

Building Connections and Sharing Knowledge of K–12 Online Teaching Practices During the Pandemic and Beyond

*April Fleetwood
Lodi Lipien
Florida Virtual School*

Abstract

Research-practice partnerships (RPP) represent a promising approach for addressing gaps between research and practice in K–12 education. This paper describes the benefits of, and challenges faced by RPPs, and details the contributions of an established RPP between a Regional Educational Lab (REL) and a K–12 online school district. This RPP worked collaboratively to share best practices for online teaching to K–12 teachers during the COVID-19 pandemic by providing resources, such as blog posts and infographics, focused on the social presence framework. It also facilitated internal research opportunities by offering professional coaching in research methodology so that the school district could investigate the experiences of their elementary teachers and administrators. Going forward, the RPP will continue to focus on best practices in online learning by building knowledge about literacy development in the early grades within an online classroom environment.

Keywords: K–12, online learning, pandemic, partnership, practice, research, social presence

Dr. Fleetwood is the Director of Accountability, Research, and Measurement at Florida Virtual School (FLVS). As part of her role, Dr. Fleetwood manages university and internal research projects that focus on K–12 best practices and student achievement in online learning. Dr. Fleetwood is a three-time graduate from the University of Florida. She began her career with an M.Ed. degree in English Education and a B.A. degree in English. She taught high school English, middle and high school reading, and served as a 6–12 Reading Coach for 11 years combined. Her excitement for digital teaching and learning, literacy, and educational research led her to join the FLVS Analysis, Assessment, & Accountability district team in 2017 just prior to completing her Ed.D. degree in Curriculum and Instruction. Since that time, she has contributed to multiple research partnerships, organizations, publications, and presentations focused on K–12 online education practice and research, as well as literacy.

Ms. Lipien is a Research and Evaluation Analyst with Florida Virtual School. She was previously a senior researcher in the Department of Child and Family Studies at the University of South Florida. Ms. Lipien has served as the principal investigator for numerous evaluations of prevention programs in the areas of behavioral health and child welfare. In addition to overseeing program evaluation efforts, she has considerable expertise in developing and administering surveys, facilitating interviews and focus groups, managing administrative databases, conducting statistical analyses, and disseminating study results for state- and federally-funded research projects. She has presented at several local and national conferences and has co-authored over 10 peer-reviewed publications. Ms. Lipien is pursuing a Ph.D. degree in educational measurement and research and holds an M.S. degree in public health from the University of South Florida and a B.A. degree in psychology from the George Washington University.

Introduction

Many studies have suggested that educational research should be informed by practice and, likewise, educator practice should be informed by research (Barnett et al., 2010; Coburn & Penuel, 2016; Hinton & Fischer, 2008; Kuriloff et al., 2009; Lau & Stille, 2014; Phelps, 2019). Researchers and practitioners can work together with the common goal to inform their work, and such bidirectional research-practice partnerships (RPP) represent a promising approach for addressing evident gaps between research and practice in K–12 education (Coburn & Penuel, 2016; Hopkins et al., 2019).

While it has been expanding over the past 25 years, online learning research for students in primary and secondary school is still in its infancy (Zweig & Stafford, 2018). Practitioners and researchers can partner in the K–12 online learning space to better understand best practices and conduct rigorous studies to inform the growing field. The purpose of this paper is to describe the benefits and challenges of RPPs and discuss the contributions of an existing RPP between a Regional Educational Lab (REL) and K–12 online school district. The RPP shared best practices for online teaching and provided practical tips for K–12 online teachers during the COVID-19 pandemic—work that continues today.

Research-Practice Partnerships Defined

RPPs are collaborative, long-term relationships between educators and researchers to build and sustain a working collaboration that addresses problems faced by educators while also contributing to research and theory (Coburn & Penuel, 2016; Henrick et al., 2016; Tseng et al., 2017). Coburn et al. (2013) identify three types of RPPs: (a) a research alliance, in which school districts and researchers investigate a question relevant to the district, (b) design research, where entities work together to build and study solutions to support student learning in a real-world context, and (c) networked improvement communities that leverage diverse experiences in multiple districts or schools to understand what works where, when, and under what conditions. Another type of partnership is the REL program funded by the Institute of Education Sciences (IES) to provide opportunities for research and support for school districts and states (Coburn et al., 2013). The National Center for Research in Policy and Practice reported that IES-funded RPP participants found similar goals across their work to engage in research and problem-solving in practitioners' contexts (Farrell et al., 2018). The following sections address the benefits and challenges of RPPs found across the literature.

