

Community Engagement in K-12 Tutoring Programs: A Research-Based Guide for Best Practices

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This report on historical trends and recent findings in the literature on academic tutoring is the first step in a community-based research collaboration between faculty and students at a small liberal arts college, the local public school district, and a nonprofit foundation that supports public K-12 education. Each year, this nonprofit administers a program that pairs over 200 public school students with academic tutors while overcoming limited resources for accessing and synthesizing the research on best practices in the field. Our partnership seeks to provide community members and volunteers with foundational knowledge and practical guidelines for promoting student success through tutoring. In subsequent phases of the research we will use these guidelines to implement and evaluate changes in the tutoring program. Here, we present accumulated evidence from researchers across disciplines, synthesizing a set of best practices in tutoring for use by community engagement practitioners. Additionally, we incorporate recent findings suggesting that factors beyond typical academic outcomes, so-called non-cognitive skills like motivation, perseverance, and mindset, could be important components of tutoring for more broadly defined student success.

Keywords: community-based research, tutors, tutoring programs, best practices, mindset, non-cognitive skills

Introduction

In many communities, adult volunteers act as tutors to help students who are struggling academically. If they are effective, tutoring programs staffed by community volunteers could be a critical component in ensuring the success of our most vulnerable students while supporting teachers and engaging the community in the public school system. However, important questions remain concerning the best way to achieve meaningful effects with tutoring. Bringing together schools, community organizations, and academic researchers is one strategy for investigating how tutors can most effectively promote student success.

Recently, there has been growing recognition that complex problems in our communities, such as education and health disparities, cannot be solved with traditional research approaches; often, academic research findings do not translate into real-world practices that can improve people's lives (Institute of Education Sciences, 2011; Westfall, Mold, & Fagnan, 2007). Many community members have limited access to academic research literature, and limited resources for synthesizing the rapid accumulation of research findings. In order to address this concern voiced by a nonprofit foundation that administers a tutoring program in the K-12 public schools, this project used a community-based research approach to develop knowledge and create guidelines for their volunteer-staffed program.

In keeping with the collaborative approach of community-based research, this ongoing

partnership involves both academic experts and community partners with the aim of generating both knowledge and action (Pasick, Oliva, Goldstein, & Nguyen, 2010). More specifically, the staff at the nonprofit foundation collaborated with the faculty and students at a local college to develop research questions regarding the most effective strategies and practices for tutoring. Although the program currently pairs over 200 students with volunteer academic tutors each year, they have limited resources for synthesizing historical and ongoing academic research across the many relevant disciplines. Although local priorities for building a research-based guide to best practices provided the focus for this report, the issues should be broadly applicable to many community organizations, college service programs, and school staff who are interested in supporting tutoring programs for K-12 students.

A Brief History of the Research on Tutoring

Tutoring, or one-on-one instruction, is likely the oldest approach to education. Across centuries, from Socrates and Plato to countless other great thinkers, one instructor and one pupil has been the basic method for imparting knowledge (Gordon, Morgan, O'Malley, & Ponticell, 2007). Even though the contemporary classroom is quite different from the classical one, teachers still report that one-on-one tutoring is an effective way to help a struggling student, even though they do not have the time to consistently implement this strategy themselves (Elbaum, Vaughn, Hughes, & Moody, 2000). Thus, the concept of tutoring in America has shifted from a private arrangement for the education of elite students to a one-on-one approach for remedial instruction, delivered by a tutor who may be a teacher, a paraprofessional, a community volunteer, or even another student (Shanahan, 1998).

Despite centuries of anecdotal evidence, empirical research on the practice and effects of tutoring is a relatively new field. The first major studies were published in the 1960s and 1970s (see early reviews by Rosenshine & Furst, 1969 and Devin-Sheehan, Feldman, & Allen, 1976). These studies focused mainly on peer tutoring, where older or more advanced students helped their less advanced counterparts in reading and math. Although strong conclusions were limited by a lack of methodological rigor, findings from these early studies suggested that peer tutoring had a small, positive effect on both the students providing tutoring and the students receiving tutoring (Cohen, Kulik, & Kulik, 1982).

