Selected Knowledge Base on Remote Tutoring

Prepared by: Carmen Bartley, Wisconsin Evaluation Collaborative and Wisconsin-Minnesota Comprehensive Center

Summary of Knowledge Base

Although there is not the breadth of research specific to remote tutoring as there is on related topics such as in-person tutoring or digital learning, findings of this review suggest remote tutoring can be a promising approach for improving the academic achievement of K-12 students.

- Remote tutoring can be particularly valuable for struggling and low-performing students, as it provides the opportunity for individualized, targeted attention.
- In a virtual synchronous format, tutors are able to provide immediate feedback; tutors can create discussion to aid problem-solving for students; and tutors can better develop interpersonal relationships with students (as opposed to in an asynchronous environment).
- Remote tutors can provide services for students that extend beyond direct instruction of curriculum, such as mentoring for college and career choices, if applicable. The purpose of the tutoring should be made clear.
- Tutors' expertise needs to be nurtured and supported through appropriate training and resources that help tutors develop an understanding of what high-quality tutoring looks like for all students, especially for students that may require extra support.
- Synchronous tutoring allows for tutors to provide feedback to students through formative assessments, assessments which can be utilized to inform future tutoring sessions.

For questions about this review, please contact Carmen Bartley (cbartley2@wisc.edu).

Select Research Studies

Citation	*Methodologies*	*Findings*
*Burch, P., Good, A., Heinrich, C. (2016) Improving Access to, quality, and the effectiveness of digital tutoring in K-12 education. *Educational Evaluation and Policy Analysis*, 38(1), 65-87.	This investigation builds on a longitudinal mixed-method study of out-of-school tutoring. A key aim of this work was to examine the characteristics of digital out-of-school instruction and to develop a conceptual framework that links them to improvements in student learning and achievement.	- Digital tutoring may vary across many dimensions: role and location of the tutor; the type of software used; the nature of the curriculum. - Curricular formats range from highly structured and completely dependent upon software to "homegrown" curriculum that is more fluid and dependent on the discretion of a live tutor. - Software is a key element of the instructional setting.
*Chappell, S., Arnold, P., Nunnery, J., & Grant, M. (2015). An examination of an online tutoring program's impact on low-achieving middle school students' mathematics achievement. *Online Learning Journal*, 19(5), 37-53.	A mixed methods study used to determine the impact of synchronous online tutoring services on struggling (RTI – Tier 3) middle school students' mathematics achievement. The researchers examined impact for 119 students in two schools to measure the tutoring's impact on mathematics assessment scores.	- The tutoring contributed to statistically significant gains in student assessment scores post intervention. - Online tutors' descriptions of their practice centered on ongoing progress monitoring of student learning, delivery of guided practice to students, and the use of multiple explanations and representations of target concepts. - Findings suggest that for this particular population of students, the highly individualized and explicit nature of the tutoring support may have resulted in affective changes that are related to mathematics engagement and learning.
*Chou, C.C., Chuang, H.H., & Wharton-Beck, A.N., (2019). Fostering the development of social capital to enrich student experiences through after-school digital tutoring programs. *Journal of Educational Technology Development and Exchange*, 12(1), 1-16.	A case study using the perspective of social capital theory to examine the factors that shaped student-learning experiences in a Taiwanese E-Tutor Program; the group of participants consisted of 4 e-tutors, 5 classroom teachers, and 17 former e-tutees	- By sharing their own experiences as university students, e-tutors played a key role in a significant number of e-tutees' decisions' regarding colleges, majors, or career paths. - The main drivers that shaped the learning experiences of the e-tutees were their e-tutors' high academic expectations of them, companionship, and life coaching.
*Clark, A.K., Whetstone, P. (2014). The impact of an online tutoring program on mathematics achievement. *Journal of Educational Research*, 107, 462-466.	Authors explored the impact of an online tutoring program, Math Whizz, on student mathematics achievement at 15 elementary schools (35 teachers; 2,542 students). Students participated in the use of the Math Whizz program for the duration of the	- Math Whizz usage was related to improvement in mathematics achievement as measured by the online tutoring program, teacher survey responses, and the state assessment data. - Using the Math Whizz program for as little as 50 minutes per week could result in three quarters of a year's worth of improvement in mathematics ability.

