



A Systematic Review of Research on Tutoring Implementation: Considerations when Undertaking Complex Instructional Supports for Students

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**A Systematic Review of Research on Tutoring Implementation:
Considerations when Undertaking Complex Instructional Supports for Students**

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Tutoring has emerged as an especially promising strategy for supporting students academically. This study synthesizes 33 articles on the implementation of tutoring, defined as one-to-one or small-group instruction in which a human tutor supports students grades K-12 in an academic subject, to better understand the facilitators and barriers to program success. We find that policies influenced tutoring implementation through the allocation of federal funding and stipulation of program design. Tutoring program launch has often been facilitated by strategic relationships between schools and external tutoring providers and strengthened by transparent assessments of program quality and effectiveness. Successful implementation hinged on the support of school leaders with the power to direct school funding, space, and time. Tutoring setting and schedule, recruitment and training, and curriculum influenced whether students are able to access quality tutoring and instruction. Ultimately, evidence suggests that tutoring was most meaningful when tutors fostered positive student-tutor relationships which they drew upon to target instruction toward students' strengths and needs.

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Tutoring has emerged as a primary strategy for addressing interrupted learning due to Covid-19 and supporting students' academic success and social-emotional wellbeing. While students' access to tutoring has historically been limited by family income and geography (Kim et al, 2021), states and districts are now directing significant funds towards tutoring efforts in the hopes of supporting students most affected by Covid-19 (Jordan et al, 2022; National Student Support Accelerator, n.d.; U.S. Department of Education, 2021). Tutoring, in this context, is *one-to-one or small-group instruction in which a human tutor supports students in an academic subject area*. As states and districts across the country seek to implement tutoring, understanding the facilitators and barriers to implementation can improve program success and the overall scale and sustainability of the approach. This study reviews extant research on tutoring implementation to draw findings relevant for current policies and programs.

A remarkably strong body of well-designed causal experiments has estimated tutoring program effectiveness. A recent meta-analysis identified 96 randomized controlled trials and found consistently large, positive impacts of tutoring on math and reading across grade levels, with a pooled effect size of 0.37 standard deviations (Nickow et al., 2020). Reviews of programs for struggling readers (Slavin et al., 2011) and academic interventions for students with low socioeconomic status (Dietrichson et al., 2017) have similarly found tutoring to have substantial positive effects on academic achievement. Not all tutoring programs yield positive results, however. Studies of out-of-school time tutoring through No Child Left Behind's Supplemental Education Services program have not found statistically significant impacts on academic performance, in part due to low enrollment and attendance among eligible students (Heinrich et al, 2014). On-demand tutoring models where students opt in to virtual tutoring sessions have also

seen low student take-up, limiting potential effects (Robinson et. al., 2022). Given the variability across studies, it is useful to understand why some programs are more successful than others.

Existing syntheses of the causal evidence shed light on some of the differences across programs. Nickow et al. (2020) considered how estimated effects vary by tutoring program characteristics, reporting descriptive results which should not be interpreted as isolating impactful program features. They found that tutoring conducted by teachers yielded larger impacts than tutoring by paraprofessionals, nonprofessionals, and parents; however, this conclusion was primarily driven by studies of just one program - Reading Recovery. During-school tutoring produced effect sizes nearly double those of after-school tutoring. And, effect sizes positively correlated with the number of tutoring sessions per week. Dietrichson et al. (2017) explored differences in effect sizes by intervention characteristics including program duration, delivery by professionals, and training provided, none of which were statistically significantly associated with study effect size.

Implementation, as well as program characteristics, can affect impact. However, no existing literature synthesis has focused on the implementation of tutoring.¹ To fill this hole, in this study, we identify and synthesize a broad range of research in order to address two questions focused on tutoring in K-12 schools in the United States:

- 1) What types of tutoring programs have researchers studied?
- 2) What common factors do researchers identify as influencing tutoring implementation?

¹ Reviews have explored the implementation of intelligent learning systems (Li and Wong, 2021), reciprocal peer tutoring in which students take turns prompting each other (Bowman-Perrott et al., 2016; Morano & Riccomini, 2017), and programs in which students with disabilities serve as same- and cross-age peer tutors (Mathes & Fuchs, 2019; Okilwa & Shelby, 2010; Spencer, 2006; Watts et al, 2018). Haverback and Parault (2008) explored the role of literacy tutoring in pre-service teacher development and found that tutoring may provide an avenue for building self-efficacy and experiences supporting the needs of individual students. However, their review did not include research published in the last decade.

We find that policies influenced tutoring implementation through the allocation of federal funding and stipulation of program design. Tutoring program launch was often facilitated by strategic relationships between schools and external tutoring providers and strengthened by transparent assessments of program quality and effectiveness. Successful implementation hinged on the support of school leaders with the power to direct school funding, space, and time. Tutoring setting and schedule, recruitment and training, and curriculum influenced whether students are able to access quality tutoring and instruction. Taken together, evidence suggests that tutoring was most meaningful when tutors fostered positive student-tutor relationships which they drew upon to target instruction toward students' strengths and needs.

Method

For this synthesis, we reviewed the research on the implementation of one-to-one or small-group instruction in which a human tutor supports students in an academic subject area. In developing our methodology, we drew on key questions for systematic reviews outlined in Alexander (2020) and specific considerations for analyzing and synthesizing qualitative research described by Wilson and Anagnostopoulos (2021). Throughout the synthesis process, we aimed to summarize and integrate findings across studies to form a broader picture of tutoring implementation practices than is apparent in any given paper alone.

Inclusion Criteria

We iteratively developed selection criteria to focus identified studies on key research questions related to tutoring implementation.

Topic

We restricted the synthesis to articles describing one-to-one or small group instruction by a synchronous human tutor, although the term tutoring itself did not need to be present. Based on

these criteria, we eliminated studies that used the term “tutorial” but only described full-class instruction, described instruction utilizing intelligent/adaptive computer learning systems but no human-to-human instruction, programs that trained “parent tutors” to support their own children academically, and those that analyzed class-wide peer tutoring and other classroom-based instructional strategies. Given existing meta-analyses, we eliminated articles with findings solely related to program effectiveness, whether utilizing causal or qualitative methodologies. Finally, we eliminated studies that focus on specific ways material is presented to students within tutoring sessions, (i.e. using different words to teach fractions). While these studies may yield important insights for specific tutoring pedagogies, our analysis was focused on the policy and implementation practices influencing the provision of tutoring more broadly.

Setting

Similar to Nickow et al. (2020), we only included research conducted in the US for students in grades K-12. The goal of the study is to inform policy and practice in the US, and, as such, we focus on the context of US education systems.

Language and Timeframe

Due to the linguistic limitations of our team, we only included studies published in English. We excluded studies published before 2000 to improve the relevance of the policy context and conditions studied for current tutoring implementation (Alexander, 2020). Moreover, studies published in 2000 or later included studies of No Child Left Behind’s Supplemental Education Services (SES) related to tutoring signed into law in the early 2000s.