Prompted by several factors, including the 1983 release of a report from the National Commission on Excellence in Education entitled "A Nation at Risk" (1983), the 1980s and 1990s produced waves of educational reform and research on tutoring. One important response was the development of school-wide programs like Reading Recovery and Success for All. Armed with new cognitive science knowledge on the way children learn to read, and empowered by loosened restrictions on the use of Title I funding, these programs trained certified teachers in specific, structured methods for teaching reading one-on-one to struggling students. The details of methods and curricula vary considerably, but a meta-analysis suggests that these programs are quite effective in helping young students learn to read (Wasik & Slavin, 1993). Despite significant positive findings, school-wide programs have an important drawback in that they rely on intensive professional development for certified teachers to implement the tutoring program. The expense and investment of time and human capital can be insurmountable barriers to implementing such programs (Shanahan & Barr, 1995).

In direct contrast to the costly and time-intensive approach of training certified teachers

to work as tutors, President Clinton's 1997 America Reads Challenge pledged millions in federal funding to support a "citizen army" of volunteer tutors. This initiative proposed mobilizing parents, businesses, community groups, college students, and senior citizens to meet the goal that every child would read independently by the end of third grade. The results of programs using volunteers in the America Reads era are decidedly mixed. While some reports demonstrated large gains for tutored students (Baker, Gersten, & Keating, 2000; Fitzgerald, 2001; Invernizzi, Rosemary, Juel, & Richards, 1997), many assessments found limited effects, often due to difficulties with implementation such as volunteer inconsistency and lack of training (Jones, Stallings, & Malone, 2004; Worthy, Prater, & Pennington, 2003).

In 2001, Congress passed the No Child Left Behind Act, ushering in new regulations on allocating money for tutoring services. One provision of this act was that federal funding to struggling schools could be used for individual students to receive Supplemental Educational Services (SES), additional instruction provided outside of normal school hours. A national survey conducted in 2006 showed that 54% of SES providers were private, for-profit tutoring companies, 21% were nonprofit agencies, 9% were local education agencies, and the remaining 16% were local community groups, colleges, and universities (Center on Education Policy, 2006). In contrast to earlier programs that relied mainly on student peers, certified teachers, or community volunteers to provide tutoring in the schools, the majority of tutors providing SES instruction were doing so outside of the public school system. Despite this departure from other approaches reviewed here, important lessons can be drawn from the millions of students who enrolled in tens of thousands of different SES programs across the US.

The success of these SES tutoring programs varied widely. Two large-scale studies found positive academic outcomes, especially in mathematics (Springer, Pepper, & Ghosh-Dastidar, 2009; Zimmer et al., 2007). Other studies with similar sample sizes and methodologies have found the impact of SES participation on academic achievement to be negligible (Deke, Dragoset, Bogen, & Gill, 2012; Heinrich et al., 2014; Ross et al., 2009). This discrepancy in outcomes is difficult to reconcile; however, there could be many contributing factors to the contradictory findings about the overall impact of SES. In all of these studies, there is great variability in the instructional techniques used both within and between providers. It is possible that the larger gains in performance reported in some studies were the result of more providers using better instructional techniques. Additionally, many studies reported issues with low attendance, limited instructional time, and difficulty gathering reliable and valid assessment data. It is possible that high levels of variability in these samples limited researchers' ability to detect important achievement outcomes. For example, Springer and colleagues (2009) found that although 21% of eligible students registered for SES programs, only 15% of them ever attended a single tutoring session. Of those, many did not attend regularly, making "participation in SES" a difficult variable to define. Several different forms of additional analyses were required to explore the complicated relationship between the actual amount of tutoring received and any gains in academic performance (Springer et al., 2009). Although Heinrich and colleagues (2014) did not find an overall positive effect of SES participation in four sample school districts, they did find evidence of "dose-related" effects, whereby students receiving more tutoring showed greater gains. In a similar challenge, Heinrich et al. (2014) also found that the quality of tutoring varied widely, with only a few select providers using high-quality materials that aligned with the school curriculum and the specific needs of students. Finally, a common finding across several studies of the SES program is that younger students are more likely to enroll and are more likely to consistently attend tutoring, and therefore may be more responsive to

its effects (Deke et al., 2012; Heinrich et al., 2014; Zimmer et al., 2007). Taken together, subgroup analyses from these studies suggest that students who receive at least 40 hours of consistent, high-quality tutoring may show greater academic gains, and that providing differentiated instruction to younger students may produce the largest benefits from these services.

