# Preparing Reading/Literacy Specialists: Utilizing Professional Learning Communities, Resources, and Responses

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**Abstract**

*This study examined the impact of a professional learning community (PLC) and research-based teaching practices on candidates' knowledge and practice. Because of the transition to a virtual learning classroom during the COVID-19 pandemic (Murphy et al., 2020), a Midwestern university offered a literacy methods class using a synchronous learning mode wherein candidates were able to interact with their classmates and their instructor. The asynchronous CANVAS, a learning management system was used to post lectures, course information, assignments, and grades. To excel in the virtual setting required that candidates be actively involved in the class (Bao, 2020). The Jamboard interactive whiteboard (https://apps.apple.com/us/app/jamboard/id1143591418) was used to brainstorm and develop new ideas and build communication, collaboration, critical thinking, and creativity. The purpose of this methods class is to prepare candidates who are working as literacy coaches and reading specialists to assess and diagnose literacy difficulties of students in Grades P–12. Other purposes are to select, develop, administer, and interpret assessments—including performance assessments, both traditional and online—to specifically communicate assessment results and implications to a variety of audiences. The candidates are required to interpret the PLC as a collaborative culture conducive to learning and student achievement. In addition, it is essential that candidates share pedagogical knowledge and instructional practices through job-embedded learning using Zoom and Jamboard.*

*When the instructor provides candidates with the necessary tools and knowledge to be successful, it affords each candidate greater opportunity to apply their knowledge toward learning (Hannaford, 2010). This study contributes to positive social change during theCOVID-19 pandemic by increasing candidates' awareness and understanding of how collaborative cultures, specifically PLCs, contribute to overall school success (Evans, 2012).*

***Preparing Reading/Literacy Specialists: Professional Learning Communities, Resources, and Responses***

When the COVID-19 pandemic hit colleges in spring 2020, massive numbers of college students engaged in taking courses 100% online, and instructors were forced to conduct teaching and learning from a distance (Anderson & Kumar, 2019). Moreover, for the first time, teachers and students across the elementary and secondary levels transitioned into a new teaching and learning environment that most had not experienced before *(*Murphy et al., 2020).The COVID-19 pandemic has disrupted America's education system, calling into question how K–12 accountability functioned in the 2020–21 school year and how it will function into the future (Lake & Worthen, 2021;Bao, 2020). Classroom teachers were faced with the dilemma of how to attend a professional learning community (PLC) virtually while trying to (a) examine student work to monitor progress and determine levels of learning and understanding; (b) tailor instruction based on what was learned from examining student work; and (c) satisfy building level reading goals and building capacity to meet the Common Core State Standards (Tucker & Quintero-Ares, 2021). Through PLC meetings, many veteran teachers served as virtual mentors for colleagues and new teachers, leveraging and utilizing technology to increase professional expertise sharing, such as by streaming research-based literacy strategies offered by expert teachers (Rapanta et al., 2020).

A common characteristic of a PLC is the inclusion of long-term, in-depth teacher professional development and training that must be supported by research (Hutchison & Woodward, 2018). In some cases, teachers were provided specific materials and instructional procedures at schools, and in others, they were encouraged to take literacy courses to study examples of research-based instructional practices they could integrate into their daily routines (Gedro et al., 2020). In all cases, professional development training was designed to increase teacher knowledge and competency with respect to literacy instruction. Professional teaching communities (DuFour & Mattos, 2013) at schools offered a development opportunity that ensured collaboration focused on student learning.

DuFour & DuFour (2012) said that the PLC concept is based on the premise that school improvement is directly related to professional development training efforts that increase teacher capacity(Council of Great City Schools, 2020).

High-quality university literacy programs should begin with strong, research-based strategies for teaching that can strengthen teachers' knowledge base and skills and in turn ensure increases in their students' achievement (Sassone &Lambert, 2020).Auniversity's literacy methods course should support ongoing and embedded teacher professional learning and build capacity for meaningful use of research-based strategies that are already part of a teacher's repertoire(Berry, 2020).The literacy methods course should employ highly effective research-based instructional strategies so teachers can ensure they are well trained and offering the highest quality of instruction to every P–12 student. High-quality university literacy programs can enhance and strengthen a PLC and extend teacher inquiry in meaningful ways (Soland, 2020).