Methodology and Source Types

Wilson and Anagnostopoulos (2021) cautioned against establishing methodological criteria which limit the range of theoretical frameworks and methodologies in the selected

articles. With this in mind, we took two approaches to establish study quality and credibility. First, we included only peer-reviewed journal articles and gray literature from established research organizations. Secondly, we considered how each study described the research aims, methods, and context of findings using the following guidelines:

1. The study must have clearly stated research questions or aims and employ original evidence (such as interviews, survey data, document analysis, etc.).
2. The study must include a discussion of sampling, data collection, and analysis strategies that support the credibility of claims. Strategies may include using multiple sources, methods, and researchers (triangulation), feedback on results from participants (member checking), and detailed documentation of decisions made. We adapted this criterion from the description of credibility in qualitative research from Frambach et al. (2013).
3. The study must provide information on tutoring context and study design to help the reader assess the transferability of findings to different settings. We adapted this criterion from the description of transferability in qualitative research from Frambach et al. (2013).

This information should include:

- a. A detailed description of tutoring context, program design, and participants.
- b. A clear description of the sampling methods and research informants.

Search and Selection Process

We conducted searches on academic databases and the websites of key education research organizations. We used multiple social science databases to identify a range of theoretical and methodological perspectives, particularly those that may not be highlighted in the causal literature on tutoring. We identified search conditions through an iterative process, developing initial search terms and conducting two pilot searches to refine our search procedure.

Identifying search terms was a challenge given the broad range of terminology used to refer to what we characterize as tutoring, or one-on-one/small group instruction. For example, the terms “intervention” and “remedial instruction” are also used, particularly in literature on special education. However, searches for these terms alone yielded a large number of studies, many of which did not meet our definition of tutoring. Ultimately, we identified the key terms “tutor”, “one-on-one instruction”, “small group instruction”, “supplemental instruction”, and “supplemental education services” as yielding relevant results. See Table 1 for a full list of databases and search conditions.

In addition, we searched the websites of education research firms and think tanks, federal government research databases, and professional organizations known for producing high-quality research reports relevant to education policy. We conducted these searches to identify more recent research than available in academic publications and tutoring program evaluations for which the goal was not journal submission. Where search capability was available, we searched the full website using the keyword “tutor.” Where no search option was available, we sought to identify the area of the website housing research reports on education and scanned publications manually. Websites searched included: Abt, American Institutes for Research, Black Education Research Collective, Brookings, Chicago Consortium, Consortium for Policy Research in Education, The Education Trust, EdWorkingPapers, Evidence for Action, Fordham Institute, FutureEd, Georgetown Center on Education and the Workforce, The Abdul Latif Jameel Poverty Action Lab, Learning Policy Institute, Mathematica, MDRC, RAND, SRI International, Urban Institute, and WestEd.

Once we identified the set of articles for inclusion based on database and website searches, we conducted citation chaining by manually scanning reference sections of all

included articles for relevant sources. We also used the Google Scholar “cited by” function to identify sources that cited articles included in the synthesis. We then conducted a search within “cited by” articles using the keyword “tutor.”

After conducting searches, we scanned all article titles and abstracts for broad topical relevance. At this stage, we excluded 3,712 articles that were either not in English, conducted outside the United States, not related to students grades K-12, and/or provided no indication of relevance to tutoring or one-on-one/small group instruction (see Figure 1). After deduplication and checking for peer-review status, we downloaded the full texts of 366 articles for further consideration. At this stage, the primary researcher reviewed the full texts of all articles and assessed their relevance based on the content and methodology criteria described above, recording the reason for exclusion if applicable. We randomly selected 30 articles for double coding between two researchers; researchers reached 90% agreement across all articles to be included, excluded, or nominated for team discussion. Throughout the article review process, the primary researcher identified articles for weekly team discussions. We made all decisions on individual articles as well as updates to the selection procedures through consensus.

Coding and Analysis

One challenge of synthesizing findings from qualitative studies is the necessity of reducing study findings while still retaining the central role of context within each study (Wilson & Anagnostopoulos, 2021). We took an iterative approach to reduction (Parkhouse et al., 2009 as cited in Wilson & Anagnostopoulos, 2021), first attempting to understand each study independently before identifying common themes across study findings.

Once we identified the articles (33) to be included in the synthesis, we coded the methods, study and program context, and findings. To better understand the articles’ methods we

recorded research questions, data collection process, analysis, and limitations identified by the authors. We also conducted extensive coding of study contexts including location and timeframe. We then documented tutoring program characteristics including number of students in the program, selection and eligibility for the program, grade level, tutor selection, tutor training, tutor compensation, other program participants, program time and location, school type (public, private, charter, etc.), subject area of focus, description of instruction, student-to-tutor ratio, and dosage. Although not all studies provided extensive descriptions of the tutoring programs researched, we intentionally focused on program setting in the coding process due to the centrality of context in many qualitative methodologies and to better understand the transferability of research findings (Wilson & Anagnostopoulos, 2021).

We were flexible and identified specific themes inductively as they emerged across multiple articles and tutoring contexts, beginning with an initial set of deductive codes for features of tutoring and its implementation. Given identified articles explored a wide range of research questions, we considered all reported findings to identify the most robust themes across studies. We wrote short summaries and identified quotes relevant to each topic area. Throughout this synthesis we retained authors' original terminology when discussing students' social identities. We recognize that the categories used to describe race, gender, and educational identities constructed in the data collection processes do not fully represent the lived experiences of students studied and may obscure meaningful within-group differences (Baker et al, 2022).

Researcher Positionality

Our personal backgrounds and professional positions informed how we made decisions regarding the direction of inquiry, scope of inclusion, and presentation of synthesized articles (Malterud, 2001 as cited in Wilson & Anagnostopoulos, 2021). At the forefront of our work was

our interest in conducting research that supports education leaders in expanding access to tutoring opportunities. We each work directly with school districts across the United States on a regular basis and ongoing conversations about tutoring implementation informed our synthesis approach. While we came to this work with extensive training and experience in quantitative methods and our professional networks predominantly consist of scholars focused on quantitative research, we have substantial experience in qualitative methods and implementation research, as well, including research in progress on the implementation of tutoring following the COVID-19 pandemic.

Results

Below we provide a detailed account of the tutoring implementation across studies to better understand the systems that can support tutoring across federal, state, and local levels.

Research Question 1: What types of tutoring programs have researchers studied?

Tutoring can take many forms. Published research mostly falls into three types: out-of-school tutoring under No Child Left Behind's Supplemental Education Services (NCLB SES) program, established program models (Reading Partners, Reading Recovery, America Reads, AmeriCorps, and Experience Corps), and university-professor-run initiatives. We describe each of the three common program types in greater detail below as they are key to understanding the transferability of findings. See Table S1 (online only) for a full description of included studies and Table 2 for a summary of programs by grade level, subject area, and times of day.