Since its peak in 2011-2012, the market for SES has declined rapidly due to the shifting political landscape, evidence of misappropriation of funds, and many states receiving waivers to opt out of the program (Hamel, 2013; Mesecar, 2015). Despite the many failings of the SES program, a vast body of important knowledge about tutoring was amassed as researchers explored the impacts of these programs on the millions of student participants.

In summary, over the past five and a half decades and through several different eras of tutoring practices, the accumulation of empirical evidence suggests that a wide variety of tutoring interventions can have positive effects on student learning. Although there are important counter-examples, the vast majority of studies have shown that tutoring programs can be an important way to promote intellectual and personal growth, especially among our most vulnerable students. In the sections that follow, we draw on these studies to suggest a set of best practices that can guide the design and implementation of tutoring programs in a variety of settings.

Frequently Asked Questions: What are the Features of an Effective Tutoring Program?

In addition to hundreds of applied studies related to various tutoring interventions over the past 50 years there have also been a number of more basic, theoretical advances that have informed research and improved practices in tutoring. A dizzying array of theories in education research, cognitive science, and social psychology could be brought to bear on tutoring practices (e.g., Bandura, 1986; Bloom, 1984; Vygotsky, 1978). Although theoretical perspectives can guide development of effective tutoring programs, there is no definitive answer to the important question of how and why tutoring works. There is still an extremely wide variation in how tutoring programs are organized and implemented since no single approach has yet been determined as the best or only way for a tutoring program to have the desired positive effects on its students. However, by building on data and theory we can offer a list of strategies that have been widely used by successful tutoring programs, and consolidate a knowledge base of demonstrated best practices for delivering high-quality tutoring support.

The standards and guidelines provided below (and summarized in Table 1) are based on dozens of articles reporting the results of individual tutoring programs, meta-analyses of entire bodies of work, and summaries of compiled evidence. Several authors have offered their own checklists and guides, and the ideas below rely heavily on their work (Bixby, Gordon, Gozali-Lee, Gray Akyea, & Larson Nippolt, 2011; Slavin, Lake, Chambers, Cheung, & Davis, 2009; Wasik, 1998a). In addressing each of the questions below, this article also seeks to reconcile contradicting advice and provide useful information without ignoring the diversity of findings in the field.

Table 1. Evidence-Based Practices in Academic Tutoring

Amount of Tutoring
<ul style="list-style-type: none"> •Contact time - approximately 40 hours •Intensity - more sessions per week produce larger effects than fewer sessions per week •Consistency - increases time on task and promotes bonding
Tutoring Session Components
<ul style="list-style-type: none"> •Clear, specific, measureable objectives •Structured activities to align with goals •Ongoing assessment for individualized instruction •Immediate feedback, motivation, encouragement •Scaffolding and modeling •Coordination with classroom instruction
Tutor Recruitment, Training, Support, and Retention
<ul style="list-style-type: none"> •Volunteers from diverse backgrounds can be successful tutors •Consider volunteer interests and skills •Provide training that gives tutors confidence and useful tools •Ensure clear channels for ongoing communication and support •Give volunteers clear expectations and incentives for success •Use initial screening process to gauge volunteer interests, skills, and motivations •Build role identity by demonstrating volunteer impact and recognizing contributions
Organizational Strategies
<ul style="list-style-type: none"> •Develop clear, specific program-wide goals and student-centered outcomes •Standardize procedures to align with goals •Collect both qualitative and quantitative data for ongoing program evaluation •Use data to adjust tutoring practices, training, or support and create assessment feedback loop •Cultivate strong relationships and regular communication with parents and school staff •Develop partnerships with other community organizations to build capacity
Other Factors to Consider
<ul style="list-style-type: none"> •Tutors can potentially influence a variety of attitudes and skills beyond traditional academic outcomes •Seek evidence-based strategies for incorporating and measuring these effects

Note: For additional information on each of these practices, including citations, please see text.

How Much Tutoring Should Students Receive?

Clear guidelines for the frequency and duration of tutoring sessions seem like they should be a basic outcome of decades invested in careful research. Unfortunately, there appears to be no magic number of minutes or hours in which most tutoring programs find success. From a more optimistic perspective, this suggests that programs can offer effective tutoring in a variety of schedules. Articles that report the details of specific tutoring interventions seem to converge around an average total contact time of approximately 40 hours, with tutoring often delivered two times per week for 30-45 minutes or five times per week for 20-30 minutes (Baker et al., 2000; Fitzgerald, 2001; Invernizzi et al., 1997; Jones et al., 2004; Juel, 1996).

