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RESEARCH ARTICLE

Preservice Teacher Perceptions of Virtual Reading Fieldwork During the COVID-19 Pandemic

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ABSTRACT

Background/purpose – The COVID-19 pandemic created barriers for teacher preparation programs. Preservice teachers are typically assigned a host school and mentor where on-site, face-to-face classroom observation and teaching opportunities earn credit needed for graduation and to meet certain institutional accreditation requirements. Due to the potential for community spread of the COVID-19 virus, limited visitor numbers have been allowed into schools, and preservice teachers have largely been denied access.

Materials/methods – During the COVID-19 pandemic, the pressures to master in-class teaching assessments have been unprecedented. Using an exploratory model, preservice teacher perceptions of virtual reading assessments were collected during this unusual time in order to explore gaps in the literature. The study's participants were from the southern United States, and were seeking a degree in Elementary Education during the time of the COVID-19 pandemic. The researcher created a survey which was shared across course sections. The collected data were then analyzed and sorted according to thematic findings.

Results – The findings revealed that unique challenges were faced by preservice teachers during participation in a semester long virtual fieldwork requirement as part of a course in "reading assessment."

Conclusion – Building upon international research, the study shares challenges faced during virtual reading fieldwork unique to teacher preparation during a pandemic. A need was identified for a more streamlined process addressing technology pedagogy to prepare preservice teachers during times when face-to-face, in-person K-12 classroom meetings are restricted or unavailable.

Keywords – COVID-19, preservice teachers, reading, assessment, virtual fieldwork.

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1. INTRODUCTION

The COVID-19 pandemic has impacted higher education across the globe, including teacher preparatory programs (Marinoni et al., 2020; Neuwirth et al., 2020). Due to mandates restricting traditional, face-to-face, in-person classroom contact, teacher education programs were forced to reconsider the methods used in order that fieldwork requirements could still be met. Instructors were tasked with arranging reading fieldwork whilst remaining cautious of the potential for COVID-19 community spread. Also, instructors had to be mindful of the ongoing scheduling adjustments with regards to partnerships with K-12 schools. These K-12 meeting schedules fluctuated from traditional to virtual (online) and even hybrid models. As with many other sectors, preservice teacher fieldwork looked to virtual methods in order to fulfill its program requirements (Ersin et al., 2020; Holt & Kramer, 2020).

Prior to the pandemic, a typical semester would allow for preservice teachers to spend fieldwork time observing and undertaking teaching practice. This would take the form of implementing a reading intervention project with struggling students in a face-to face setting. In order to make this possible, partnerships between universities and host schools were often established prior to the start of the course. However, COVID-19 complicated the discourse, and K-12 schools were overwhelmed with a frequently shifting operating environment due to COVID-19 mandates as community spread was monitored and the necessary adjustments implemented at the local, regional, or national level. On this, the Center for Disease Control and Prevention recommended a limited school visitor policy be enforced (Center for Disease Control and Prevention, 2020).

Since large numbers of people were no longer permitted to congregate within the physical school setting, the scheduling of preservice teachers to observe and teach on-site with an entire class of students became untenable. Another challenge was the hardships that the school's host teachers faced. Increased time was spent on additional COVID-19 related job requirements in order to simply meet their own teaching responsibilities. According to Kaden (2020), host teacher experiences included an "above average workload" and "underestimated time" needed to complete tasks as a result of the COVID-19 pandemic and the shift to remote learning (p. 10). Therefore, the additional time required to work with preservice teacher fieldwork projects was limited, making the partnerships difficult to continue. Also, it is important to note that instructors were also concerned about the potential spread of the virus if preservice teachers, and/or others involved with the fieldwork experience were exposed to COVID-19, which further discouraged traditional, face-to face classes and in-person contact.

Despite multiple factors working against the normal fieldwork partnerships, moving forwards was important. The current study shares preservice teachers' perceptions after having completed virtual (online) reading fieldwork as a requirement for a Reading Assessment course delivered during the COVID-19 pandemic. The virtual reading fieldwork was used to support mastery of the course objectives, and to enable teacher candidates to earn 15 hours of required fieldwork credit.