Sixteen studies analyzed NCLB SES implementation and take-up.² The No Child Left Behind Act included a "Supplemental Educational Services" (SES) provision which required

² Seven SES articles were authored by Carolyn Heinrich, Patricia Burch, and Annalee Good. This group among others led the SESIQ2 study in six school districts (Austin, Chicago, Dallas, Los Angeles, Milwaukee, Minneapolis) – a study which accounts for a large portion of the studies we identified regarding SES as well as tutoring overall.

schools in their second year of school improvement to make additional academic opportunities available outside of the school day. Parents had the option of enrolling their student in reading and/or math tutoring from a state-approved provider paid for by their district's NCLB dollars. SES was characterized by a strong focus on parental choice within a marketplace of providers (including school districts, for-profit, and nonprofit organizations) as the potential driver of increased tutoring access and educational improvement. Research on SES explored the roles of tutoring providers and district, state, and federal policy actors in tutoring implementation.

When framing their studies, researchers drew on existing lines of inquiry related to the privatization of government services (Burch et al, 2007), marketing, consumer action, and regulation (Stewart & Good, 2016) which directly addressed purported mechanisms of the SES program. While these studies provide a rich analysis of the SES policy context, using them to draw general conclusions about tutoring implementation can be tricky. Studies exclusively focus on after-school programs requiring parental opt-in and some findings are specific to particular SES funding and tutoring provider approval processes. However, given the national scope of the SES provision, researchers were able to draw on student data, interviews, documents, and session observation from multiple districts and tutoring providers. This allowed them to explore commonalities and variations in approaches across locales which we find generative when identifying facilitators and barriers to tutoring implementation more broadly.

Another common type of study compared tutoring implementation to an established program model. The four studies in this category focused on tutoring initiatives that took place during the school day in multiple districts across the country: Reading Partners, Reading Recovery, America Reads, and Experience Corps programs. Researchers drew on administrative student data, session observations, and/or interviews with school personnel across program sites

and compared implementation to core program features. They employed clearly defined indicators of implementation fidelity, such as whether tutors were conducting all required activities in a prescribed curriculum, and accompanying rubrics to structure study findings. While fidelity was defined within a particular program context, some focal features such as tutor training and support have broader implications. The multi-site implementation data which they brought to bear allowed them to propose hypotheses about variation in school-level conditions which facilitate strong implementation. Four of the five studies focused on tutoring in reading at the elementary level. Therefore, these studies did not directly speak to program implementation in other grades or subjects.

Finally, nine studies described university professor-run tutoring programs, in which tutoring occurred at one or two school sites and the researcher played a central role in the design and implementation of the program. Researchers drew on their own experiences and tutors' written reflections to describe the role of tutoring in fostering student-tutor relationships and supporting pre-service teacher learning. Researchers grounded their studies in existing work on ethic of care (Worthy & Patterson, 2001; Lysaker et al, 2004), situational tendencies (Marita et al, 2018), service learning (Jones et al, 2004), and the role of personal narrative for critical reflection (Polansky et al, 2010). In these cases, the researchers were education professors and the tutors were often students in their classes. The articles with the most credible claims included clear descriptions of the theoretical framework and data sources, as well as analyses involving multiple coders and member checking. However, these practices were not ubiquitous. Additionally, few articles seriously considered the validity implications of professors conducting research involving their own students and tutoring initiatives, particularly when many drew on graded coursework as data for their studies. Given the local-scale and researcher-dependent

nature of the tutoring programs described, these studies do not speak directly to policy and implementation strategies for tutoring at a larger scale. However, we find them helpful in understanding the necessary conditions for cultivating and sustaining strong tutoring relationships and instruction in the classroom.

The differences in research focus between existing studies underscore a core challenge and opportunity in our work to broadly understand facilitators and barriers to tutoring implementation. Some studies analyzed the implementation of national policies and programs, while others focused on classroom and student-level interactions. Both provide insight into the conditions for successful tutoring implementation. However, few studies draw explicit connections between policy and day-to-day experiences. In the next section, we describe common barriers and facilitators to tutoring implementation from high-level policy down to individual student-tutor interactions. We also identify opportunities for further research bridging these levels of analysis and expanding our knowledge of a range of tutoring program types.

Research Question 2: What common factors do researchers identify as influencing tutoring implementation?

Studies identified a number of factors (summarized in Figure 2) that influence program implementation including policies and external partnerships; school and district leadership and systems; and tutoring design elements. Program implementation, in turn, created the experience that students have in tutoring and their learning.

Policies and External Partnerships

Federal policies, including NCLB SES, influenced the implementation of tutoring by allocating funds and stipulating tutoring program design. However, SES fell short of its goals, yielding lessons for future policy efforts.

Federal Policies. While many education decisions in the US are made at the local level, policies have influenced tutoring by stipulating uses of federal education funding. However, the success of federal initiatives depended on the specific funding sources and tutoring program design requirements. For example, the No Child Left Behind Act Supplemental Educational Services (SES) provision required schools in their second year of school improvement to make additional academic opportunities available through instruction outside of the school day. Overall, SES had low uptake with only 17 percent of eligible students participating nationally (Vernez et al., 2009; Gill et al., 2008). One reason for this was the limited availability of tutoring providers, especially those willing and able to serve high school students (Gill et al., 2008). Additionally, since money for SES was coming from the districts' existing federal funding, some leaders sought to limit program enrollment in order to preserve funds for other school initiatives (Koyama, 2011). Finally, SES relied on parents to take action to identify available tutoring providers, enroll their children, and in many cases provide transportation to and from afterschool programs, steps which were a barrier to many families (Burch et al., 2016; Heinrich, 2010). Thus, the results of the policy were influenced by the availability and quality of tutoring providers which we describe further below, as well as school and district-level buy-in and the program's enrollment processes, schedule, and setting which we discuss in subsequent sections. While state policies would likely also influence tutoring implementation, they were not the focus of existing research.

Availability of Tutoring Providers. Four studies described the availability of nonprofit and for-profit tutoring providers during NCLB SES. Many tutoring providers were uninterested in or ill-equipped to support high school students, English language learners, students with Individualized Education Plans, and those from less affluent families. For example, Gill et al.

(2008) found that few districts offered SES to eligible high school students partially due to the limited number of providers offering tutoring to this age group. While most providers advertised that they could serve English Language Learners and students with Individualized Education Plans, few offered training for tutors on working with these populations (Heinrich et al., 2010).

Proponents of NCLB SES argued that low entry requirements to provide tutoring services and parental choice, in theory, should incentivize a wide range of providers to join the market. This incentive, in turn, would lead to increased access to quality tutoring for students in eligible Title 1 schools. However, research by Burch et al. (2007) and Vernez et al. (2009) suggests that over time large firms came to dominate SES provision while not clearly increasing tutoring quality. From 2001 to 2005 growth in the availability of SES funds significantly outpaced average growth in the tutoring industry, suggesting that revenues were particularly concentrated in a few large firms (Burch et al., 2007). Burch et al. (2007) also observed this trend in one large school district in which during the 2004-2005 school year, 79 tutoring providers served at least one student, but just eight providers served 86% of all enrolled students.