Benefits

In a review of 56 studies on RPPs, Phelps (2019) identifies four benefits of successful partnerships: (a) bridging the gap between K–12 research and practice, (b) improving practices of both novice and experienced teachers, (c) using student data to inform curricular and instructional shifts, and (d) improving student achievement. Overall, these partnerships help ensure that both parties are involved in developing and implementing educational research plans that address relevant problems to inform decision making (Desimone et al., 2016; Farrell et al., 2018), with the goal of effecting changes in teaching and learning in real time (Phelps, 2019). As Zweig and Stafford (2018) posit, the continued growth, sparse research available, and complexities of online learning implementation and reporting bring many potential benefits with myriad avenues for RPPs to explore. RPPs are especially well-positioned to address issues that arise within the field of online learning, which continues to expand exponentially despite limited research and complex implementation (Zweig & Stafford, 2018).

Challenges

While they have many benefits, developing and maintaining RPPs successfully can be complex, due to the unique and dynamic nature of researcher and school staff roles (Phelps, 2019). Phelps (2019) uncovered from the literature three categories of challenges RPPs may face: organizational structures, discourse practices, and power relations. As they collaborate to bridge the gap between research and practice, RPPs must overcome the difficulties that arise from working toward different goals on different schedules in institutions that, in general, do things quite differently (Phelps, 2019). RPPs should strive continuously to meet each other in a place of trust, relationship, and understanding so that they may effectively “work on the work” of building and sharing knowledge. When RPP teams work together to address differences through strong collaboration and relationship-building, they can overcome potential complications (Phelps, 2019).

Challenges Due to COVID-19

As with other occupations, one of the challenges that comes with building organizational infrastructure in RPPs is working remotely (Phelps, 2019). Researchers and practitioners are seldom located in the same place, making remote work necessary for RPPs, even during non-pandemic times. Remote work can create challenges for collaboration and communication, which frequently shifts from synchronous to asynchronous contact, making it more difficult to acquire and share new information (Yang et al., 2021).

The remote work challenge became especially evident during the COVID-19 pandemic because its circumstances forced educators and students nationwide to shift to online teaching and learning with little to no preparation (Petersen et al., 2020). This sudden change also compelled educators to seek professional development opportunities and resources to effectively teach students in a new environment (Cavanaugh & DeWeese, 2020). As a result, many RPPs had to refocus their efforts to address more immediate needs of administrators, teachers, and students (Bassok et al., 2021). Concurrently, educational researchers and practitioners who were *not* new to the online teaching and learning space were eager to share their expertise, and the state of the world’s education propelled their work forward swiftly (Hooten & Flynn, 2021).

A Research-Practice Partnership for K–12 Online Teaching and Learning

This paper shares a success story of how one RPP leveraged its established relationship and knowledge in a time of need to provide meaningful resources for practitioners in the thick of change brought on by the COVID-19 pandemic. This RPP, which was established in 2016, is a collaboration between an REL (i.e., the research entity) and a K–12 online school district (i.e., the practitioner).

Regional Educational Labs

The REL program, supported by the IES, provides opportunities for researchers and educational stakeholders to collaborate with the goal of improving outcomes for students (IES, n.d.). Across the United States, 10 RELs operate under five-year contracts and work in partnership with school districts and other entities to use data and research to support changes to educational policy and practice. Prior to the pandemic, the online school district and REL Southeast, which partners with organizations in six states, had established an RPP with the goal of improving the process and outcomes of online learning, while building a professional learning community (PLC) around research to inform that improvement. In a PLC, “educators create an environment that fosters mutual cooperation, emotional support, and personal growth as they work together to achieve

what they cannot accomplish alone” (DuFour & Eaker, 1998, p. xii). The REL Southeast and online school district PLC collaborate to determine ways to bridge research and practice, and the following sections detail how the pandemic influenced this work.