***The Research***

A review of the literature indicated that the development of PLCs enhances learning outcomes for P–12 students (Owen, 2014).Teachers who have participated in PLCs to enhance communication and collaboration around shared norms and values have shown increases in student achievement. Findings also indicate that when experienced teachers have opportunities for collaborative inquiry, a larger body of knowledge is developed and applied *(*Will, 2020).Research suggests that teaching practice or student achievement changes due to teachers' participation in a learning community, and the entire PLC can enhance a teacher's sense of efficacy. DuFour and Mattos (2013) recommended that educators continually reflect and critically examine the results of their efforts in terms of student achievement. In general, the research suggested that successful collaborative efforts include strategies that encourage sharing, reflecting, and taking the risks necessary to change the practice (Bailey & Schurz, 2020).

In order for teachers to adequately prepare students, they must be involved in a continuous learning process that includes efforts to secure more collaboration time for teachers and opportunities for them to work in teams (Lake & Worthen, 2021). To meet expectations of educators, educator preparation programs must find effective ways to develop and share expertise through investigating teaching problems and collectively generating new ideas for practice (Vescio et al., 2008). Across the reviewed studies, researchers reported a positive impact on teaching practice as a result of participation in collaborative activities. Successful teacher education programs not only engage teachers in developing their knowledge of practices but also provide opportunities to practice and reflect on teaching their students *(*Hughes &Braun, 2019).

Teacher preparation programs must provide practicing teachers with quality programs that are inclusive of both the knowledge and skill needed for delivering engaging and impactful literacy instruction (Castles et al., 2018).Although research on teachers' knowledge and skills have moved the field toward a better understanding, a great deal uncertainty on how to transfer this research into practice still exists (Lacina & Block, 2011).Few systematic empirical studies have been conducted to determine how a PLC can impact candidates' knowledge and practice through a literacy methods course offered through a virtual learning classroom during the COVID-19 pandemic (Kurtz, 2020). Thus, this study examined the impact of a PLC and research-based teaching practices on candidates' knowledge and practice.The candidates in this study were enrolled in a literacy methods class during the spring of 2020, experienced virtual learning that entire semester, and therefore offered valuable insight and knowledge into school PLCs (Means & Neisler, 2021).

***Online Literacy Assessment Course***

The graduate literacy assessment methods course is designed to enable candidates and reading specialists to (a) implement a variety of technology-based assessment tools and strategies;(b)facilitate learning;(c) provide appropriate instruction;(d) make all learners aware of their own strength and needs as readers, writers, listeners, and speakers;and (e) enhance candidates' expertise in literacy assessment. Emphasis is on ways to collaborate with other teachers in classrooms to bring about educational reform and improvements in teaching and literacy instruction. The literacy assessment methods course included in this study was offered by a Midwestern university's Department of Early Childhood and Elementary Education program. The purpose of the class is to help candidates (a) understand types of assessments and their purposes, strengths, and limitations and be able to select, develop, administer, and interpret assessments, including performance assessments—both traditional print and online, for specific purposes; (b) communicate assessment results and implications to a variety of audiences; (c) incorporate technology to keep systematic and appropriate records to document observations and assessments of all students, including those at different developmental stages; (d) use assessments to plan effective instruction that helps elementary, middle, and secondary students meet the Common Core Standards in the areas of speaking, listening, reading, writing; and

(e) demonstrate knowledge of the role of reading specialists and literacy coaches in literacy assessment. The course was designed to provide candidates with approaches and techniques that research and practice indicate are successful. The basic premise of this course was to allow candidates to implement a variety of research-based literacy strategies for building the literacy skills of P–12 students.

Another purpose was to discuss the core principles of the PLC, which are designed to improve P–12 student performance and change school culture (Gwinn & Watts-Taffe, 2017). Using vignettes from the public schools, the instructor provided valuable insights about how to nurture more learning-focused PLCs to enhance candidates' professional growth and ultimately P–12 student learning (Gwinn &Watts-Taffe, 2017). The candidates in the class were required to share and reflect on their practice and personal experiences and study and apply research and best practices to improve their students' learning (Lai et al., 2014). The instructor discussed how the data should be displayed for all to see and analyze within the PLC team and how to make the data public within the school setting (D'Ardenne et al. 2013).