Based on operational data and interviews with school district leaders, Burch et al. (2007) determined that the large, national firms leveraged their existing curriculum and assessment products and conducted strategic acquisitions to build up tutoring portfolios quickly. In contrast, some small local firms were unaware of tutoring start-up costs such as rent and insurance and rapidly left the market when they were unable to cover these expenses. While large firms were able to expand enrollment quickly in the school district profiled by Burch et al. (2007), their services were not equally accessible to all students. Only one of the top eight providers employed staff members who spoke Spanish and none reported providing special education services. And, the percentage of enrolled students making academic progress remained low among national

firms at just 36% or less. Given SES' limited success in increasing access to tutoring providers, future policies may need to include targeted incentives for providers tutoring in high-need subject areas and support for smaller and local tutoring organizations with the potential to provide quality services but lacking operational knowledge and resources to cover start-up costs.

Knowledge of Tutoring Program Effectiveness. In addition to raising concerns about the availability of tutoring providers in the SES market, six studies highlighted challenges for districts and parents in accessing accurate and actionable data on provider effectiveness to inform decisions about student enrollment. In focus groups, parents identified student-tutor ratio, strong tutor qualifications, and quality curricula as important features of an SES provider (Heinrich et al., 2010). However, most information about tutoring services was provider-generated, included only vague descriptions of instructional practices, and was often characterized by discrepancies across communications from the same provider (Burch et al., 2016), making it hard to accurately assess program quality. When information on tutoring design was available, it was not accompanied by guidelines for assessing a program's strength, for example, what constituted a small group size or strong curriculum (Heinrich, 2010).

Recognizing the challenge of accessing clear and accurate information on tutoring programs, some district and school leaders worked to filter and align the communication of provider-generated information by creating common program description templates and/or limiting provider access to families. However, it was not clear that these efforts meaningfully increased the quality of information available (Stewart & Good, 2016). Rather than focusing on provider communication, one district instituted new local policies to put guard rails on tutoring session design. The district established requirements for tutoring group sizes, dosage, and tutor experience based on research describing their existing SES programs. They also matched

providers to specific schools in hopes of shifting provider focus away from marketing and refocusing on instructional quality. Finally, the district invested in on-site coordinators to conduct ongoing observations of tutoring sessions (Heinrich & Good, 2018). However, it can be difficult for school leaders to observe the quality of digital tutoring instruction taking place outside of the classroom setting (Burch et al., 2016). Districts also played a role in managing tutoring costs and dosage by instituting policies that compelled providers to offer 40 hours of tutoring for students (Heinrich et al., 2014). Future policies may want to further consider the roles that states and districts can play in aligning tutoring requirements and monitoring program quality.

School and District Leadership and Systems

While external partnerships helped facilitate tutoring launch, ongoing support was needed from school leaders as well as investment in program administrative staff to implement and sustain quality programs. In particular, strong systems were required to recruit and retain a consistent tutor pool. Many tutoring programs profiled in the existing research struggled to recruit a sufficient number of tutors to reach the number of students they were attempting to serve. Programs described more effective tutor recruitment when paid program staff devoted significant time to building relationships and crafting a recruitment strategy. These themes emerged across eight studies focused on a range of program models including NCLB SES, university professor-run programs, and other national models such as America Reads, Reading Partners, and Reading Recovery.

School Leadership Buy-In. Six studies found that school principals played an essential role in implementing both during- and after-school tutoring programs. Education leaders served as gatekeepers of student and staff time, school space, and data/documentation on students' skills

and instructional needs (May et al., 2016; Koyama, 2011). Thus, in order for a tutoring program to succeed, leadership buy-in, particularly principal support, was important. For example, principals who were actively involved in Reading Recovery were more likely to recommend strong teachers to serve as tutors, ensure those tutors had adequate planning time, and defend the importance of tutoring in students' schedules (May et al., 2016). Ongoing communication between tutors, tutoring site coordinators, teachers, and principals also helped identify and address barriers to program implementation early. For example in Atlanta Public Schools, regular communication facilitated problem-solving around curriculum and tutoring schedules that may otherwise threaten the consistency of tutoring sessions (Hallgren et al., 2017). Similarly, Good et al. (2014) found that when principals had a good relationship with NCLB SES providers they were more likely to work together to align their curriculum and student goals. In particular, principals, and in some cases teachers, played a key role in mediating provider access to students' individualized education plans (IEPs) (Heinrich et al., 2014).

Initial research on the facilitators of support for tutoring programs highlighted the importance of leaders' perceptions of tutoring as aligned with and essential for reaching the overarching goals for their school. While no study specifically explored the conditions affecting principal engagement and buy-in, both May et al. (2016) and Koyama (2011) described how some principals sought to minimize enrollment in tutoring programs, viewing them as a drain on school resources. In these cases, May et al. (2016) argued that principals tended to be less knowledgeable about program goals and did not see Reading Recovery as a key element of their broader vision for the school. Good et al. (2014) described a school district's effort to allow principals to identify preferred SES providers for their school, hoping to increase their sense of investment and ownership in the program. Further, it was helpful for leaders to be

knowledgeable about the specific dimensions of a tutoring program that facilitates its success, for example, a particular tutor recruitment strategy, a minimum dosage or frequency of tutoring sessions, or a specific curricular strategy (May et al., 2016). For example, Hallgren et al. (2017) found that even when principals were invested in the Atlanta program, tensions arose for tutors who were instructed to implement a pull-out model by the tutoring provider while working with principals who preferred them to provide additional classroom support, highlighting the importance of leadership alignment around key design features. Additionally, in cases where tutoring is happening at schools, on-site observations are a recurring strategy for program quality control and continuous improvement (Heinrich & Good, 2018), an effort that may be assisted by school leadership with a firm handle on the qualities of effective tutoring programs. While existing research is clear on the importance of principal knowledge and buy-in, less is known about the role of district staff as prior studies tended to focus on the school level.

Administrative Capacity. In addition to leader support, five studies emphasized that paid administrative staff played an essential role in the launch, ongoing implementation, and sustainability of tutoring programs, although their contribution was often neglected in program funding. In particular, tutor recruitment and retention, curriculum and technology logistics, and student enrollment required significant staff time. Two studies reported that program coordinators were required to devote a considerable amount of time to building relationships with teachers, college students, and community volunteers to support tutor recruitment (May et al., 2016; Worthy et al., 2003). After having recruited tutors, a program in Atlanta Public Schools was delayed due to limited administrative capacity to facilitate the logistics of tutor onboarding including background checks, access to school technology, and curricular materials, tasks which also required coordination between the district, external providers, and school staff

(Hallgren et al., 2017). Similarly, Koyama (2011) found that some school principals reported devoting significant resources to coordinating student enrollment in NCLB SES programs. However, schools were unable to use their NCLB funds to cover these administrative costs. Lack of investment in essential administrative staff was also a theme in the Worthy et al. (2003) research on an America Reads program, which was run by university professors who also served as unpaid coordinators. The coordinators reported feeling undervalued and the program was discontinued after its first year. In contrast, Jacob et al. (2015) found that despite frequent volunteer tutor turnover and absences, most Reading Partners sites were able to provide consistent tutoring to students due to investment in paid regional and site coordinators who stepped in to serve as tutors themselves as needed. Overall, investment in and support for organizational staff was critical across programs studied.