K–12 Online School

A fully accredited, statewide online public school district that has been operating since 1997 and currently offers more than 190 courses to K–12 students represented the practitioner side of the partnership. The district offers a full-time academic program that consists of a K–5 school, 6–8 school, and 9–12 school, as well as a supplemental program that allows students to enroll in up to six online courses in addition to the courses they are taking at their school of record. The K–12 online district employs more than 2,500 certified teachers who utilize a variety of personalized instructional programs to create educational plans that are unique to each student. This school district also offers counselor and administrator resources, digital course licensing, County Virtual Schools, Digital Learning Labs, and professional development for teachers.

K–12 online learning has created new opportunities for RPPs to inform research and practice (Zweig & Stafford, 2018). Additionally, the unexpected shift to online learning for millions of educators and students due to the pandemic has underscored the importance of RPPs and their potential for contributions to the field. After the pandemic resulted in physical school closures, the state experienced its greatest decline in enrollment among students in the K–8 grade levels, while the online K–12 school district saw its greatest increases in these student populations (see Tables 1 and 2). This shift in enrollment and its impact on students and educators established a trajectory for the REL Southeast and online school district RPP.

The tables below provide a snapshot of the changes in course enrollment from the 2019–20 to the 2021–22 school year for the online school district (Table 1), as well as a student population comparison across years for the online school district and statewide public schools (Table 2).

Table 1. *Course Enrollments*^a

Grade	2019–20	2020–21	2021–22 ^b
K–5	79,224	182,692	115,427
6–8	147,444	196,782	111,089
9–12	508,145	546,959	330,816
All Grades	734,813	926,433	557,332

Note. ^aData source is the online school district’s data warehouse. Course enrollment for the supplemental online school program is rolling; any student **who** became active in a course during the school year was counted for enrollment even if they ultimately dropped or failed the course. Further, a course with two segments (i.e., semesters) is counted as two separate course enrollments. ^bData for 2021–22 are valid as of 1/31/22.

Table 2. *Students Enrolled in the Online School District and Statewide Public Schools*

Grade	Online School District ^a			Statewide Public Schools ^b		
	2019–20	2020–21	2021–22	2019–20	2020–21	2021–22
K–5	14,923	26,685	21,115	1,268,924	1,219,532	1,240,361
6–8	45,695	49,397	31,000	670,005	660,518	659,743
9–12	220,639	216,627	154,133	854,453	861,231	874,022
All Grades	269,067	315,214	206,248	2,793,382	2,741,281	2,774,126

Note. ^aData source is the online school district’s data warehouse. ^b Data source is the Florida PK–20 Education Information Portal’s enrollment reports for the fall of each year (<https://edstats.fldoe.org/>).

The counts for the online school district include both part-time and full-time options. As the numbers show, many families turned to the state online school district to meet their children’s education needs during this time. Additionally, many physical schools began using curriculum and resources offered by the state online school district. Regardless of whether they were using the state’s online curriculum, many teachers and students were facing online teaching and learning environments for the very first time and needed support. The RPP team felt it was most important during this time to leverage their partnership to meet the needs of teachers and students. In April 2020, the team developed a timeline with goals for creating resources that teachers could use over the remaining months of that year.

RPP Online Teacher Resource Contributions

The pandemic, of course, merely began in 2020. Just as it continues to impact society today, so has the need for teacher resources focused on K–12 online teaching practice. The RPP journey began with two blog posts, one from the higher education perspective and the other from the perspective of a former online doctoral student. The REL Southeast and online school district shared these blogs on each of their platforms and followed with multiple teacher resources that continued the conversation the posts began (see Table 3). The RPP facilitated survey and focus group methodology coaching, as well, which resulted in multiple surveys and interviews that the school district conducted in 2021 and 2022. Table 3 presents a summary of the RPP contributions to the field during the years 2020–22 of this partnership, with details in the following sections.