2. LITERATURE REVIEW

2.1 Foundation of learning

In 1916, educational philosopher John Dewey authored a book titled *Democracy and Education.* One chapter of the collection was devoted to education as growth to itself and

the greater society. Dewey (2008/1916) stated that "the educational process is one of continual reorganizing, reconstructing, and transforming" (p. 50). Over 100 years later, during a global pandemic, Dewey's ideas are considered just as applicable to education and the challenges currently facing society. To move forward and achieve growth in education, we must continue to reorganize and transform what we know and do in today's classroom.

The COVID-19 pandemic forced widespread school closures in an unprecedented event impacting education on a global scale. The pandemic necessitated a paradigm shift in the methods of instruction offered to K-12 grade students, thus changing the fundamental roles of teachers (Kaden, 2020). Similarly, institutes of higher education also faced difficulties in continuing to deliver continuous instruction (Ali, 2020). For example, in the preparation of preservice teachers, instructors in teacher preparation programs had to implement the required practicum teaching opportunities within a virtual (online) setting (Bradley & Fogelsong, 2021; Wells, 2021).

In a 2005 report titled *Preparing Teachers for a Changing World: What Teachers Should Learn and Be Able to Do*, Darling-Hammond and Bransford (2007) shared details regarding the complex process involved in developing well-prepared teacher candidates who were sufficiently equipped to meet societal needs. The specific learning community components needed to prepare preservice teachers to join the professional learning community align with many components including "understanding, practices, vision, disposition, and tools" (p. 386). This idea was further explored in research published by Brandt et al. (2021), who identified a connection between content knowledge and engagement that enhanced pedagogical understanding.

2.2 Gaps in research

When reviewing the literature, there is a need to explore a gap in the research that exists with the development of preservice teachers and virtual experiences such as online reading fieldwork, especially in times of natural disasters or a global pandemic. Therefore, the current study focused on examining preservice teacher perceptions after having participated in a virtual literacy practicum during the COVID-19 pandemic as a means to exploring these experiences during such an unprecedented event.

Taking the already established reading fieldwork and transitioning to online methods of presentation during the pandemic was largely exploratory for many. Not only were preservice teachers attending their college reading course online, additionally they were asked to engage in a reading practicum assessment that required them to support struggling K-12 students within a virtual setting.

It is therefore important to prepare teacher candidates to be flexible in their working approach, and this includes their ability to teach virtually if needed to do so, especially in times where traditional, in-person meetings and face-to-face classroom-based teaching are simply not possible. With the teacher reading course already meeting within a virtual setting, the decision to move the reading fieldwork project online was adopted. This meant that all traditional, in-person tasks were to be accomplished within a virtual space that had yet to be created. To prepare, throughout the semester the preservice teachers were guided through four stages: 1) Build a virtual space and partner a student in need of reading support within an online setting, 2) Complete reading assessments within the virtual space to collect pre-data, 3) Provide 8 weeks of prescribed interventions online, and 4) Reassess the student's reading skills and reflect on their progress and their own personal teaching skills.

In order to learn more about the student perception and to explore the unprecedented virtual reading fieldwork, the following research questions formed the focus of the current study. An exploratory research method then allowed these questions to be considered.

- How are preservice teacher preparation programs meeting reading fieldwork needs during the COVID-19 pandemic, when only limited in-person contact is permitted?
- How do preservice teachers perceive the stages used, the impact on their work, and the stressors and overall effectiveness of the virtual reading fieldwork completed during the COVID-19 pandemic?
- In what ways do preservice teachers feel that improvements can be made to virtual reading fieldwork used in times of emergency such as the COVID-19 pandemic?

During the limited access to K-12 classrooms due to the pandemic, the goal of developing preservice teachers' reading skills took on a new virtual form in order to bridge theory and practice. Building on the works of Shulman (1986), *Pedagogical Content Knowledge* [PCK] can be further developed if preservice teachers participate in authentic fieldwork opportunities. PCK has since been revisited to emphasize the increase of technology needed in today's classroom. Instead of isolating technology, the *Technological Pedagogical and Content Knowledge* [TPACK] framework has an intentional focus on the technology teaching skills along with the pedagogy and content (Mishra & Koehler, 2006).

The purpose of the current study was to collect data in order to better understand the perceptions of preservice teachers regarding their experiences with virtual reading course fieldwork completed during the COVID-19 pandemic. The TPACK framework was considered with the preservice teacher experiences during virtual reading fieldwork throughout the study, which helped to form the research questions and the researcher-created survey. The preservice teachers received content and experimented with technology in order to develop their pedagogy. Based on the difficulties experienced by the participant preservice teachers and their course instructor, the research aimed to address the challenges faced and to highlight positive findings that contribute to the existing literature.