Furthermore, STAR assessments' computer-adaptive tests, designed to give educators accurate, reliable, and valid data, were interpreted so that candidates could make good decisions about instruction and intervention. The instructor discussed the Response to Intervention (RTI) model and demonstrated how to measure students' skills and how to use these data to decide which interventions to use. The candidates were required to review student data, reflect on their practice, and discuss their plan to further improve their student achievement.

Millions of students across the United States were affected by the pandemic caused by COVID-19 (Rhea, 2020; Efuribe et al., 2020; Sahu, 2020; Viner et al., 2020). The shift to a different instruction modality happened quickly as the volume of COVID-19 cases began to escalate across the United Statesduringthe February to mid-March 2020 timeframe (Centers for Disease Control, 2020; Schuchat, 2020). The midwestern universityadaptedswiftly to remote modes of teaching and learning for candidates, with the primary goal of keeping everyonesafe(Murphy et al., 2020).The methods course was offered in the spring of 2020 for 3 credit hours. The CANVAS learning system allowed the instructor to supplycandidates with resources, share content, assign literacy assessment-related projects, communicate changes in courses, allow collaborations in the course, monitor student progress, facilitate discussions among candidates, and post grades (Chaw & Tang, 2018; Lim, 2020; Mansfield, 2019).

A typical class week included the candidates downloading text-based lecture notes (e.g., PowerPoint, Google document, Word), reading a chapter in the textbook to correspond with the lecture notes, and responding on a discussion board at the end of the week. All course contents were available for candidates in an asynchronous format and organized by CANVAS module tools. Web conferencing lectures were structured to mirror a face-to-face classroom. The interactive nature of the Zoom instructional tools provided a real-time virtual classroom using two-way audio, a webcam, breakout rooms, a chat window, and application sharing.

***The Professional Learning Community and Collaboration***

A PLC is an organizational structure by design that discusses and monitors the school's curriculum, instructional design, and assessment practices to ensure teacher effectiveness and, most importantly, P–12 student learning. The teachers meet regularly, share expertise, and work collaboratively to improve teaching skills and the academic performance of P–12 students. The PLC requires the utilization of data from assessments and an examination of professional practice; members of the PLC committee and administrators systematically monitor and adjust curriculum, instruction, and assessment to ensure the goal of graduating all students as college and/or career ready(DuFour & Mattos, 2013).

The COVID-19 pandemic resulted in a dramatic shift to online learning for public school teachers and students. In addition to rapidly building capacity to teach and to learn online, the teachers met via Zoom to brainstorm ideas, discuss teaching practices, and problem-solve situations (Gerken et al., 2016). As public schools transitioned to virtual PLC meetings due to the pandemic, the meetings were held in a real-time virtual environment using a synchronous learning mode, Zoom, in which candidates were able to interact with other teachers and their administrators. The PLCs united individuals around topics of interest and inquiry and supplied colleagues with technology integration so the members could enhance their collaborative opportunities.

Based on experiences with PLC meetings and the adequate yearly progress (AYP) and annual measurable objective (AMO) criteria, the literacy assessment methods course permitted candidates to discuss how candidates work collaboratively in a PLC to review classroom data and utilize that data to make informed instructional decisions. In addition, the candidates demonstrated the benefit of using a 120-day plan aligned with the school's comprehensive school improvement plan (CSIP) goals for the greatest impact on P–12 student achievement. The Zoom technology tools allowed the instructor to move from simply learning online teaching tools to engaging in meaningful discussions

around online teaching pedagogy and to improving candidate learning. The candidates shared their students' progress during the monthly PLC held at their school and discussed the importance of altering classroom literacy instruction to meet the needs of the students not mastering standards. The candidates discussed via a breakout room how participating in PLCs improved literacy instruction in all classrooms at their school. Furthermore, the candidates discussed how the PLC allowed them to analyze data and collaborate to determine which high-yield literacy strategies best meet the needs of struggling students.