Citation	*Methodologies*	*Findings*
	school year as a supplement to mathematics instruction.	- Low-performing students may be able to make substantial gains as a result of using the tutoring system.
*Corrigan, J.A. (2012) The implementation of e-tutoring in secondary schools: A diffusion study. *Computers and Education*, 59, 925-936.	This study proposes a model, based on the results of a mixed-methods diffusion study, for the effective implementation of e-tutoring in the context of secondary schools.	- Parents and teachers play an important role in students' usage of e-tutoring – teachers should promote the e-tutoring platform so students don't forget about the service. - Teachers should consistently remind students of the service, especially before tests or after a difficult lesson - Students suggested having the e-tutoring platform available on a mobile phone application to improve the program.
Heinrich, C.& A. Good. (2018). *Patterns in and Estimated Effects of StudentNest Online Tutoring in Milwaukee Public Schools (2016-2017).* Available https://my.vanderbilt.edu/digitaled/.	The summary focuses on both qualitative and quantitative analysis, with a focus on StudentNest, an online tutoring program for certain primary school students in Milwaukee Public Schools. Students performing below their grade level were prioritized for tutoring.	- Student gains in reading through StudentNest tutoring are statistically significant. - StudentNest allowed students to interact with a teacher as they would in a classroom setting but provided more targeted attention. - It is important to build instructor capacity for effectively using digital tools.
*Hrastinski, S., Cleveland-Innes, M., Stenbom, S. (2018) Tutoring online tutors: Using digital badges to encourage the development of online tutoring skills. British Journal of Educational Technology, 49(1), 127-136.	An exploratory case study in Sweden with tutors from the Math coach project; the tutors are all university students working with K-12 students in mathematics.	- In order to develop online tutoring skills, tutors need to have an understanding of what high-quality tutoring is and be able to monitor the quality of their own work. - Tutors found that by encouraging discussion, they gained a deeper understanding of the knowledge level of the K-12 students, and students gained a deeper understanding of the problem and how it can be addressed.
Kourbani, V. (2018) Writing center asynchronous/synchronous online feedback: The relationship between e-feedback and its impact on student satisfaction, learning, and textual revision. In R. Rice, K. St. Amant (Eds.), *Thinking globally, composing locally* (pp. 233-256).	This study investigates connections between asynchronous online feedback from writing center tutors and revision by non-native speakers *but in the context of higher education.*	- Students' need for explanation and guidance is not easily accomplished during the asynchronous online interactions. - When writing tutors are working with ESL students, they should use standard, clear, and direct comments; can use questions to start a dialogue and get students thinking about their own papers. - Synchronous online tutoring can allow students to establish a supportive, interpersonal relationship.

Citation	*Methodologies*	*Findings*
*Martinovic, D. (2009) Being an expert mathematics online tutor: What does expertise entail? *Mentoring & Tutoring: Partnership in Learning*, 17(2), 165-185.	A phenomenologically oriented qualitative research approach that utilized data in the form of interviews and tutoring logs of five tutors from two expert tutoring sites. This study was designed to address challenges and affordances that affect online tutors' expert performance.	- It was challenging for tutors to feel a sense of accomplishment in online communication – made their tutoring feel detached from students' learning. - Expertise in e-tutoring is fluid and context-dependent – expertise needs to be nurtured, supported, and re-established after changes in domain or in context.
*Whetstone, P., Clark, A., Flake, M.W. (2014). Teacher perceptions of an online tutoring program for elementary mathematics. *Educational Media International*, 51(1), 79-90.	This study explores elementary teacher perceptions related to the implementation of an online tutoring program; Seventy teachers who used an online tutoring program as a supplement to mathematics instruction participated in a survey	- Teachers clearly show that available training greatly affects a teacher's ease and comfort in the implementation of an online tutoring program. - Teachers reported that students made academic gains as a result of using the program and that the math components of the software were closely aligned with the mathematics curriculum.

Additional and related information:

Examples of university – K-12 remote tutoring partnerships

- Wake Forest University – Winston-Salem Forsyth County Schools Virtual Tutoring Program: https://communityengagement.wfu.edu/virtual-engagement/virtual-tutoring/
- St. Norbert College and UW-Oshkosh: https://www.snc.edu/education/tutoringpartnership.html
- Harvard and MIT: https://www.bostonglobe.com/2020/05/05/lifestyle/online-tutoring-program-pairs-students-with-college-mentors-keeping-both-engaged-while-schools-are-closed/

Other examples and resources

- Chicago utilizes retired teachers: https://www.chicagotribune.com/coronavirus/ct-illinois-coronavirus-schools-retired-teachers-tutors-20200414-oz5qky5v6bai7k4epwz6dkhyb4-story.html
- A program that helps connect community volunteers and students: http://www.vello.org/
- Culturally Responsive-Sustaining Remote Education: https://crehub.org/remote-learning

***Review methods*:**

This document summarizes a review of research, evaluation, resources, and stakeholder knowledge related to the topic of remote tutoring, primarily focused on the K12 context. Databases used for conducting this review included: Google Scholar, ERIC, Ebscohost, and JSTOR. Literature from peer-reviewed, scholarly journals was reviewed (noted with an asterisk), along with select programmatic websites and new stories that detail examples of remote tutoring within the context of Covid-19. The initial search was conducted in Spring of 2020 and is intended to be ongoing as the COVID-19 crisis is expected to continue through Summer 2020 and the 2020-21 school year. The review was primarily limited to studies and sources published from 2009-2020. Search terms used include but are not limited to: “remote learning”; “virtual tutor”; “online tutor”; “digital tutor”; and “remote academic support.”