3. METHODOLOGY

3.1. Participants

The participants were senior level teacher candidates seeking a degree in an Elementary Education program, and who had participated in virtual reading fieldwork during the COVID-19 pandemic in the southern United States. The participants were members of one of three sections of a Reading Assessment course offered during the 2020 fall semester. The survey was sent out via email to the assigned instructors for each of the three sections, who then forwarded it to their students (preservice teachers. A total of 21 participants responded.

3.2. Instruments

The primary data source was a researcher-created survey. The developed survey was checked for validity and reliability by using member checking. The survey was designed using the SurveyMonkey software, and consisted of 44 questions including a combination of both open and closed items. The survey items focused upon the participants' fieldwork experiences during COVID-19, their perceptions of the project's impact on the students served, any stressors, and their suggestions for potential improvements.

Some of the closed-ended items were: "Did you work one-on-one with a student needing support with reading during the fall of 2020?" "If you worked with a student, how many reading sessions did you complete?" "What format best describes the way you

delivered the sessions during the fall of 2020?" "Did you give reading assessments during your intervention session?" and "Did you have reliable access to technology tools and the Internet for use during the intervention sessions?" Some of the open-ended items were: "Describe the ways in which you assessed literacy needs (i.e., reading, writing, speaking, listening) with your interventions during the fall of 2020," "If you used online instruction (e.g., virtual school setting or hybrid/hyflex) to implement reading lessons and interventions during the fall of 2020, describe how you feel the students responded to the sessions," "What challenges (if any) have you experienced with virtual interventions?" "What support would help preservice teachers with virtual tutoring?" and "What was your biggest takeaway from this experience?" Also, there was also a rating item that included an opportunity for the participants to "Rate the stress level you feel with virtual interventions."

3.3. Procedure

The study was conducted during the 2020 fall semester. Permission to complete the study was obtained from the Institutional Review Board. Once permission was granted, the data collection was able to begin. The researcher-created survey was organized according to the Institutional Review Board's approval and then distributed to the students of the three sections of the course via an email sent to their course instructor. The students were asked if they wished to voluntarily participate, and the survey remained open for them to complete if they wished to do so up until the end of the course semester.

3.4. Data Analysis

Once the data was obtained and the survey closed, the analysis of the collected data began. The stages of data analysis included the following. First, it was confirmed that the participant responses were collected via the SurveyMonkey software. After the survey had been closed, the participant responses were downloaded to Microsoft Excel. Since the study was exploratory, the disaggregation consisted of sorting the multiple-choice items and the open responses into emergent themes.

In order to arrive at the themes, the data was reviewed in three ways and coded accordingly. Each individual participant's response was analyzed by the researcher and debriefed with fellow colleagues for the purposes of validation. Second, sections of coded data were subsequently resorted after having been examined by the research team a second time as the themes were developed. Using the features of Microsoft Excel and the researcher's journal, the coding was arranged into themes that aligned with the three overarching research questions of the study. The data was then reviewed again and sorted as a whole using qualitative analysis techniques based on the emergent themes.

A common trend in the data included a lack of previous teaching experience during a pandemic, or other such event. Also, the participants' personal experiences, perceptions of impact, stressors, and suggestions for improvements centered around their lack of experience and the need for technology support during situations where virtual learning had been deployed as a matter of urgency versus a properly timed event choice based on method of interaction (i.e., in-person, face-to-face meetings).

4. RESULTS

The study's results indicated that of the participants that responded to the survey, 94.74% had completed at between five and seven reading intervention sessions, whilst the remaining 5.26% reported having completed three or four reading intervention sessions during the COVID-19 pandemic fieldwork. Prior to the 2020 fall semester, only 11.75% of the respondents indicated that, as part of a teacher preparation course, they had worked one-on-one with students who required reading support. Additionally, four major themes emerged that revealed a unique situation when attempting to meet reading practicum goals during the pandemic.