Through a CANVAS discussion board, the candidates shared the importance of having critical conversations during the PLCs and included a discussion of how their PLC teams look at individual student data and develop literacy action plans to address underperformance. The candidates stressed the importance of also celebrating student progress as they move toward their goals. They shared how they use PLCs to evaluate their literacy instruction and to define next steps. In addition, they discussed the benefit of sharing literacy instructional strategies during the PLC process as well. Furthermore, they discussed specific literacy instructional strategy that has been effective with their students, including the benefit of having literacy-related specific PLCs to make informed decisions that improve literacy instruction, increase P–12 student achievement, and reduce novice performance.

The Jamboard app(https://apps.apple.com/us/app/jamboard/id1143591418) was used toenable visual collaboration and support synchronous and asynchronous learning. The Jamboard offered all the benefits of an in-person brainstorming session when course colleagues were working remotely. Through Jamboard, the candidates sought relevant data and information and used that information to promote continuous improvement. The instructor ensured that the collaborative teams met on a regular basis to work interdependently to clarify what P–12 students must learn; gather evidence of student learning; analyze the evidence; identify most effective instructional practices/strategies; develop the capacity of all team members; and work to achieve their goals. The candidates shared their information with the literacy assessment methods class through Zoom sessions and discussed how they would be better able to align their daily work and professional development needs with the specific needs of P–12 students. Through this process of collaborative inquiry, the candidates gained a deeper knowledge of their students, pedagogy, and content.

***Method***

The approach of this study was both qualitative and quantitative in nature. Quantitative research was used to learn about data that were observed or measured to examine questions about the sample population. Quantitative research derived answers to questions about the frequency of a phenomenon or the magnitude to which the phenomenon affected the sample population (Creswell, 2013). Data for this study were collected throughout the spring 2020 academic term. This study also employed a qualitative approach to identify relationships between variables (Crossman, 2019). Qualitative data were generated through the use of open questions or comments. The instructor used caution to ensure that personal bias did not influence the data in ways that significantly changed the interpretation of the findings.

The study included eight graduate candidates who were enrolled in the course during the spring of 2020. The ages of the candidates ranged from 25 to 40 years old. All were White female classroom teachers. Of the eight teachers, 75% had taught for 3 years or less, and 25% had over 5 years of teaching experience. The instructor/researcher used course evaluations to assess important impacts of the course contents. Several questions asked candidates about the effectiveness of the course content and whether the course had the greatest impact on their overall achievement (Garner et al., 2013).The candidates responded anonymously to the course evaluation and were informed that their responses would not affect their course grade. The course evaluation responses were gathered electronically, and the results were calculated by the instructor of the course. The purpose of the course evaluation was to learn what was important to the candidates as well as to gather meaningful opinions and feedback. The feedback was the baseline to measure and establish a benchmark from which to determine results of the study. The course evaluation provided a snapshot of attitudes and behaviors—including thoughts and opinions of the candidates (Garner et al., 2013).

Data for this study included candidates' exit reflections on their teaching and learning and on the group discussions that took place on CANVAS. The purpose of the reflections was to assess the impact of the class and the progress and needs of the candidates. The discussion board comments were used to assess the academic and professional expertise of the candidates. The multimedia Jamboard computer app was used to share graduate students' reflections. The Jamboard allowed candidates to create interactive bulletin boards wherein other teachers joined in and discussed, shared, and responded to a formative assessment. The reflections, Jamboard responses, and discussion board responses were evaluated based on whether a candidate presented ideas that reflected integration of course contents and the candidate's pedagogical expertise.

***Results and Discussions***

This study examined the impact of a PLC and research-based teaching practices on candidates' knowledge and practice. Because of the transition to a virtual learning classroom during the COVID-19 pandemic (Murphy et al., 2020), a Midwestern university offered a literacy methods class using a synchronous learning mode wherein candidates were able to interact with their classmates and their instructor. The asynchronous CANVAS learning system was used to post lectures, course information, assignments, and grades. This methods class was designed to makeliteracy coach and reading specialist candidates experts in assessing literacy difficulties of P–12 students. The candidates were required to interpret the assessment results of their P–12 students and determine strategies appropriate to increase their student achievement. In addition, it was essential that candidates share pedagogical knowledge and instructional practices through job-embedded learning using Zoom.