Several reviews and meta-analyses have developed recommendations on these questions of contact time, with the general consensus being that *intensity* and *consistency* are more important than the exact schedule of sessions. In terms of intensity, research suggests that more sessions per week produce larger effects than fewer sessions per week, and that having tutors meet with their students more than once per week is desirable (Elbaum et al., 2000; Morris, 2006; Wasik, 1998a, 1998b). Consistency in the tutoring relationship is also an important factor both for increasing the amount of quality time spent on tutoring activities and for strengthening the bond between the tutor and student (Bixby et al., 2011; Juel, 1996; Wasik, 1998a).

What Do Tutors Do During A Tutoring Session?

Several components of successful tutoring interventions have been described, although it is important to mention that many successful programs do not contain all of the elements described below. It is likely that each factor can contribute to positive outcomes, but no single factor is necessary or sufficient to produce success.

Start off with clear, specific, and measurable objectives. As with any type of instruction, it is much easier to offer useful activities if you know precisely what the goals are. Saying that tutoring should help a student improve their reading ability is quite vague and may not provide enough information about the specific skills we would like the student to demonstrate. If we hope that a student will be able to sound out particular types of words, read specific stories, or understand a given concept, it is critical for the tutor and the student to know that information at the outset (Gaustad, 1992). Additionally, if the desired outcomes of tutoring are clearly stated, it is easier to monitor student progress and adapt lessons accordingly, and to evaluate the effectiveness of the tutor and the program (Bixby et al., 2011).

Use structured programs to meet program goals. Although there are a few important examples of successful tutoring programs that rely on an unstructured approach, where a tutor is given little instruction on what to do during a given tutoring session (Baker et al., 2000; Cobb, 2000), there are also several large reviews and meta-analyses that suggest structured programs produce larger effects for tutored students (Cohen et al., 1982; Fashola, 1998; Ritter, Barnett, Denny, & Albin, 2009; Slavin et al., 2009; Wasik, 1998b). Despite the wide variety of activities that tutors use in these structured programs, what they do have in common is that they provide tutors with specific lessons and materials to cover, or outline the sequence of activities that should occur during a tutoring session (Morris, 2006; Ritter et al., 2009; Wasik, 1998b). For example, in a review of 17 studies of volunteer reading tutoring programs, Wasik (1998b) found that all effective programs shared the same basic four elements in the structure of a tutoring session, including the stu-

dent re-reading familiar texts, practicing letter-sound relationships, reading new texts, and writing. However, as Fashola (1998) points out, this does not mean that pre-packaged academic programs are the answer, but rather that careful planning and development of the tutoring curriculum can increase the likelihood of creating successful tutoring relationships.

Conduct ongoing assessment for individualization of lessons. Converging evidence from many researchers highlights the importance of regularly assessing student progress in order to tailor instruction to the individual needs of each student (Bloom, 1984; Wasik, 1998a). While it remains important for tutors to plan and organize sessions in order to meet specific program goals, it is also essential that the structure be flexible enough to adjust when a student masters a skill quickly or struggles with a particular concept. Wasik (1998a) describes the various ways that successful programs conduct this assessment, from informal continuous monitoring during each session to more formal evaluations administered at set points during the tutoring relationship. In each of these successful approaches, the assessment aligns with the program goals and activities conducted during tutoring sessions. For example, if a tutoring partnership has focused on letter-sound relationships, the assessment should measure those specific skills.

Provide immediate feedback, motivation, encouragement. In addition to the utility of assessment data for adapting instruction, knowing how well a student is learning a particular concept or skill also allows a tutor to provide immediate and specific feedback. As Bloom (1984) points out, in a typical classroom a teacher cannot possibly allocate attention and immediate responses to all students; however,

It is different in a one-to-one tutoring situation where there is a constant feedback and corrective process between the tutor and the tutee. If the explanation is not understood by the tutee, the tutor soon becomes aware of it and explains it further. There is much reinforcement and encouragement in the tutoring situation and the tutee must be actively participating in the learning if the tutoring process is to continue. (p. 11)