4.1. Theme One: Personal Experiences

The study participants were asked about their personal feelings regarding being prepared to teach within a virtual environment during the COVID-19 pandemic. Specifically, how prepared the participants felt at the beginning of the reading course to be delivered as virtual sessions. The respondents selected from one of five options that they considered best reflected their opinion. These options ranged from "a great deal" to "none at all." Of the participants, 100% selected "none at all" when reflecting on preparedness. When asked to share the challenges they experienced, issues with technology were the most common. Other challenges included issues with scheduling virtual intervention sessions with students, students being distracted during sessions, and the preservice teachers' own lack of experience with reading assessments. Table 1 presents examples of the participants' responses.

Table 1. Personal Difficulties with Virtual Reading Fieldwork

Survey Question: What (if anything) made it hard to complete the reading interventions?

- "Connectivity issues."
- "Virtual learning."
- "Getting started and preparing for the reading interventions was a little complicated and stressful. Keeping up with all the assignments and learning assessments etc., whilst keeping up with other courses and residency!"
- "We chose a time during the weekend, but things would always come up (school or personal) and we would instead have to reschedule for a weekday time."
- "Student missing three of the seven sessions."
- "Not knowing exactly how to give assessments for individual students as each student has different abilities…"

When asked to share positives about their virtual interventions, the following responses were shared: "I was able to see where the child lives," "gaining experience for any future endeavors," and virtual has "easier an transition...no excuse for traffic." Table 2 presents some additional responses.

Table 2. Biggest Takeaways from Virtual Reading Fieldwork

Survey Question: What was the biggest takeaway you have from this experience?

- "I've learned to have confidence in myself and what I can do."
- "The biggest takeaway was learning to give assessments in all areas and find a weakness. Working towards that weakness and seeing student success. All in all, it was a great experience!"
- "That teachers make it work no matter what the given circumstances. We might complain and cry, but at the end of the day, the job gets done and gets done to the best of our ability!"
- "Stress."
- "Not every intervention will work."
- "That any child can be successful in an area in which they once struggled!"
- "Adapt. I had to adapt to so many struggles in using the Internet and was always looking to make something work or have a backup plan if something failed."

4.2. Theme Two: Perceptions of Impact

The participants described their perceptions of the students' responses to the virtual reading intervention fieldwork sessions. The participant responses in Table 3 exemplify the collected data.

Table 3. Perceived Impact of Virtual Reading Fieldwork

Survey Question: If you used online instruction (e.g., virtual school setting or hybrid/hyflex) to implement reading lesson/interventions during fall 2020, describe how you feel your student responded to the sessions.

- "My student responded well for the most part. It was an evening class, and the student was at home with a lot of distraction. In front of the screen, the student was fidgety and sometimes inattentive."
- "I feel my student felt he had to be there because of his parents."
- "My student didn't enjoy doing things on the computer. He has to do it so often at school and is tired of being on the computer. It also takes him longer to complete things, especially if it involves typing."
- "At first, he was hesitant because I was a new face to him, but once he got used to me, he would open up and complete the assessments without a problem."
- "The student was excited."

When asked about perceived academic progress made with the reading interventions, there were widespread responses from the participant preservice teachers (see Table 4).

Table 4. Preservice Teacher Perceptions of Reading Intervention Impact on Progress

Level	f (%)
A great deal	5 (35.71)
A lot	3 (21.43)
A moderate amount	4 (28.57)
A little	2 (14.29)
None at all	0 (0)
Total	17 (100)

4.3. Theme Three: Stressors

The participants were asked to rate the stress level they felt with the virtual interventions. On a scale of 0 to 100, with "0" being no stress and "100" being the maximum amount of stress, the participant average was reported as 59%. A follow-up item (see Table 5) indicated that 88.24% of the respondents felt "a great deal" of stress in other parts of their lives during the semester.

Table 5. Stress Felt in Other Parts of Life This Semester

Level	ƒ (%)
A great deal	15 (88.24)
A lot	2 (11.76)
A moderate amount	0 (0)
A little	0 (0)
None at all	0 (0)
Total	*17 (100)*

4.4. Theme Four: Suggestions for Improvement

When asked about the support needed for virtual reading fieldwork, technology training and reliable access to the Internet was a frequent finding. This particular finding reinforces the TPACK framework research (see Table 6 and Table 7).

Table 6. Support Needed with Virtual Reading Fieldwork

Survey Question: What support would help preservice teachers with virtual tutoring?