Based on course evaluations, 87.5% of candidates felt that **c**ollaboration between candidates and instructor was effective in analyzing the impact of professional practice. Seventy-five percent of candidates said that they received relevant and timely information on their effectiveness in achieving intended results. Seventy-five percent of candidates said that they received research-based methods of teaching and learning, evaluated the methods with their students, and then reflected on the results.

One candidate wrote about how she learned from the others and created momentum that drove improvement. The reflective dialogue led to extensive and continuing conversations about curriculum, instruction, and student development:

I feel like engaging in this classhasincreased my knowledge, refined my teaching, andenhanced student learning. During our class meetings via Zoom,when we identify needs ofour students, then we are able to ask for others to share their professional knowledgewith us to grow as teachers to help enhance our student learning.

Another candidate wrote about how she implements research-based strategies in ways that encourage sharing, reflecting, and taking risks necessary to change:

One reason I believe that this class is so effective is because this is so small and intimate. With only eight teachers and the instructor in attendance via Zoom, we can problem solve as a team to decide what would work best for each individual candidate and get immediate feedback from the instructor. We work hard to not only focus on students' reading and writing skills, but approach each child more holistically using research-based strategies.

Further, a candidate described how she developed shared knowledge and made decisions based on research and evidence—not opinion:

Within this literacy assessment class, my teaching practice is changed and enhanced through shared ideas and learning from my colleagues. In this class, we look at shared assessment data and identify students who didn't grasp the concept. Once we identify struggling students, we discuss how we taught and devise a plan forereaching for those students using research-based practice.

Although candidates consistently indicated they were not prepared to teach remotely during the pandemic and that a significant percentage of their students did not even log in to complete assignments (DeWitt, 2020; Herold & Yettick, 2020), 100% of candidates wrote that through working together in the methods course they turned their learning and insights into action. The candidates felt that participation in this methods course facilitated professional development that was driven by the needs of the candidates, who were mutually engaged in efforts to accomplish their goals (Bates et al., 2016).

***Candidates' Performance through Discussion Board***

All candidates demonstrated learning from the PLC, as evidenced by specific examples they provided of changing their teaching practices as a result of learning from others through the PLC process (Owen, 2014). Based on discussion board evaluations, 100% of candidates described what happened when schools acted collectively on behalf of increased literacy learning for P–12 students. Seventy-five percent of candidates discussed shared responsibility for the total development of students, a practice that created powerful literacy learning and defined good teaching and classroom practice. One hundred percent of the candidates supported the idea that participation in a learning community led to changes in teaching practice. Eighty-seven point five percent of candidates supported the idea that student literacy learning increased when they participated in a PLC. Seventy-five percent of candidates supported the idea that actively engaging teachers in PLCs increased their professional knowledge and enhanced P–12 student learning (Hannaford,

2010).One hundred percent of candidates discussed measurable improvement in student achievement that occurred in PLCs because it focused on changing the instructional practices of their teachers.

As one candidate specified in regard to the sense of accomplishments and how the methods class improve teaching and learning:

Our school PLC meetings are a collaborative focus group which works together to improve the education of all students. During our PLC meetings, we all work together to discuss all of our students' current progress and their current needs. This year, we discussed many new strategies to meet the current needs of both our in-person and virtual students. We discussed the positive and negative aspects of our current strategies. Our goal is to become even better educators for our students. We received feedback and suggestions from [the] course instructor to aid us in the teaching process during this global pandemic.

The instructor built the capacity of candidates by providing them with training, support, and resources that led to success(Evans, 2012).The candidates used school-wide RTI assessment data to monitor instructional effectiveness and make instructional adjustments (Buamann et al., 2013;Scott et al., 2012).The instructor focused on P–12 student learning and assessment issues that have been impacted by the coronavirus pandemic and shared how to make adequate decisions that would benefit all students equitably (DeWitt, 2020; Herold & Yettick, 2020).

