC market and have substitutes ready to swap in for a session.

2 FOCUSED ON TUTOR EFFECTIVENESS

Tutors are the most important factor in helping students make academic gains, so they must be chosen, trained and retained carefully. Tutors need to have a solid knowledge of the subject matter they are teaching, which should be built at minimum by a thorough training on the curriculum to be used, as well as close supervision and ongoing feedback to become more effective.

Not surprisingly, research shows that teachers are generally the most effective tutors (Nickow, 2020). However, rigorous studies have shown that paraprofessionals, paid volunteers and even unpaid volunteers can make a significant difference *provided they are well selected, managed and monitored.* (See also Neitzel, 2021 and Pelligrini, 2021.)

EVIDENCE FROM RESEARCH

- Math Corps has found in its research that observation and coaching is crucial for improving tutor performance.
- Fraction Face-Off, an evidence-based math tutoring program for upper elementary students, assigns an expert coach to each tutor, who observes and gives weekly feedback to them.
- AARP Experience Corps, an evidence-based tutoring program pairing adults age 50 and older with students facing reading challenges, provides its tutors with 20 hours of training. Tutors are regularly observed and given feedback by school and program personnel.

Learning from the field: Trade-offs using teachers as tutors

Education leaders around the country and in DC have used federal pandemic recovery funds available to pay their teachers to serve as tutors during planning time, intervention blocks, or after school. When such efforts are well-structured and supported, research and early interim assessment indicators suggest that they can accelerate student progress. This structure leverages existing relationships between school staff and students. But consider: teachers are already stretched and feeling burned out. Paraprofessionals and volunteers can also have an impact, provided they are trained and managed. And often these tutors are more representative of the students they serve than the teacher workforce. School leaders may want to consider the mix of tutors that will work best for all members of their community.

3 SUPPORTED BY HIGH-QUALITY CURRICULUM

The curriculum that tutors use with students should be aligned with state standards and grounded in high-quality research and, to the extent possible, should be based on the latest research in the science of reading (for curricula focused on early literacy) as well as providing students a clear foundation in procedural and conceptual math (for early grades math curricula). Lessons specifically designed for tutors are best to use with students, acknowledging that not all tutors have as much pedagogical content knowledge as teachers. Ideally, the tutoring provider will have a design session with the relevant school leader or teacher at the beginning of the partnership to ensure the tutors have lesson plans that are connected to what students do in school even if the tutoring itself is taking place outside of school. The primary focus of the tutoring sessions should be what the student needs now to accelerate learning and excel on grade-level standards, rather than remediation.

EVIDENCE FROM RESEARCH

- The leading national tutoring research and technical assistance provider, the National Student Support Accelerator (NSSA), calls for a tutoring curriculum that is aligned to state standards and to research on what works in instruction.
- SAGA Education's program has a curriculum designed for its Americorps volunteers based on the same framework as Eureka Math, a commonly used, standards-aligned, high-quality K12 math curriculum.
- Lindamood-Bell Learning Processes, a private company that provides intensive literacy tutoring, has developed a curriculum explicitly grounded in the science of reading.

Learning from the field: Taking advantage of free training and curricular resources

It's a heavy lift to develop one's own tutoring curriculum and train tutors on it, but some DC schools have gone this route. Buying an existing curriculum and professional development (PD) specifically for tutors can be expensive. Luckily, some third-party providers have developed their own curriculum and free high-quality curricular resources and training are becoming more widely available. Many K-8 schools in the District use Zearn, an evidence-based online math curriculum. SchoolKit has built out online training resources for tutors to use Zearn. For early literacy, there are free foundational reading training modules and lessons based on Core Knowledge Language Arts (CKLA), a language arts program grounded in the science of reading.

4 OCCURRING FREQUENTLY

Research has conclusively found a link between tutoring *frequency* – the total amount of time students are engaged in tutoring, sometimes called dosage – and *effect* on student learning, provided, of course, that the tutoring meets other standards for quality. At a minimum, students in tutoring should be engaged 90 minutes per week, in multiple sessions per week, for 10 weeks.

EVIDENCE FROM RESEARCH

- NSSA recommends tutoring sessions be arranged three or more times per week, but notes that fewer sessions can still be effective.
- MathCorps tutors meet with middle school students two to three times a week for at least 90 minutes per week.
- AARP Experience Corps' evidence-based tutoring literacy program has tutors work with students two times per week across an entire school year.