- "More time during sessions."
- "Training, training, training. Free of charge. Specifically, in Google Docs, Google Slides, and other virtual learning tools."
- "Google training, Zoom training, PowerPoint training."
- "Google Training."
- "Learn all features of Zoom."
- "Good Internet."
- "Better support from parents and possibly professional development on virtual learning."
- "More awareness of available virtual intervention support, e.g., games and voice/interactive videos etc."

Table 7. Issues with Access During Virtual Reading Fieldwork Interventions

Survey Question: How might (or how have) issues of access to technology devices and the Internet be addressed so there is more equitable access to online learning for you [as instructor] *and the student you worked with?*

- "If technology does not work then no intervention can take place."
- "Before parents request help, make sure they have reliable technology before you go any further."
- "Offer free or low-cost Internet for students to access in their homes."
- "I had to use PowerPoint instead of Google Slides for my weekly presentations because Slides would make my Internet lag horribly during screen share because it is an online resource."
- "Some support was provided, but this is new to everyone and every case is different, so it is quite difficult to get definitive answers and guidance."

5. DISCUSSION

From this particular group of preservice teachers enrolled in a reading course that required them to deliver virtual reading fieldwork due to the COVID-19 pandemic, there were both positive and negative perceptions revealed of their experiences. The data revealed four major thematic foci that helped answer the research questions of the study. The four themes that emerged were: responses relating to the preservice teachers' personal experiences, perceptions of impact, stressors, and suggestions for improvement. When bringing the research back to the study's three research questions, the following findings are conclusive. Notably, the findings should also be considered in the support of inservice teachers during their professional development during times of natural disasters such as the current pandemic. Furthermore, the study sheds new light on teachers' struggles with technology and virtual reading fieldwork during the pandemic which caused certain hardships for preservice teachers.

Research Question One: "How are preservice teacher preparation programs meeting reading fieldwork needs during the COVID-19 pandemic, when only limited in-person contact is permitted?" Preservice teacher preparation programs have recognized certain challenges and have attempted to support reading course fieldwork facilitated through virtual reading interventions. In continuing to monitor the COVID-19 pandemic, the Center for Disease Control and Prevention's recommendations and local initiatives have continued to impact upon fieldwork opportunities. Provided that appropriate safety protocols are followed, more aligned opportunities to partner, either virtual or hybrid, with host partnerships schools could be explored. Working together can support both preservice and host teachers who are facing very similar issues. This form of collaboration can help to better prepare candidate teachers for their future teaching career and to relieve some of the time constraints facing host teachers during the ongoing pandemic.

Research Question Two: How do preservice teachers perceive the stages used, the impact on their work, and the stressors and overall effectiveness of the virtual reading fieldwork completed during the COVID-19 pandemic? Overall, the preservice teachers reported having mixed feelings regarding the effectiveness of the virtual fieldwork at each of the various stages. While the current study provides rich data about the experiences of the reading fieldwork, additional research is needed in order to fully answer this research

question. As seen in the study's data, overall, the teacher candidates faced issues with technology that they felt negatively affected their overall impact during the process.

Research Question Three: In what ways do preservice teachers feel that improvements can be made to virtual reading fieldwork used in times of emergency such as the COVID-19 pandemic? Reoccurring issues with technology usage for both preservice teachers and the student participants was noted as a significant barrier. This in turn impacted on the effectiveness of the virtual reading fieldwork, and as such should be addressed in future preservice teacher courses. Refining the stages in the process by providing more technology scaffolds, including improved understanding of the TPACK model, will likely improve the overall virtual fieldwork experience and enhance the impact of reading content intervention on students.

6. CONCLUSION

More and more research has been documented to reveal challenges faced in teacher preparation programs, and are continuing to face due to the ongoing impact of the latest COVID-19 variants during the current worldwide pandemic. It is important to build upon the research experiences during this unprecedented time in order to continue to see growth. Furthermore, outside of the pandemic, the current study validates that there are benefits of fine-tuning the implementation of classroom models that connect technology and reading fieldwork to into opportunities where reading fieldwork can be limited to in-person, face to face meetings. Studies such as that by Dong and Mertala (2021) should be considered in analyzing preservice teacher's perceptions related to the developmental appropriateness of technology, which are similar to those reported in the current study. On a global scale, technology can be utilized in order to help connect preservice teachers with their practicum students in a way that means both can benefit from partnerships such as discussed in the current study.