A candidate described classroom assessment, teaching and learning, and measurement and interpretation of student growth—all of which have been affected by the sudden switch of schools to online instruction:
Our PLC meetings are usually 45 minutes long and held during each grade-level planning period. Unfortunately, due to this year's restrictions due to COVID-19, not all grade-level teachers have the same planning period this year. So many of our meetings are after school. During our virtual meetings, we analyze and plan our instruction based on the formative data received from progress reports. Most of the data is from our RTI assessments. We use this information to drive our instruction. Teachers, administrators, reading specialists, RTI teachers, and special education teachers all collaborate to address the student's needs. PLC meetings are imperative for student success. Our meetings in literacy assessment methods class are successful at increasing student performance and knowledge due to the collaboration taking place.

Another candidate described a vocabulary-focused instructional strategy designed to better equip participants as they plan and deliver comprehensive vocabulary instruction. She was committed to increasing student proficiency related to vocabulary through experimentation with research-based approaches in the classroom and a focus on student learning (Watts-Taffe etal., 2011; Baumann et al., 2013):

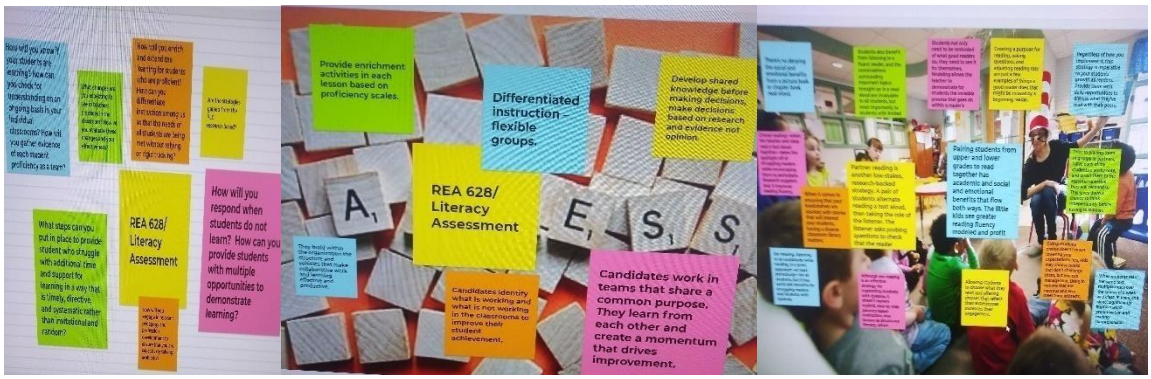
I had a student who was struggling to read and comprehend the scientific articles I assign virtually each week. I was not sure what I could do to help this student. At one of my PLC meetings, I asked my team what they thought I could do to help this struggling student. My team suggested many great ideas. One suggested a Google Chrome extension called Read Aloud. Another strategy to help this student was to focus on vocabulary words. I began creating a vocabulary list of new words to assess the student's comprehension and started giving unit vocabulary quizzes based on specific groups of word families. This helped the student build confidence in reading the articles and recognizing these vocabulary words. The student's comprehension is improving with the readings each week! I am grateful to have the support and knowledge of other educators in the literacy assessment methods class to help me grow as an educator.

The instructor met with candidates via Zoom on a regular basis to review student data, review results, listen to the candidate's plans for improvement, provide support where necessary for successful implementation of instructional strategies**,** discuss the change in instructional practices, and demonstrate research-based differentiated instructions aligned with essential outcomes (Betebenner & Van Iwaarden, 2020).The candidates were provided with many opportunities for input through the development of essential outcomes, measurable goals, formative and summative assessments, student data, development and implementation of research-based differentiated instructions,and more(Matzat, 2013).

***Candidates' Performance through Jamboard***

The Jamboard made learning visible and accessible to all collaborators during the class sessions. The candidates discussed how the highest quality of research-based instruction was implemented. In addition, they described how instruction was monitored and adjusted using a regular cycle of data analysis by each PLC team (Castelo, 2020). Furthermore, the candidates discussed how they (a) developed and utilized frequent common formative assessments, (b) provided a system of intervention and enrichment, and (c) utilized data to adjust and modify instruction to meet the needs of all students (Owen, 2014). The candidates shared their information with the literacy assessment methods class to seek new methods of research-based instructional strategies and learning, assess the methods, and reflect on the

results as they professionally worked together. Eighty-seven point five percent of the candidates recognized the importance of engagement and experience in learning and testing new ideas. One hundred percent of the candidates reviewed student data and reflected on their practice and their plan to further improve student achievement (Vescio et al., 2008).The Jamboard pictures below illustrate how the candidates coordinated common assessments and research-based strategies with colleagues.