Tutor Recruitment Strategy. Across five studies, researchers identified tutor recruitment, regular attendance, and retention as challenges, especially in regard to volunteer and college-student tutors. Jacob et al. (2015) found that the success of volunteer tutor recruitment for Reading Partners sites varied significantly by location, including access to public transportation and perceptions of safety in the area. Across sites, tutors were often absent from scheduled sessions, although the program was able to maintain consistency by having paid program staff step in to conduct tutoring sessions themselves. Worthy et al. (2003) also described an America Reads program that struggled to recruit its target cohort of 300 volunteer tutors because many were already working with other local organizations. Of the 80 tutors they ultimately managed to recruit, just over 30 were still active six months later. Recruiting college students also posed a challenge due to the greater demands of tutoring than other comparably-paid work-study positions. One site attempted to bolster recruitment efforts by highlighting the

initiative's high expectations and focus on supporting students in recruitment materials, ultimately yielding a larger corps of committed tutors. McBride et al. (2009) found that Experience Corps tutors receiving a stipend were more likely to be non-white, serve twice as many hours per week (on average 14.5 versus 7.4 hours), and were more likely to stay all year (80% vs. 54%) compared to unpaid volunteers. Sixty-three percent of those who received a stipend reported it would have been hard to participate without it, suggesting that compensation may be a viable recruitment strategy. Additionally, once hired, training and ongoing feedback are essential for building confidence and instructional skill, requiring additional time and investment from program staff. Lack of preparation and support was a common reason cited for tutor turnover (Worthy et al., 2003).

Some research also suggested that it may be possible to recruit certified teachers and high-school peers as tutors, although fewer studies have explored recruitment and retention strategies for these groups. Heinrich & Good (2018) found that after Milwaukee enacted a policy requiring SES providers to hire certified teachers wherever possible, they observed 8/10 tutors to be certified teachers or specialists. Walker (2017) proposed high-school peer tutoring as a strategy for spurring mathematics achievement in schools where most students score below grade level, finding that students already drew on informal peer networks for support. Overall, existing research highlights the extensive time and relationship-building required by tutoring program administration to recruit tutors.

Tutoring Design Elements

When programs were implemented, design choices influenced how many and which students participated, whether students received a sufficient amount of tutoring, and the quality of instruction. Twenty studies describe specific program features which influenced student

experience including selection and enrollment processes, schedule and setting, curricular materials, and student-tutor relationships.

Student Selection and Enrollment Processes. Sixteen studies provided some information on the processes by which students are selected for tutoring and patterns of student take-up. Overall, tutoring that took place after school and required parent and/or student opt-in to participate yielded low and inequitable take-up. Alternatively, some programs took place during the school day and utilized teacher recommendations and formative assessments to identify students. The success of these approaches depended heavily on school leader and teacher buy-in and trust in tutors' ability to support students' needs.

The majority of studies described NCLB SES programs, where among eligible students, participation depended upon parents selecting and enrolling their children with a state-approved tutoring provider as well as school, district, state, and federal decisions regarding Title 1 funding availability and allocation (Heinrich et al, 2010; Koyama, 2011). SES programs had low take-up across the board with only 17% of eligible students enrolled nationally from 2002 to 2006 (Vernez et al., 2009; Gill et al., 2008). Further, enrollment differed by geographic location, gender, race, grade level, prior academic performance, and school attendance (Ford et al., 2012; Gill et al., 2008; Good et al., 2014; Heinrich et al., 2010; Steinberg, 2011; Zimmer et al., 2010; Zusho & Barnett). Importantly for the design of future tutoring programs, participation rates were the highest in elementary schools and much lower in middle and high school (Steinberg, 2011; Gill et al., 2008), suggesting that after school attendance may be especially tricky for older students. Additionally, students with lower prior school attendance were also less likely to enroll in and attend after school (Steinberg, 2011; Zimmer et al., 2010). Overall, while SES was intended to increase access to tutoring services for low-income students, eligible students did not

have equitable access to services and overall take-up was low, suggesting that future efforts to promote equity could benefit from considering alternative enrollment approaches.

Some communities have strong demand for after-school tutoring; collaboration with families, community organizations, and other public service providers in these communities may improve the accessibility of out-of-school time tutoring by identifying context-informed strategies (Leopold & Simington, 2015; Cornelli Sanderson & Richards, 2010). Cornelli Sanderson and Richards (2010) partnered with local community organizations in a mid-western city to gather student and family perspectives on a potential expansion of local after-school initiatives. They found relatively high levels of interest in after-school programs with 82.4% of 4th, 6th, and 8th-grade students, and 93% of parents reporting that they or their kids would like to attend an after-school program at least 3 days a week. When asked to indicate activities of interest, 57.1% of parents listed tutoring. However, students did not list tutoring as one of the top five activities of interest, suggesting differences in student and family goals for after-school time. Additionally, some tutoring program designs may appeal to students more than others. Okwumabua et al. (2011) explored attitudes toward online math tutoring among Black middle and high school students. Researchers found low levels of interest overall, with 78% of students reporting that they did not believe online tutoring could help them improve their math skills.

Monetary and non-monetary incentives are another potential strategy for improving tutoring attendance. Springer et al. (2015) explored whether they could increase SES attendance among middle school students by providing incentives based on their attendance rates. They did not find a significant effect of a monetary incentive of up to \$100. However, non-monetary incentives (i.e. an attendance certificate) increased the tutoring hours students attended, with a larger effect for female than male students (56 percentage points versus 29 percentage points).

Beyond NCLB SES, studies also described programs that selected students for school-based tutoring using teacher recommendations and skills assessments. Both Reading Partners and Reading Recovery programs employed program-based assessments to identify target students and craft their instructional approach. However, May et al. (2016) found that the selection process for Reading Recovery varied from school to school and decisions were sometimes made based on factors other than assessment scores, with some students excluded based on special education status or poor prior attendance. Principal support was key in implementing student selection with fidelity based on skills assessments. Trust that tutors were well prepared and effective was also of concern to teachers in the selection process. Across multiple types of tutoring programs, principals and teachers expressed hesitancy to place the lowest-performing students with tutors they perceived as minimally trained (Jones et al, 2004; Koyama, 2011; Worthy et al., 2003). Across tutoring programs, communication with students, parents, teachers, and school leaders was needed to support tutoring enrollment and attendance.

Schedule and Setting. Research consistently linked program schedule and setting to students' ability to access tutoring services. When surveyed, parents and students reported that NCLB SES programs were challenging to attend given their afterschool time and often off-site location requiring families to provide their own transportation (Vernez et al., 2009). Heinrich et al. (2010) found that 18% of students surveyed reported missing at least one SES session due to difficulty getting to or from tutoring. Cornelli Sanderson and Richards (2010) also found that responsibility for the care of younger siblings was a barrier to after-school attendance for 12% of youth surveyed. Additionally, researchers observed students coming and going throughout after-school SES sessions due to conflicts with clubs and sports (Good et al., 2014; Heinrich et al., 2014). Similarly, one principal reported increased absences from tutoring after an Atlanta Public

Schools tutoring program transitioned from a school day to after school program (Hallgren et al., 2017). Instructional time in after-school tutoring sessions was also limited by the time it took to transition from school-day to after-school spaces, snacks, and other administrative tasks (Heinrich et al., 2014). Recognizing that transportation can be challenging for students, Leopold & Simington (2015) argued that public housing authorities are in a unique position to partner with schools and provide after-school tutoring close to home.