In experiments where researchers enhanced the feedback teachers provided to students, their participation and achievement were significantly higher than that of students in typical classrooms (Bloom, 1984). More recently, a growing body of research demonstrates that the context and type of feedback provided to students can improve not only their outward behaviors, but also influence internal factors, such as feelings of autonomy and motivation as well as attitudes towards challenge and effort (Mueller & Dweck, 1998; Skinner, Furrer, Marchand, & Kindermann, 2008; for more details, see also section below: *“What other factors might be important?”*). While there are known benefits of feedback and encouragement for all students (Dweck, 2015; Strobel, 2010), those selected for tutoring have often already experienced repeated frustration and failure; therefore motivation may play an even larger role in their academic performance (Fuchs et al., 2008). Fuchs and colleagues (2008) have demonstrated the importance of tangible reinforcers like stars or tokens, as well as visible cues like graphs plotting learning progress, for boosting self-regulation and motivation in successful math tutoring programs. Using a very different approach, Juel’s (1996) case studies document the bonding, affection, and verbal reinforcement that successful tutors employed in their relationships with students. While we are not aware of any research that has directly contrasted these reinforcement approaches in a tutoring setting, the students studied by Fuchs et al. (2008) often had difficulty with attention and self-regulation. In these cases, or in

situations where students lack motivation to engage in the tutoring relationship, tangible reinforcers may be necessary. In instances where a student can more readily stay on task or is receptive to engaging with the tutor, verbal reinforcement may be sufficient for promoting student success. In summary, both theory and practice demonstrate that motivation has a large impact on learning, and a variety of techniques for encouraging effort, understanding, and growth have been shown to increase student success.

Scaffold instruction and model strategies. Research points to scaffolding (instructional supports that are provided initially, then gradually removed as student gains proficiency) and modeling (instructor demonstration for student observation and imitation) as two essential techniques that set successful tutoring partnerships apart from less successful pairings (Juel, 1996). In a series of detailed observations, tutors who provided students with more scaffolded learning experiences, enabling them to complete difficult tasks by providing clues or breaking the task down into smaller steps, were significantly more likely to improve literacy skills in their students. Successful tutors also spent more time explicitly modeling cognitive processes for reading and writing than unsuccessful tutors. This often involved walking a student step-by-step through a process, or demonstrating a particular strategy, developing the students' ability to apply the strategy to future learning situations (Juel, 1996). Several other lines of research have also highlighted the importance of modeling in teaching metacognitive skills like planning, problem solving, and self-monitoring, which are critical for student success (Bloom, 1984; Gordon et al., 2007; Slavin et al., 2009).

Coordinate with classroom instruction. Although empirical data on this topic is limited, coordination between tutors and classroom teachers appears to be an important feature of successful programs. Research suggests it may be difficult to balance the tutor's need for guidance with the limited resource of a teacher's time; however, clear communication is likely invaluable to the success of a given partnership as well as the sustainability of the overall program (Worthy et al., 2003). The organizational structures built into a tutoring program, such as protocols for communication, ongoing collaboration with district administrators, and coordinators who provide teacher-specific knowledge and continuity, can be an important foundation for ensuring that tutoring is aligned with students' classroom experiences (Bixby et al., 2011; Morris, 2006).

How Are Tutors Recruited, Trained, Supported, And Retained?

In contrast to older reports suggesting that only highly trained, certified teachers were qualified to conduct tutoring, more recent research provides an overwhelming consensus that volunteer tutors can have a significant impact on student learning outcomes (Baker, Rieg, & Clendaniel, 2006; Baker et al., 2000; Fitzgerald, 2001; Invernizzi et al., 1997; Morris, 2006; Ritter et al., 2009; Shanahan, 1998; Wasik, 1998b). These volunteer tutors have been recruited from university athletic teams and college courses, as well as recent graduates, retirees, local businesses, and community organizations. It is clear from this research that volunteer tutors do not need to come from a specific background in order to be effective, but it is important to consider their varied interests and skill levels, and to provide them with adequate training and support (Bixby et al., 2011; Juel, 1996; Morris, 2006; Wasik, 1998a).

As we might expect, there exists a wide range of ideas about what constitutes adequate training and support. At one end of the spectrum are programs that demonstrate success with a training program consisting of a single two-hour orientation session at the beginning of the school year (Baker et al., 2000). Only 30 minutes of this training session are devoted to reading strate-

gies; the rest of the time is spent on logistics. Volunteers are provided a handbook with additional resources, and any ongoing scheduling support comes from AmeriCorps volunteers or school staff who act as program coordinators.