**Exit Reflections**

At the end of the semester, the candidates were asked to reflect on the new challenges they facedin the spring of 2020 as schools closed and education transitioned to a home environment from March 2020 through the end of the school year. This transition brought many changes as candidates grappled with how to continue to instruct students, help them practice what they were learning, and assess what they may have learned at home (Richards et al., 2020). Based on evaluations, candidates' approaches to PLC and assessment were varied, as was the level of participation in the instruction, practice, and assessment by different students (Hamilton et al., 2020). The candidates reported that the amount of time that students spent learning seemed to be much less than it would have been if students had been physically present in school buildings (Hamilton et al., 2020). Some have indicated that a significant percentage of their students did not even log in to complete assignments and did not access any materials provided to them (Goldstein et al., 2020).Additional evidence indicated that many students lacked the means to access online materials from home even when candidates made themselves and their instructional materials available online (Education Trust, 2020b).

The methods course allowed candidates to move from simply learning online to engaging in meaningful discussions about online teaching pedagogy; improving student learning; examining various sources of data about improvements in student learning; co-assessing student work and debating its quality; and learning from each other and adopting new innovative practices with ongoing support within their teams. One candidate discussed the wide-sweeping changes that COVID-19 brought to education and its potential impact on student learning.

This year has been difficult to measure improvement due to the impact of COVID19 on school districts across the board. Student performance has declined, and it has been difficult to measure due to the nature of switching between different learning platforms. A student who is underperforming in several areas may need to be retained. Those are difficult conversations to have, but they are often necessary, especially this year due to the learning loss that COVID shutdowns have caused. Having a student referral to special education should only happen after all other research-based interventions have been implemented. This methods class allowed me to share my instructional practices and engage in critical conversations about my own and each other's teaching, thus establishing a culture of continuous improvement. I believe teaching is a collaborative rather than an individual endeavor. The instructor consults resources such as research reports in order to increase our knowledge and helps to align best practice with current standards.

The methods course helped the candidates to focus on the areas of technology integration and online teaching practices during the online transition. Despite the multitude of challenges candidates faced due to COVID-19 pandemic, the course strengthened candidates' knowledgebase because they came together to inquire, collaborate, and find effective solutions for their students. The candidates exhibited increased knowledge of effective practice related to research-based instruction and placed greater attention on assessment, which offered them insights into student learning. Further, they shared ideas with colleagues, both within and outside of the PLC as they assumed literacy leadership roles. Seven out of the eight graduate students achieved an outstanding performance score on the exit reflection rating scale for criteria related to the learning outcome.

### *Conclusions and Limitations*

This study examined the impact of a PLC and research-based teaching practices on candidates' knowledge and practice. The results of the study suggested that the course discussions, activities, and assignments about PLCs were effective in building skills and knowledge of candidates. The results of a previous study postulated that high-level educational outcomes for P–12 students are being increasingly linked with quality teachers (Owen, 2014), and a need exists for ongoing professional learning to ensure that teaching practices are updated (Matzat, 2013).

Eighty seven point five percent of candidates reported that having collective responsibility for P–12 student learning, attending to school teaching/learning challenges, and having mutual respect and support for colleagues were helpful in meeting the current needs of the P–12 students. In the literacy assessment course described herein, the candidates take an inquiry stance, make teaching more inspiring, share experiences and expertise, experiment with research-based strategies, and engage in reflective dialogue as the class members and instructor discuss the potential impacts of COVID-19 in terms of assessment, instruction, and practice using data from several resources to prevent a deficit in learning (Castelo, 2020; Hammond, 2020; Tornay, 2020).

The generalizability of the results of this study is limited due to the small number of participants. Replicating this study on a larger scale using numerous PLCs throughout the nation will render results with increased generalizability. Future research findings will advance theoretical understanding on how to implement an online course to build teacher capacity so they can work as members of high-performing, collaborative teams that focus on improving P–12 student learning.

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