Table 3. *Summary of Research Partnership Contributions*

Research Partnership Topic	Research-Informed Resources and Products
Social Presence in K–12 Online Learning	<ul style="list-style-type: none"> • two blog posts • two teacher videos • two multimodal infographics • two webinars • two professional learning presentations • a book chapter publication
Survey and Focus Group Methodology Coaching	<ul style="list-style-type: none"> • teacher survey with follow-up focus group interview and teacher leader presentation • parent survey culminating in two presentations • two online reports; culminating press releases, and continued research on student retention • second teacher survey and parent survey; culminating press releases, and lessons learned sharing with digital learning communities

Contribution #1: Providing Shared Resources Focused on the Social Presence Framework for Online Teaching

As a result of the emerging pandemic and quarantine in March 2020, the RPP team considered how to leverage its strong knowledge of best practices in online learning to provide resources for teachers who were faced with emergency remote online teaching. Rather than seek new research ventures, they felt an urgency to share established knowledge about effective, research-based online teaching practices that could be used and applied immediately.

The team knew instinctively that teachers did not need a research article to pour over for hours during this time—they needed resources they could use right away. With so many students

continuing to participate in remote, blended, or fully online learning in Fall 2020, the need for connectedness between educators and students was palpable. Thankfully, best practices for building relationships with students in the online learning space have been established by researchers and are embodied through the frequent interactions between teachers and students in this RPP. The RPP set out to develop and distribute several free audiovisual resources teachers could use with ease in as little time as 10 minutes, with a culminating national webinar that would occur in December 2020. The RPP team developed the resources using social presence as a framework to guide them.

Social presence refers to the level of connectedness among educators and students, and its effect on the ability of students to take an active role in their learning (Aragon, 2003; Sung & Mayer, 2012; Walther, 1992; Whiteside, 2017). The Social Presence Model (Whiteside, 2017) includes five pillars that work together to form this connectedness: affective association, community cohesion, instructor involvement, interaction intensity, and knowledge and experience. The two aforementioned blog posts set out to draw attention to the social presence framework in both higher education and K–12 online education contexts.

The RPP team launched officially by developing scripts for Social Presence Awareness (SPA) YouTube videos. These videos, with a soothing “spa” theme meant to bring comfort in a time of high stress, defined the Social Presence framework and provided specific examples of strategies. The goal was to share practices teachers could quickly implement, such as replacing emails and phone calls with video conferences, and beginning to develop a library of short, reusable video clips at multiple points within a course module. The REL and online school district shared the final products on social media and their websites, as well as included them in the resources they provided to participants in the webinars, professional learning, and conference presentations that followed.

An audiovisual infographic delved more deeply into practices that have worked well for engaging students and building connections among educators seasoned in the online teaching field. In addition to a discussion of challenges and successful strategies in the K–12 online learning space, the infographic gave practical tips for applying the Social Presence Model to distance learning. In 2021, a second audiovisual infographic built on this first one to expand the work of social presence from the online classroom to extracurricular activities that cater to students of K–12 online schools. The national and regional webinars that followed shared any freely available resources the RPP had developed in addition to a deeper understanding of social presence in the K–12 online learning context. This first contribution focused outwardly on serving educators; the second contribution, as the coming section details, paired nicely with the first as an inward focus for the research–practitioner team.

Contribution #2: Facilitating Internal Research Opportunities

The research team’s work on social presence amid the pandemic turmoil also initiated other learning opportunities for REL Southeast to facilitate. Unsurprisingly, just as traditional educators were seeing changes in their daily teaching lives, the substantial increases in student enrollment as compared to previous years elicited the online school district’s own adjustments.

The RPP had found ways to assist educators new to teaching and learning online and decided to shift their focus from providing other educators resources to learning from their own unique position serving students amid the pandemic. The REL offered professional learning/coaching sessions that focused on survey methodology and focus group interviews so that the school district’s team could investigate the experiences of elementary teachers and administrators. Through the structured coaching sessions provided via the RPP, the online school district’s research team developed six research questions:

1. What supports from the online school district helped its elementary teachers to *connect* with students and parents?
2. What other supports from the online school district helped its elementary teachers to enable their students to be *successful*?
3. What challenges did elementary teachers encounter that suggest new online school district supports could be developed?
4. What strategies did elementary teachers use to successfully *connect* with students?
5. What strategies helped elementary teachers to enable their students to be *successful*?
6. Did elementary students' outcomes change?