Tutoring programs also reached students during the school day. However, schools had mixed success in setting aside productive time and space in the building. Jacob et al. (2015) found that most schools across the country implementing the Reading Partners program were able to create a designated reading center. However, in some schools the small size of reading center rooms limited the number of students who could receive tutoring. Additionally, researchers found that some school principals and teachers resisted the implementation of tutoring programs that pulled students out of class during instructional time, particularly in schools with many pull-out supports (Jacob et al., 2015). For this reason, some schools in Atlanta switched from a pull-out to a push-in model with tutors supporting students within their own classrooms. However, because other conversations and instruction often took place at the same time as tutoring this model may cause distractions in the classroom context (Hallgren et al., 2017). Coordinating student and tutor schedules can also be a challenge during the school day, especially for college-student tutors whose own class schedules change each semester (Friedland & Truscott, 2005). Thus, while researchers emphasize the importance of finding the right time and setting for tutoring, they do not arrive at a clear-cut solution. Additionally, we didn't identify any studies which directly address the potential roles of tutoring within school settings in relationship to other systems of instruction and support for students.

Curricular Materials. When students were able to attend tutoring, the quality of curriculum was core to students' tutoring experiences and was examined in eleven studies. One-on-one instructional settings did not automatically translate into quality instruction. Instead, programs also needed strong curricula that fit the needs of tutors and students. Curricular needs differed depending on the existing skills of the tutors, with different needs for certified teachers than for undergraduate students, for example (Jacob et al., 2015; Worthy et al., 2003). Some programs adapted instruction to the needs of specific students by using diagnostic assessments linked to scripted curriculum sequences. In other cases, skilled tutors were able to take initiative to personalize instruction within and beyond specific curricular sequences.

Four articles drew on tutoring session observations across five districts and 25 providers to understand the quality of NCLB SES instruction. These studies illustrated that small-group instruction alone does not necessarily indicate innovative teaching practices and, as a result, it can be beneficial to pay attention to how tutoring programs facilitate student learning. While SES tutoring tended to take place one-to-one or in small groups, overall sessions rated low on measures of academic rigor and higher-order thinking. Ratings were particularly low for tutoring sessions taking place virtually. Additionally, many of the sessions observed relied on teacher-directed instruction and student self-directed completion of worksheets (Burch et al., 2016; Good et al., 2014; Heinrich et al., 2010; Heinrich et al. 2014). In a state-wide analysis of SES in Tennessee, Ross et al. (2008) found that slightly under 48.7% of district coordinators surveyed agreed or strongly agreed that SES providers adapted the tutoring services to their school's curriculum, although 89.8% agreed that services were aligned with state standards. Researchers also identified gaps between tutoring program descriptions and actual capabilities for serving English language learners and students with Individualized Education Plans (IEPs). While the

majority of providers advertised that they could serve English language learners and students with IEPs, very few discussed using specific curricula or instructional strategies to support these students (Heinrich et al., 2010; Heinrich et al., 2014). Instead, SES providers gave vague descriptions of practices such as slowing down or lowering the level of instruction and sometimes pairing students with bilingual tutors. Overall, some individual tutors provided strong instruction, but there were no provider-level strategies for ensuring quality (Good et al., 2014; Heinrich et al., 2014).

Articles on other national tutoring models and university professor-run tutoring programs differed in their assessment of the value of program-wide curricular policies for promoting high-quality instruction. Two studies argued that structured curricula can be beneficial, especially for volunteer and other non-professional tutors. Jacob et al. (2015) found that volunteer tutors confidently and consistently implemented Reading Partners' curriculum which has a prescribed lesson sequence based on students' diagnostics assessments and each lesson follows a consistent activity structure. Worthy et al. (2003) also described an America Reads program which switched to a more structured curriculum, specifically designed to be implemented by volunteers after tutors struggled without clear structure to their lessons. However, Hallgren et al. (2017) found that tutors in Atlanta experienced tension between the implementation of a heavily scripted iReady tutoring intervention and their ability to collaborate with school staff to align with classroom content. Thus while curricula can provide welcome structure, it can also be important to consider how tutoring approaches relate to students' contexts. Overall, existing research suggests that tutoring organization structures, curricular materials, and tutor training and skills all contribute to the quality of instruction provided to students.

Student-Tutor Relationships. Nine studies observed tutors building trusting relationships which they drew on to learn about students' strengths, interests, and life contexts and then applied this knowledge to lesson planning and instruction. Relationships developed over an extended period of time in which students were able to regularly attend tutoring sessions. However, existing research did not specify the amount and frequency of tutoring that was most beneficial, as in most programs tutoring dosage happened by default due to limited budgets, tutor turnover, student movement, and the academic calendar year.

Five studies that drew on the written reflections of college student tutors described similar strategies for developing student trust. Tutors positioned themselves as supportive friends or buddies and tutoring as a space for growth, not punishment (Lysaker et al., 2004; Polansky et al., 2010; Worthy and Patterson, 2001). In particularly successful student-tutor pairs, tutors set a positive tone regarding students' abilities and expressed hope that their students would progress (Lysaker et al., 2004; May et al., 2016; Worthy and Patterson, 2001). Tutors also described taking time in and out of tutoring sessions to discuss students' lives and identify shared interests (Friedland and Truscott, 2005). In contrast, in less successful pairs, tutors expressed feeling time pressure to complete specific tasks within each session, expressed a lack of optimism about their students' ability to progress in their literacy skills, and positioned themselves as experts and maintained a clear hierarchy in their relationships with students (Lysaker et al., 2004).

Two studies also touched on the roles of age, race, class, and other social identities in building student-tutor relationships. Walker (2007) described how high school peer tutors made jokes and related mathematical language to familiar terms when explaining math problems which encouraged student participation and enjoyment of the tutoring program. Worthy & Patterson (2001) described one situation in which a student and tutor appeared to connect through sharing

about their different cultural backgrounds and enjoyed learning from one another. Another tutor in the program emphasized the benefits for students of working with a tutor who shared their language and culture. In a reflection, the tutor shared: “Before I started working with Rose, everyone (you guys, her teacher) told me how shy and quiet she was. Well, she isn’t with me!” (p. 335) The tutor also reported shifting a teacher’s view of the student’s capabilities and needs.

Researchers described strong tutors as particularly skilled at scaffolding student learning, knowing when to provide additional support and when to encourage independence. These tutors utilized the trusting relationships they had built with students “to simultaneously push and support their students, moving with urgency towards instructional goals while keeping the lessons interesting and fun” (May et al., 2016, p.96). Two studies described skilled tutors who continually sought to identify their students’ interests, strengths, and resources by thoughtfully observing students in tutoring sessions and went out of their way to establish ongoing communication with parents, teachers, and others in the students’ support network. Tutors documented and reflected on their observations which then informed lesson planning. For example, literacy tutors varied their book selections based on student interests and also remained flexible in their instructional plan, experimenting with a range of strategies when student growth or engagement lagged (May et al., 2016; Worthy et al., 2001).