At the other end of the spectrum are programs that rely on highly trained reading specialists to assess student needs, develop lesson plans, and observe tutoring sessions in order to provide feedback to volunteer tutors (Invernizzi et al., 1997; Morris, 2006; Wasik, 1998b). In this approach, the reading specialist trains the volunteers in the fundamental aspects of child learning and development and offers practice sessions for specific teaching techniques and activities. Some of these programs also require volunteer tutors to keep logs of their sessions and encourage tutors to meet and discuss their tutoring challenges.

In addition to these two disparate models of tutor training and supervision, many other approaches have also resulted in positive outcomes for tutored students. The available evidence clearly supports the notion that there is no single “best practice” for training and supervising tutors. Reports of null effects for tutoring programs often reflect problems with the orientation programming or the expectations of tutors, a lack of high quality materials consistently available for use in tutoring sessions, or a breakdown in communication or support (Heinrich et al., 2014; Worthy et al., 2003). In order to avoid these pitfalls, programs may be able to adapt one of many successful approaches to ensure that their instructors enter into tutoring relationships with confidence, in possession of useful tools and the knowledge that they can receive ongoing guidance through a designated channel such as a program coordinator, trained supervisor, or peer group.

If resources are to be invested in volunteer recruitment and training, promoting retention is also an essential consideration. Research suggests that establishing clear expectations, offering incentives, and building role identity can help maintain volunteers’ commitment (Bixby et al., 2011; Skoglund, 2006; Wasik, 1998a). An initial screening process for selecting volunteers can be used as a tool for communicating expectations about attendance and responsibilities, gauging interests and skills, and learning about an individual’s motivations for volunteering. Understanding these motivations can allow a program to provide incentives that are actually meaningful to the individual volunteer (Bixby et al., 2011). To develop their role identity as volunteer tutors, it is important for individuals to see how their efforts contribute to the overall success of the program (Skoglund, 2006). Ongoing feedback about student performance, recognition by school and program staff, and small rewards from local businesses can go a long way in helping these individuals maintain their commitment and perhaps even recruit additional volunteers (Wasik, 1998a).

What Is Done At The Organizational Level To Promote Successful Programs?

In addition to the tutoring components described above, there are several steps that can be taken at the organizational level to promote successful tutoring programs. Research demonstrates that clear, specific goals for the tutoring program, as well as student-centered outcomes and procedures aligned with those goals, can help everyone from parents to prospective volunteers better understand and support a program’s efforts (Fashola, 1998; Wasik, 1998b).

Clear goals and measurable outcomes also facilitate ongoing assessment and systematic program evaluation. Research suggests that programs should incorporate both qualitative and quantitative data in their evaluation process and that these data should be used as part of an ongoing feedback cycle (Elbaum et al., 2000; Fashola, 1998; Gaustad, 1992). The goal of such a cycle is to use information gained through the evaluation process to adjust the tutoring practices, training

protocols, or other aspects of the program that could be improved (Bixby et al., 2011). When developing a plan for evaluation, it is important to gather data and input from all appropriate stakeholders (i.e., program staff, volunteers, teachers, students, parents, or other community members) in order to target any adjustments the program seeks to make. The type of assessment data collected can be adapted in order to answer different types of questions about a program's needs and outcomes, using methods such as in-person interviews, online surveys, or compiling existing data such as attendance or enrollment records. Although detailed information on program evaluation is beyond the scope of this work, there are many resources available for more information (e.g., <http://www.uwex.edu/ces/pdande/evaluation/> or <http://njaes.rutgers.edu/evaluation/resources/>).

Research also points to the critical role that engaged parents, school staff, and community organizations play in supporting successful tutoring programs. Programs that seek to cultivate these relationships may be able to make larger impacts on students (Little, 2009). Volumes of research demonstrate the importance of parental involvement, and tutoring programs can be a way for parents to connect with their child's school, teacher, or curriculum through specific, targeted information or activities (Massachusetts 2020, 2004; Sheldon & Epstein, 2005). To build positive relationships, it is essential to develop strong lines of communication that connect supplemental programs with the needs and goals of the schools (Bixby et al., 2011). Frequently, there are a number of different organizations in a community, with varying goals and expertise, which share similar missions to help support students at risk. Communication and cooperation among these groups can help build capacity and strengthen the ability of each program to meet the complex needs of students and their schools (Bixby et al., 2011; Harvard Family Research Project, 2010).

What Other Factors May Be Important?