Learning from the field: Relationships make the difference in getting the dosage right

DC school leaders and community-based providers have the difficult task to ensure that students attend and engage in every tutoring session. This task is made easier when schools and programs take time to establish relationships or build on those that are already in place between students, tutors, schools and organizations. Even out-of-school time organizations that cannot require regular attendance can find success when they have built trusting relationships with caregivers, students and community members.

5 ORGANIZED IN SMALL GROUPS

What makes tutoring effective, even when implemented by those without teacher training or experience, is that a tutor can personalize instruction for each student. As group size increases, however, tutors have less time to customize instruction and must spend more time on student engagement. Tutoring sessions should ideally have one or two students, and the maximum size should be four students. Generally the major difference between HIT and "traditional" small group intervention is who is leading the group and the number of students receiving support. All HIT is, in practice, small-group support, but not all small-group support is necessarily HIT. Small groups can be larger than 4, while HIT guidance states groups should be no more than 4 students. Additionally, small groups are typically led by a classroom teacher and/or interventionist, while HIT can be led by a wide range of staff, volunteers and/or tutors.

EVIDENCE FROM RESEARCH

- Rigorous reviews of literacy (Neitzel, 2021) and math (Pelligrini, 2021) tutoring interventions point to examples of effective programs that have four students per session.
- Number Rockets, an evidence-based first-grade math tutoring program, demonstrates strong results with tutoring session sizes of 2-4 students.
- Tutoring with the Lightning Squad, a component of the Success for All program, fosters academic growth with tutoring sessions organized in groups of four students.

Learning from the field: Designing tutoring sessions with intentional group size

It makes sense that smaller tutoring group sizes would be more effective and educators and tutoring providers should keep this principle top of mind during intervention design. The smaller the size of the tutoring group, the more personalization and attention each student will get. On the other hand, with a 1:1 or very small group, student access to tutoring is more limited and the chances are greater that absences will stop tutoring sessions entirely. Further, some tutoring providers specify group size and for programs that depend on volunteers, canceling tutoring sessions for lack of students can erode tutors' commitments. When establishing group size, school leaders must strike a balance between what is ideal and what works to maximize positive impact in their context.

6 DATA-DRIVEN

Students receiving tutoring should be regularly assessed using high-quality, aligned formative assessments. The data generated by those assessments should be used to adjust what tutors work on with students. That formative assessment data, along with other key data on quality (e.g., attendance, summative test scores, student satisfaction), should be used for continuous improvement.

EVIDENCE FROM RESEARCH

- The Annenberg Institute at Brown University, the leading research and technical assistance provider in the country on HIT, calls for tutoring programs to use assessment to "more effectively tailor their instruction for individual students." (Robinson, 2021)
- Assessment and instructional adjustment are key practices of the Reading Rescue tutoring intervention which uses computer-based pre-assessment measuring foundational literacy skills. Upon completion of a 40-session program, students are given a post-assessment measuring unbiased and normed foundational outcomes. (Miles et al, 2022)
- One of Math Corps' three programmatic pillars is "data-driven decisions": Use "screening data to guide student selection and support type, periodic progress monitoring data to evaluate student growth, [and] dosage data, including format and length of support."

Learning from the field: Building Communities of Practice

Leaders in DC are using a variety of diagnostic tools, either from their school or pre-assessments from the tutoring providers, to determine the design for a tutoring intervention and identify the students who will benefit most. Tutors then track progress with notes made after each tutoring session and schools can review critical attendance and frequency data to inform next steps and adjustments. In some cases, schools are able to compare tutoring attendance and notes to student performance on interim assessments like the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) and Dynamic Indicators of Basic Early Literacy Skills (DIBELS), but with an understanding that these tests are designed to serve another purpose and aren't a perfect measure of tutoring success.

7 COLLABORATIVE WITH SCHOOLS

Ideally, tutoring should be embedded into the school day schedule. Not only can deep connections between school and tutoring enable tutors to readily sync with teachers and administrators to learn what students need, but it is also a means of ensuring greater equity of access. But tutoring can take place in other community settings as long as efforts are made to connect what tutors are doing with what students are learning in school.