While establishing strong tutor-student relationships happened naturally for some student-tutor pairs, studies also highlighted that care was needed in preparing students and tutors for positive engagement (May et al., 2016; Worthy & Patterson, 2001). For example, Worthy & Patterson (2001) found that about one-third of tutors became frustrated with student behavior at some point in their relationship and that some tutors felt discouraged when they did not immediately feel a strong connection to their student. Researchers also observed tutors who

struggled to modulate instructional content and the level of support they provided (May et al., 2016; Worthy et al., 2001). Simultaneous enrollment in undergraduate coursework related to instructional design (Friedland & Truscott, 2005), ongoing coaching (Walker, 2007), and conversations with program leaders and other tutors (Worthy et al., 2001), helped support positive student engagement.

Tutors may also need different skills when providing relationship-based instruction in one-on-one versus small group settings. Marita et al. (2018) found that when tutoring took place in small groups, social dynamics between students influenced tutoring sessions. The researchers conducted a detailed analysis of the behavior of one eighth grader with a learning disability. While working one-on-one the student maintained focus with his tutor and was willing to engage in more difficult tasks. In contrast, when working with peers, the student "spoke confidently, even when he was unsure of an answer, likely to seem as if he knew the answers in front of his peers, and made excuses for incorrect answers" (p.149). In this situation, the one-on-one environment allowed the student to engage more fully with the tutor and content without the distraction of peer relationships. However, no other research studies explored the particular dynamics of tutoring in small group settings.

Discussion

Tutoring one-on-one or in small groups stands out as an especially promising instructional approach for supporting students' academic growth. A number of quantitative meta-analyses find large effects of tutoring programs across grade levels on both math and reading assessments (Dietrichson et al., 2017; Nickow et al., 2020; Salavin et al., 2011). In this study, we supplement existing meta-analyses of tutoring effectiveness with a synthesis of literature on tutoring implementation. In line with RCTs of tutoring, we find support for tutoring in the

descriptive literature with students, tutors, and teachers reporting positive experiences in tutoring programs (Friedland & Truscott, 2005; Jones et al., 2004). However, we find evidence that tutoring programs, in many cases, failed to reach most targeted students (Vernez et al., 2009; Heinrich et al., 2010), varied in instructional quality (Good et al., 2014; Worthy & Prater, 2003), and/or terminated within a year of implementation, proving unsustainable (Hallgren et al., 2017). This variation in tutoring program outcomes highlights the importance of program design and implementation processes when aiming to scale and sustain effective tutoring.

External Relationships and Policy to Enable Program Launch. Relationships between school districts, institutions of higher education, non-profit, and for-profit tutoring providers were key to program launch. However, prior efforts to expand tutoring access through NCLB SES struggled to increase provider availability and quality. The following questions emerge as important next steps in understanding conditions for tutoring launch:

1. How can federal, state and local policies influence the availability of tutoring providers and technical assistance? In particular, what policies support quality tutoring for high school students, English language learners, students with disabilities, and other groups for whom the availability of tutoring providers has been limited?
2. What do strong partnerships for tutoring look like and how might policies facilitate the formation of strong partnerships?
3. What funding models, specifically related to staffing, could support and sustain tutoring?
4. How might tutor training and recruitment support efforts to recruit future teachers and support goals to diversify the teacher workforce? Existing research by Jimenez-Silva (2022) and Cherfas et al. (2021) have identified tutoring and out-of-school time programs as potential sites for the recruitment of teachers.

School and District Leadership & Systems for Implementation. Tutoring implementation was facilitated by the support of knowledgeable district and school leaders and investment in paid administrative staff who consistently worked to coordinate time, space, and people. In this area further research is needed to explore the following:

1. How can schools leverage personalized instruction/tutoring in their instructional strategy?
2. What approaches help district leaders, school leaders, teachers, families, and community members learn about elements of effective tutoring programs?
3. What resources and adjustments in existing administrative systems ease the administrative burden of tutoring programs for schools?
4. What tutor recruitment strategies are effective in different contexts?

Tutoring Design Elements. Tutoring program design, particularly student selection processes, schedule and setting, and curricular materials influence students' access to and experience in tutoring sessions. Strong tutors were those who were able to build trusting relationships with their students and then leveraged these relationships to identify students' strengths and needs, adjusting instruction accordingly. In this area further research is needed to understand:

1. How can tutoring leverage and align with existing school structures including classroom instruction and multiple tiers of support programs?
2. What training best supports different types of tutors – considering training content, modality, and timing – so that tutors develop the necessary skills, including the facility in forming trusting student relationships, focusing on students' assets, and personalizing instruction to students' needs?

3. What dosage, frequency, and length is most beneficial for different age groups and skill levels? And what administrative/evaluative mechanisms work in ensuring that children are getting the dosage that they individually need?
4. Which instructional approaches foster strong student-tutor relationships?
5. What processes and data help support the feedback loop of relationships and instruction?

Existing studies provide a strong basis for future research in an expanded range of tutoring program designs and contexts. In particular, additional studies which focus on district-driven tutoring initiatives, tutoring taking place during the school day, and tutoring in less-researched grade levels and subject areas like middle and high school literacy or elementary math and science, are needed. With a common understanding of the definition of tutoring, future research studies can employ a diverse range of methodologies while speaking to a common issue, furthering our knowledge of tutoring implementation and experience across different tutoring programs. Ultimately, if tutoring is going to reach more students who could benefit, tutoring programs will need to expand the number of students they serve while building sustainable organizational structures and practices. Further research is needed on how to sustain tutoring efforts beyond program launch and early implementation.

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Table 1
Search Platforms and Conditions

| Search platform/ database | Search term/condition |
|---|---|
| <p>EBSCOHost</p> <p>Academic Search Premier; ERIC; Teacher Reference Center; SocINDEX with Full Text; Gender Studies Database; Peace Research Abstracts; LGBTQ+ Life; Urban Studies Abstracts; Anthropology Plus; APA PsycInfo; Business Source Premier; Humanities International Index; EconLit</p> | <p>In Abstract: (tutor* OR "one-on-one instruction" OR "1-on-1 instruction" OR "small group instruction" OR "supplemental instruction" OR "supplemental education services") AND (student OR school OR education) NOT tutorial NOT "classwide peer tutoring" NOT "class wide peer tutoring" NOT "class-wide peer tutoring" NOT Australia NOT China NOT Britain NOT nurse</p> <p>Limit your results: full text, 2000-present, Peer Reviewed</p> <p>Database-Specific Limiters (where available):</p> <ul style="list-style-type: none"> - Publication Type - Periodical, Book, Peer Reviewed Journals, Academic Journals, Journal Article, Working Paper, Conference Paper, Gray Literature - Document Type - Article, Book, Book Chapter, Case Study, Working Paper - Language - English - Years - 2000-2021 - Age Groups (option for APA PsycInfo only) - Childhood, School Age, Adolescence - Geographic Region (option for EconLit only) - Northern America - Education Level (option for ERIC only) - Elementary Education, Elementary Secondary Education, Grade 1-12, High School Equivalency Programs, High Schools, Intermediate Grades, Junior High Schools, Kindergarten, Middle Schools, Primary Education, Secondary Education <p>Restrict Publications: Not medical teacher; medical education; teaching in higher education; assessment & evaluation in higher education; british journal of educational technology; journal of geography in higher education; education for primary care; european journal of teacher education; international journal of art & design education</p> |
| <p>Proquest Central Collections: PAIS Index; Policy File Index</p> | <p>AB(tutor*) OR AB("one-on-one instruction") OR AB("1-on-1 instruction") OR AB("small group instruction") OR AB("supplemental instruction") OR AB("supplemental education services")</p> <p>2000-Present; English</p> <p>Publication: Not Higher Education</p> |