Based on the study's findings, it is recommended that more research is conducted in the area of preservice teacher preparation and the possibilities of implementing virtual reading fieldwork to avoid gaps in teaching and learning instruction. According to Watson and Rockinson-Szapkiw (2021), "if preservice teachers do not experience explicit modeling of TEL (technology-enabled learning) in their teacher preparation programs, then it is unlikely that they will develop the intention to use it in their teaching practice" (p. 3). Looking forward to the post COVID-19 era, there will potentially be more significant gaps than normal in terms of literacy learning having detrimentally impacted many pre-K-12 students during the pandemic. The use of virtual interventions should continue to be explored and monitored for potential benefits in both the current and post-pandemic future. If the need for virtual fieldwork continues (i.e., COVID-19 related restrictions) the current research could be replicated with other groups of preservice teachers. These studies should build more upon the existing research as well as the current study and to consider the benefits of applying the TPACK model.

In addition to the COVID-19 pandemic, it may be said that virtual fieldwork can be an effective means for teachers and students to connect when face-to-face, in-person meetings are not considered feasible for whatever reason. For example, many students have medical needs that may require their hospitalization or home-based education. Often these students are assigned a homebound teacher which enables them to work remotely; however, establishing an effective virtual connection could allow such students who are otherwise

unable to attend class to continue with their education rather than face further isolation. Similarly, natural disasters and severe weather can also result in the displacement of students from their face-to-face, in-person classroom community. Virtual reading interventions could therefore also be studied as potential solutions to such circumstances in the future.

Virtual reading interventions can be a way of tackling geographical challenges due to travel restrictions or impracticalities. Often clinical fieldwork serves K-12 students in need who live close to the university campus; however, for those students residing in rural areas that are located some distance away, they tend to lose out on this provision. If virtual reading interventions were improved, students with academic deficits could be identified and better supported from a distance. As seen in the findings of the current study, travel and time were found to be a positive result of the virtual meetings, and therefore may be considered as an alternative means of reaching students facing poverty or other hardships that prevent them from accessing the education that their peers enjoy. Virtual reading support can be applied within their home environment at minimal cost. Also, virtual fieldwork can be said to be positive for teacher candidates too, as due to their other responsibilities, traveling to host schools can present a practical hardship. Additional research on each of these ideas is therefore recommended.

Primarily, research focusing on how best to improve accessibility to technology devices, and a reliable Internet is critical. For virtual reading fieldwork success, both teacher candidates and their respective K-12 students require access to technology, since it is the primary method of providing such lessons. Also, providing teacher candidates with appropriate technology training according to the TPACK model can scaffold their experience as a successful means of support. It could also be helpful, therefore, if preservice teacher programs arranged virtual opportunities to observe reading intervention sessions in order to provide modeling early within the teacher preparation program. The data in the current study showed that prior to the virtual experience offered in the study, the participant preservice teachers had not taken part in any online fieldwork. Using the gradual release model, the host teacher and preservice teacher could work together in order to provide these much needed opportunities (Webb et al., 2019). This could benefit the host teacher too with additional help provided to support struggling K-12 students. Preservice teachers could also gain connections to real classroom situations that also need to be managed.

6.1. Limitations

The study does present certain limitations. The study focused on one specific region in the southern United States serving preservice teachers. Replicating this study in other regions with similar diverse population participation could be considered beneficial. Also, several items included in the survey instrument were skipped by the participants. Follow-up studies should therefore consider applying restrictions in terms of whether or not items can be skipped as an option in the survey. Lastly, the participant preservice teacher were employed in traditional, virtual, and hybrid situations. While most of the participants were served within a virtual environment, some special fieldwork situations required in-person or hybrid meetings. Due to the COVID-19 pandemic, often the meeting space had to change according to information related to contact tracing, learning of viral exposure with person known to have been exposed/infected (i.e., teacher candidate, K-12 student, host teacher,

etc.). This makes some of the responses unclear due to not knowing into which category they fell.

7. SUGGESTIONS

Future research is needed to build upon the current study's findings. The potential of the COVID-19 vaccine's role in decreasing the spread of the virus may allow for more traditional, face-to-face, in-person fieldwork experiences to resume. However, even with a return to traditional fieldwork, continuing with the processes outlined in the current study along with the TPACK research may help to improve virtual fieldwork opportunities for reading courses serving preservice teachers.

DECLARATIONS

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