The team then developed and distributed consent forms and a survey to teachers in the elementary school. These teachers were serving both their existing students as well as many others who had transferred into their courses when physical schools closed. The teachers' excitement to participate and share what they had learned in an unprecedented time in education reminded the team how important it is to continue to bridge the gap between research and practice.

This project's survey data informed the development of focus group discussion topics. With questions such as *What strategies did you use to successfully connect with students during the COVID learning period?* and *What were some of the challenges you faced as a result of the increased enrollment during the COVID learning period?*, the interviews provided qualitative information that expanded on the data obtained from the quantitative survey. The team analyzed, synthesized, and reported this information first to participants for their review, and then to teacher leaders and administrators to use in professional development in the coming fall semester.

The online school district continued to apply what had been learned from the coaching sessions by developing a second survey in November 2020. This survey focused on parent perspectives of online learning with regard to their confidence in their K–12 children learning online and any cultural shifts attributable to the pandemic. Over 2,400 parents and guardians responded to the survey, with 65% stating they expected online learning to be a lasting part of their children's educational future. Responses revealed parents' greatest concern for their children learning online was not in the content or teaching, but rather that their children would face too much screen time and too little social interaction while attending online school. The RPP used this information to inform next steps and developed a second audiovisual infographic, mentioned above, which focused on extracurricular activities and virtual school.

The November 2020 survey results informed the work of many departments districtwide. In August 2021, the research team worked internally with other departments to deploy a survey of teachers and families of online learners. These findings were distributed to multiple audiences and contributed to building stronger understandings of post-pandemic K–12 online educational experiences.

Continued Research-Practice Partnership Pursuits

Just as practitioners and researchers can work together across physical distance to impact online classrooms, they can bridge the gap between research and practice through strong collaborations like the one detailed here. The impact of this work continues to expand as it has opened multiple avenues for additional learning and partnership pursuits. The successes from this unique research partnership story may encourage others seeking ways to bridge the gap between research and practice.

Building Connections and Sharing Knowledge

Much work remains for practitioners to effectively use RPP research endeavors to inform teaching practice and improve student success. Limited capacity on a school's research team can limit the depth of analysis and reporting for the benefits of practice and educational research contributions. The field of online teaching and learning is still relatively new, which brings the good news that RPPs can continue to learn from each other and broaden their reach to stakeholders in K–12 online education.

IES has awarded the REL Southeast federal funding for the 2022–27 cycle. A preliminary review of literature has revealed paucity in early literacy learning as it relates to students receiving literacy instruction in synchronous and asynchronous learning environments. While there is a vast knowledge base in K–3 literacy evidence-based practices, available research has focused on traditional brick-and-mortar classrooms. The RPP will continue to focus on best practices in online learning and looks forward to building knowledge about literacy in the early grades, with a focus on exploring facets of learning to read in an online classroom environment.