WEB of Science: (((AB=(tutor* OR "one-on-one instruction" OR "1-on-1 instruction" OR SSCI "small group instruction" OR "supplemental instruction" OR "supplemental education services")) AND AB=(student OR school OR education)) NOT AB=(tutorial)) NOT AB=(medical)

2000-Present; English

Web of Science Categories - Limit to Education Educational Research; Psychology Educational; Education Special; Urban Studies

JSTOR ab:(tutor* OR "one-on-one instruction" OR "1-on-1 instruction" OR "small group instruction" OR "supplemental instruction" OR "supplemental education ") AND ab:(student OR education) NOT ab:(tutorial)

Subject: Education; 2000 - Present

Table 2
Description of Study and Tutoring Program Contexts

| | | Number of studies | Percent of studies |
|------------------------------|--|-------------------|--------------------|
| Year of publication | 2000 - 2009 | 11 | 33% |
| | 2010 - 2019 | 22 | 67% |
| | 2019 - 2022 | 0 | 0% |
| Program type | NCLB SES | 16 | 48% |
| | Other national/regional program (ex. America Reads; Reading Partners) | 4 | 12% |
| | Researcher-led program | 9 | 27% |
| | Other local program | 3 | 9% |
| | Study did not focus on a specific tutoring program - Needs assessments on community interest in tutoring | 1 | 3% |
| Grade levels & subject areas | Mix of elementary, middle, and high school; Mix of reading & math (Mostly NCLB SES) | 18 | 55% |
| | Elementary literacy | 7 | 21% |
| | Elementary math | 0 | 0% |
| | Middle grades literacy | 1 | 3% |
| | Middle grades math | 1 | 3% |
| | High school literacy | 0 | 0% |
| | High school math | 1 | 3% |
| | Other - high school languages; Homework help | 2 | 6% |
| | Study did not focus on a particular tutoring programs or information was not provided | 3 | 9% |
| Program timing | During school | 7 | 21% |
| | Out-of-school time (mostly after school) | 20 | 61% |
| | Mix | 4 | 12% |
| | Study did not focus on a specific tutoring program or information on program timing is | 2 | 6% |

not provided

Figure 1
Article Selection Process

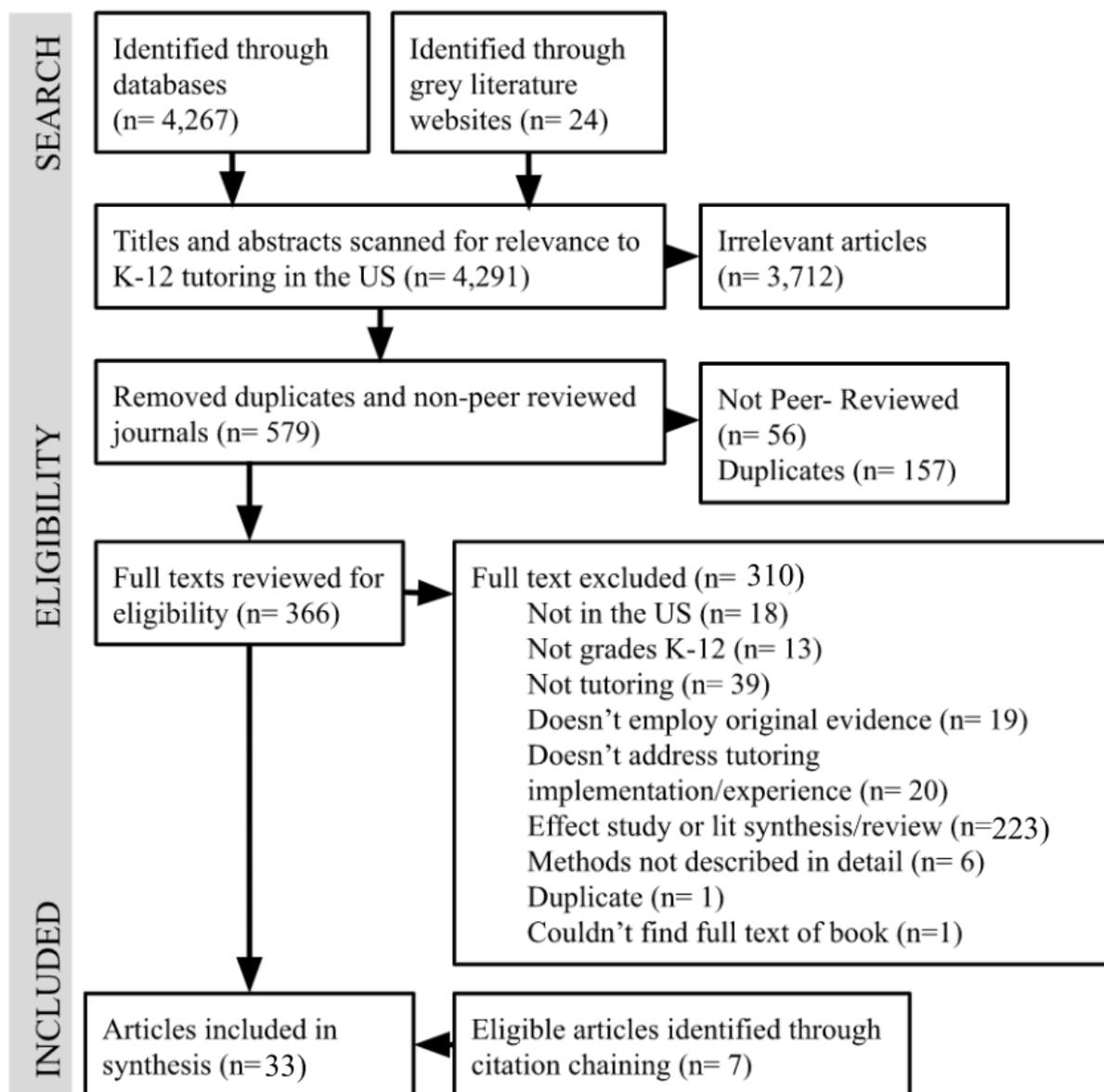


Figure 2
Common Factors Which Influence Tutoring Implementation