In addition to the guidelines above that summarize much of the extant literature on implementing effective tutoring programs, embedded in many research reports seems to be the notion that there are some essential features of tutoring that are not fully captured by studying contact time, curricula, or training procedures. As an example, Allington's (2002) commentary on reading instruction emphasizes the ability of good teachers to develop their students' motivation, problem solving, and self-regulation, not just improve their reading scores. There are also influential case studies of tutor-student relationships that highlight the social bonding and affection that develop in successful partnerships (Juel, 1996).

Carefully controlled studies lend support to this qualitative evidence suggesting that it is not just *what* is done during tutoring, but also *how* it is done that may be important. In one such study, researchers asked fifth graders to complete easy and hard puzzles (Mueller & Dweck, 1998). After students completed easy puzzles, half of the group was told, "You must be smart at these problems" and the other half was told, "You must have worked hard at these problems." The students were then asked to complete very difficult puzzles. Those who received feedback on their intelligence did not want to continue working and performed more poorly, even when working on easier puzzles. Students who received feedback about their work process wanted to persist working on the difficult puzzles, and improved their performance on the easy ones. From these studies, it is clear that the way encouragement is phrased determines its effects on students. Praising a child's efforts builds motivation, enjoyment, and performance, while praising a child's personality traits can undermine these same things (Mueller & Dweck, 1998). Interestingly, while these factors are less tangible than standard test scores, they may be critical for understanding the effects

of tutoring.

What Do We Mean When We Say Student “Success?”

There are some nearly universal indicators that a child is succeeding in school—they get good grades, they participate in class, they get along with their peers. If tutoring programs are intended to support student success, it is important to define and measure this success; however, the vast majority of tutoring interventions have been evaluated solely based on their ability to alter academic grades or standardized test performance. What if the effects of tutoring are not immediately apparent in those measures, but instead lead to important changes in a child’s attitudes, skills, or beliefs?

To continue the example from above, research demonstrates that praising a child’s process and effort not only improves their performance, it also demonstrates that this feedback encourages the child to adopt what researchers call an “incremental motivational framework” or “growth mindset” (Gunderson et al., 2013; Mueller & Dweck, 1998). In other words, these children are more likely to believe that they can change with effort and practice, and that success usually comes from hard work, not just luck or inborn talent. Down the line, this growth mindset has incredibly widespread implications and is associated with a reduced risk for school drop-out (Paunesku et al., 2015), decreased aggression in adolescence (Yeager, Trzesniewski, & Dweck, 2013), increased likelihood of accepting responsibility (Schumann & Dweck, 2014), and resilience in the face of challenges like stereotyping and racism (Aronson, Fried, & Good, 2002). Clearly, understanding how and why various experiences alter students’ mindsets could be invaluable for tutoring programs working with at-risk students.

Educators have long realized the significance of *non-cognitive*¹ attitudes and skills like attention, perseverance, curiosity, and emotional regulation in a child’s overall academic success (Duckworth & Yeager, 2015), and employers consistently rate non-cognitive factors as more important than intelligence or academic performance in their prospective applicants (Payne & Kyllonen, 2012). Until recently, reliably measuring these qualities was not possible and it is still, at this point, fraught with some important difficulties (Duckworth & Yeager, 2015; West et al., 2014). Nevertheless, there is a growing body of research on programs that can support the development of non-cognitive skills.

In one influential example, Aronson and colleagues (2002) implemented an intervention with African American college students that promoted the development of a growth mindset. These students have been shown to be vulnerable to the effects of stereotype threat, whereby awareness of negative stereotypes about Black students’ intellectual abilities can reduce their college grades, despite test scores that are equivalent to their white counterparts upon entrance to college. Students in the experimental group who internalized the perspective that intelligence is a malleable skill rather than a fixed trait went on to receive higher grades and reported enjoying and valuing academics to a greater degree than control students who did not increase their adherence to a growth mindset. In an extension of this line of research, Paunesku and colleagues (2015) recently demonstrated that this type of intervention can be scaled up to impact large numbers of high school students by using short-term, online modules to alter their mindsets, improve their grades, and reduce their risk for dropping out of school.

The well-established mentoring program, Big Brothers Big Sisters, has long sought to improve children’s lives in areas beyond school performance. Recently, they have taken steps to

begin a more rigorous evaluation of the program's effects on the attitudes and beliefs of the participants (Public/Private Ventures, 2012). Results indicate that students who participate in just one school year of mentoring show significant improvements in non-cognitive areas, such as social acceptance and educational expectations, as well as school grades.