EVIDENCE FROM RESEARCH

- A meta-analysis of randomized controlled trials on tutoring suggests that in-school tutoring is around twice as effective as after-school tutoring; though the authors call for more investigation into this topic (Nickow, 2020).
- A crucial factor in the effectiveness of Reading Partners, a program that trains and deploys volunteer tutors to work with elementary students, is the close work program coordinators do with schools to make sure tutoring meets needs identified by teachers (Jacob, 2015).

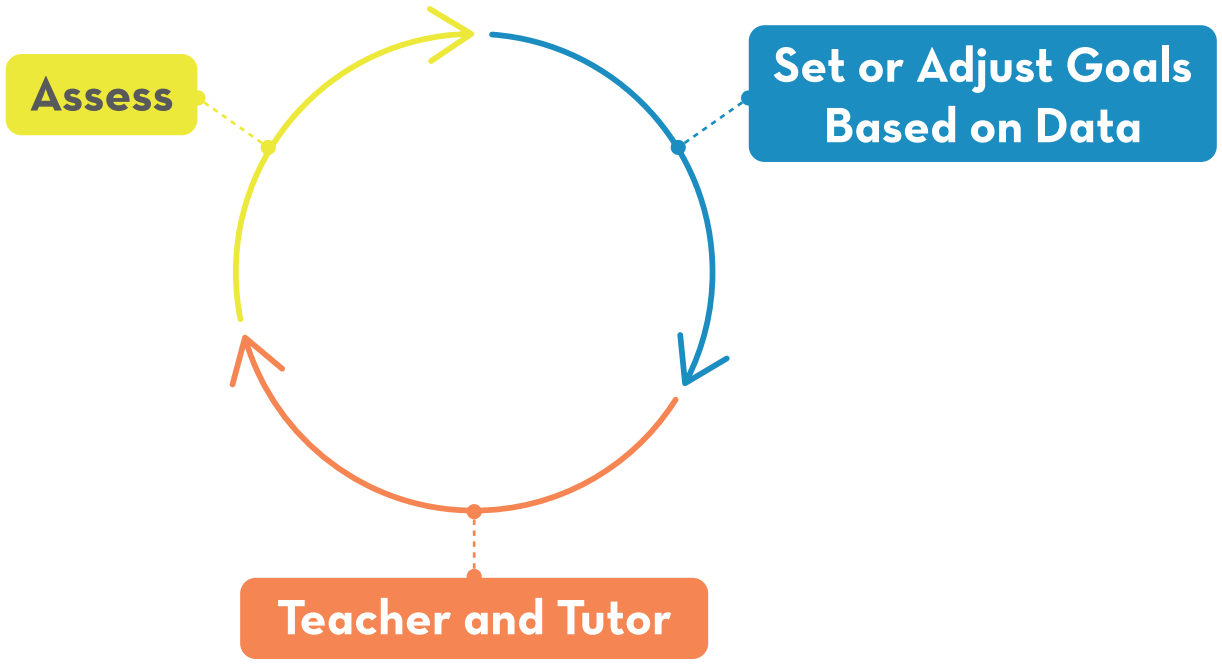
Learning from the field: Addressing the needs of the whole child

While in-school tutoring seems to have a greater impact on academic learning than out-of-school or after-school tutoring does, students' needs go beyond the academic in the wake of the pandemic. Community-based programs in DC are effectively connecting students and families with resources and offer sports, arts, food security and other programming to build belonging. Coupling HIT with these activities can help fortify the joy of learning. The key is to leverage and augment strong relationships with students and families so that they attend tutoring regularly alongside the other offerings.

CONTINUOUS IMPROVEMENT CYCLE

HIT accelerates student learning when adults commit to a cycle of continuous improvement both for students individually, and for the tutoring program itself. In this approach:

- Students' initial goals and overall program goals are set based on diagnostic data.
- Tutoring supplements academic instruction.
- Tutors collect formative assessment data (e.g., exit tickets) to understand students' progress.
- Tutors and teachers discuss formative and benchmark data to determine new goals and/or adjust instruction.



Tutoring programs, no matter how well established or well studied, will sometimes fail to reach every HIT standard. The best way to improve is to collect and analyze data, benchmark it against the standards for HIT and other research, and adjust. Gathering program leaders and other stakeholders in a community of practice powers the improvement process, as the discussion of best practices is tailored to specific, common challenges. Together, the coalition of stakeholders interested in student success can raise the quality of HIT to the point that it becomes an indispensable strategy, not only for pandemic recovery but an activity that is woven into the fabric of public education.

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