References

Corresponding Author: April Fleetwood

Author Contact Information: afleetwood@flvs.net

- Aragon, S. R. (2003). Creating social presence in online environments. *New Directions for Adult and Continuing Education*, 100, 57–68. <http://dx.doi.org/10.1002/ace.119>
- Barnett, M., Anderson, J., Houle, M., Higginbotham, T., & Gatling, A. (2010). The process of trust building between university researchers and urban school personnel. *Urban Education*, 45(5), 630–660.
- Bassok, D., Morris, P. A., Markowitz, A. J., & Conway, J. (2021, May 4). *Research-practice partnerships can help our youngest learners in times of crisis and recovery*. <https://www.brookings.edu/blog/brown-center-chalkboard/2021/05/04/research-practice-partnerships-can-help-our-youngest-learners-in-times-of-crisis-and-recovery/>
- Cavanaugh, C. & DeWeese, A. (2020). Understanding the professional learning and support needs of educators during the initial weeks of pandemic school closures through search terms and content use. *Journal of Technology and Teacher Education*, 28(2), 233–238. <https://www.learntechlib.org/primary/p/216073/>
- Coburn, C. E., & Penuel, W. R. (2016). Research-practice partnerships in education: Outcomes, dynamics, and open questions. *Educational Researcher*, 45(1), 48–54.
- Coburn, C. E., Penuel, W.R., & Geil, K. E. (January 2013). *Research-practice partnerships: A strategy for leveraging research for educational improvement in school districts*. William T. Grant Foundation, New York, NY. <https://files.eric.ed.gov/fulltext/ED568396.pdf>
- Desimone, L., Wolford, T., & Hill, K. (2016). Research-practice: A practical conceptual framework. *AERA Open*, 2(4), 1–14. <https://doi.org/10.1177/2332858416679599>
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Solution Tree.
- Farrell, C. C., Davidson, K. L., Repko-Erwin, M., Penuel, W. R., Quantz, M., Wong, H., ... & Brink, Z. (2018). *A descriptive study of the IES researcher-practitioner partnerships in education research program: Final report*. Technical Report No. 3. National Center for Research in Policy and Practice. <https://files.eric.ed.gov/fulltext/ED599980.pdf>
- Hinton, C., & Fischer, K. W. (2008). Research schools: Grounding research in educational practice. *Mind, Brain, and Education*, 2, 157–160. <https://doi.org/10.1111/j.1751-228X.2008.00048.x>
- Hooten, S., & Flynn, L. (2021, July 8). Teaching virtually during the pandemic: Lessons learned from long-time online teachers [Blog post]. <https://www.digitallearningcollab.com/blog/2021/7/8/teaching-virtually-during-the-pandemic-lessons-learned-from-long-time-online-teachers>.
- Hopkins, M., Weddle, H., Gluckman, M., & Gautsch, L. (2019). Boundary crossing in professional association: The dynamics of research use among state leaders and researchers in a research-practice partnership. *AERA Open*, 5(4), 1–12. <https://doi.org/10.1177/2332858419891964>
- Institute of Education Sciences. (n.d.). *About the RELs*. <https://ies.ed.gov/ncee/rel/About/>

- Kuriloff, P., Reichert, M., Stoudt, B., & Ravitch, S. (2009). Building research collaboratives among schools and universities: Lessons from the field. *Mind, Brain, and Education*, 3(1), 34–44.
- Lau, S. M. C., & Stille, S. (2014). Participatory research with teachers: Toward a pragmatic and dynamic view of equity and parity in research relationships. *European Journal of Teacher Education*, 37(2), 156–170.
- Peterson, L., Scharber, C., Thuesen, A., & Baskin, K. (2020) A rapid response to COVID-19: one district's pivot from technology integration to distance learning, *Information and Learning Sciences*, 121 (5/6), 461–469. <https://doi.org/10.1108/ILS-04-2020-0131>
- Phelps, D. (2019). The challenges of bridging the research-practice gap through insider-outsider partnerships in education. *Teachers College Record*, 121, 1–28.
- Sung, E., & Mayer, R. E. (2012). Five facets of social presence in online distance education. *Computers in Human Behavior*, 28(5), 1738–1747. <http://dx.doi.org/10.1016/j.chb.2012.04.014>
- Tseng, V., Easton, J. Q., & Supplee, L. H. (2017). Research-practice partnerships: Building two-way streets of engagement. *Social Policy Report*, 30(4), 1–17. <https://files.eric.ed.gov/fulltext/ED581655.pdf>
- Walther, J. B. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research*, 19(1), 52. <http://dx.doi.org/10.1177/009365092019001003>
- Whiteside, A. L. (2017). Understanding social presence as a critical literacy: Introduction to part four. In A. L. Whiteside, A. Garrett Dickers, & K. Swan (Eds.) *Social presence in online learning: Multiple perspectives on research and practice* (pp. 133–142). Stylus Publishing, LLC.
- Yang, L., Holtz, D., Jaffe, S., Siddharth, S., Sinha, S., Weston, J., Joyce, C., Shah, N., Sherman, K., Hecht, B., & Teevan, J. (2021). The effects of remote work on collaboration among information workers. *Nature Human Behaviour*. <https://doi.org/10.1038/s41562-021-01196-4>
- Zweig, J., & Stafford, E. (2018). Research practitioner partnerships in online learning: What, why, how. In K. Kennedy & R. Ferdig (Eds.) *Handbook of Research on K–12 Online and Blended Learning 2nd Ed.* (pp. 697–700).