In addition to the Big Brothers Big Sisters mentoring model, there are many school-based programs seeking to enhance students' non-cognitive skills in some way. In a meta-analysis of 213 programs involving more than a quarter of a million K-12 students, Durlak et al. (2011) found that interventions aimed at enhancing non-cognitive skills resulted in large gains in students' social and emotional skills, positive attitudes about themselves and others, reductions in conduct problems and emotional distress, and significant improvements in their academic performance. Based on this work, researchers identified four factors that support successful programs: (1) sequenced activities that move students toward objectives; (2) active forms of learning rather than passive explanations of concepts; (3) a focus on objectives that include but are not limited to social and emotional skills; and (4) explicit emphasis on specific skills and strategies, not just general personal development. Interestingly, these factors overlap with many of the research-based recommendations for academic tutoring, such as establishing clear and specific objectives, scaffolding instruction, providing feedback, modeling, and other active learning approaches that are inherent in one-on-one instruction. Tutoring is generally regarded as having a more narrow scope, with a focus on immediate academic goals. In contrast, mentoring relationships are generally thought of as broad in scope, where the focus is often on longer-term goals and skills beyond academic achievement. As such, it makes sense that the literature on mentoring programs would explore the potential mechanisms that can influence non-cognitive skills, whereas there are few studies on tutoring that examine students' attitudes or beliefs. However, the parallels between approaches for boosting traditional academic skills in a tutoring relationship and imparting non-cognitive skills through mentoring suggests that we may be able to capitalize on this knowledge to design tutoring programs with broader definitions of student success.

Despite limited empirical evidence of tutoring's impact on non-cognitive skills, a rich body of literature supports the idea that short-term interventions can influence students' attitudes and behaviors, and the diversity of successful tutoring and mentoring programs suggests that any skill, not just math or reading, can be effectively taught through meaningful one-on-one tutoring relationships. In order to more fully understand the impact volunteer tutors have on struggling students, it is becoming increasingly important and feasible to adequately measure not only improvements in reading or math, but also changes in the attitudes and skills essential for personal wellbeing and a brighter future.

Conclusions

Our concept of the tutor has evolved from a teacher solely for the elite, or a specialized instructor focusing on a single task, to a committed volunteer who may help a student build skills beyond the typical academic realm. A community-based research approach to designing, implementing, and evaluating tutoring programs is critical for ensuring that school staff, community organizations, and academic researchers are working synergistically to promote student success. As an early step in one such collaboration, this report serves to meet an important community need for access to foundational knowledge and a synthesis of practical guidelines for strengthening an existing volunteer tutoring program. Using these best practices, this partnership will continue

working to modify elements of the program and to evaluate the impact of these modifications on students, teachers, volunteers, and staff. For other community engagement practitioners, this guide may serve as an additional reference for those new to the field, or as a tool to promote dialogue about strategies for meeting the needs of struggling students. Accumulated evidence provides a rich narrative of the tools and techniques employed in successful tutoring, and practitioners can use this evidence to support the academic performance of students and potentially improve their non-cognitive skills as well. Active community engagement in our schools can help all students, especially those considered most at-risk; it can also provide much-needed support to teachers and school staff. Academic researchers and university students also stand to benefit from thoughtful partnerships with local schools, by building the relationships and knowledge necessary to engage in research on complex issues in education, teaching, and learning. Moving forward, sustained partnerships among scholars, community members, and schools may provide all of us with new opportunities to bring about lasting changes in the lives of all our students.

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Notes

1. The term *non-cognitive* is one of many terms used by researchers and practitioners to encompass a variety of diverse factors that are conceptually distinct from general intelligence and widely accepted to be beneficial. There are many other terms used by researchers to define a similar set of attitudes and skills, including *soft skills*, *21st century skills*, *social-emotional skills*, *character* and *personal qualities*. Despite the inaccuracy of the term non-cognitive, as skills and attitudes like attention, motivation, and curiosity clearly rely on cognitive thought processes, we choose to use it here for its utility in making the distinction between the constructs of intelligence and subject-specific achievement that are typically measured in educational settings and all other attributes that are thought to be important for success both in and out of the classroom. (See Duckworth and Yeager [2015] for additional discussion).

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