

The Impact of Digital Literacy Workshops on Pre-service Teachers

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This study explored the competencies that pre-service teachers had for working with parents of school aged children. The experience that new teachers have in working with parents prior to their first teaching job is often limited by the opportunities they have in their teacher preparation programs. The access to parents during teacher training is often a challenge and thus new teachers may enter their first jobs without adequate skill and experience in this realm. In our study, fourteen pre-service teachers taught a series of digital literacies workshops to parents with children within the Smith School District. All pre-service teachers participated in a focus group interview following their participation in the Digital Literacy Workshop to explore what impact the experience had on their perceived ability to effectively work with parents. Findings demonstrate a low initial perceived competence for working with parents. Participants gained a greater appreciation for the challenges that parents face and also achieved enhanced comfort and relationship skills in working with the parents through their experience in the workshops.

Keywords: competence, parent-teacher relationships, parents, pre-service teachers, transformative learning

Many urban communities struggle with the use and navigation of some of the most fundamental technology required to be digitally literate citizens in today's world (Van Deursen & Van Dijk, 2019). Skills that most people take for granted, such as the ability to access learning resources, successfully communicate through email, and be a safe technology consumer, are skills needed to learn, communicate, and be successful in a world that has become increasingly dependent on technology. Unfortunately, the digital divide is still a persistent problem in many communities in the United States and this has considerable negative impact for teachers who try to work with parents who lack technology tools or skills. The impact of the digital divide has become even more apparent as the COVID-19 pandemic forced people to rely on technology in ways that had never before been required. Virtually every aspect of an individual's life has been influenced by technology, from communications, employment, childcare, and even health care. In fact, a recent study by Ramsetty and Adams (2020) they note that "despite advancements, we will continue to increase disparities in healthcare access and outcomes, often to the detriment of those who are most vulnerable in times of crises" (p. 1148). Thus, it is imperative to continue to explore ways to expand digital literacy skills to all citizens.

Ways to support and build digital literacy often begins with providing access to the technology tools, however, even with the tools in place, the user must also learn how to utilize these tools for their own betterment. One fruitful avenue to building digital literacy skills is to target parents who have school aged children attending public schools. Targeting this population has the potential to leverage a dual need of these parents, namely learning technology skills to support oneself and one's child. Some efforts have explored this avenue and a recent United States Department of Education (2020) effort piloted a "Digital Learning Guide" aimed to "help families and educators meet the specific needs of individual students, understand a child's

progress, and connect families and students with resources in their school community and beyond” (para 3). There has been research to suggest that families from low-income backgrounds frequently learn digital literacy skills with their children, suggesting efforts to connect parents with opportunities to learn technology skills may be an effective avenue to reach this population (Rideout & Katz, 2016). As the COVID-19 pandemic forced all children to utilize online learning, parents are becoming increasingly aware of the value of technology skills in one’s educational experiences. Unfortunately, research has also shown that teachers often lack the communication skills and technological competence for supporting these parents (Ziden et al., 2020).

One logical partnership to support parental acquisition of digital literacy skills may be through schools. Schools are housed with expert teachers who play an important role in reaching out to support parents in areas of teaching and learning, thus this might also serve as a connection to support technology skill acquisition. Some research exists which shows that school and family/community partnerships can be important ways to support enrichment opportunities as well as support other areas such as health services, family support, and social services (Blank et al., 2012; Statti & Torres, 2020). One barrier for this connection is the fact that many teachers are not specifically trained in digital literacy skills, rather they learn on their own as new tools become available to them. This may be more pronounced with veteran teachers who have more experience with pedagogy, but often have less training in current instructional technologies (Ertmer & Ottenbreit-Leftwich, 2010). There is also evidence of a diminished emphasis in teacher preparation programs on technology skills as programs often focus heavily on areas such as literacy and math instruction (Bostock & Boon, 2012; Krueger et al., 2000). In addition,

teachers often lack the training and skill in how to support parents, particularly when it comes to technological skill (Lang, et al., 2020; Ziden, et al., 2020)

One additional barrier for successful partnerships with parents can be attributed to the lack of teacher experience in working directly with parents, especially for novice teachers. Although teachers can be direct connections with parents, many new teachers who may be more technology savvy, often struggle with parent relationships as they typically do not have much experience in their pre-service programs (Symeou et al., 2012). In fact, studies have shown that few teacher preparation programs adequately prepare teachers to develop knowledge, dispositions, and communications skills to engage parents (Gisewhite et al., 2019; Walker & Dotger, 2012). Thus, while teachers may be key mediators in supporting parents, additional training is needed for them to leverage their critical positions.

The current effort aimed to train and equip pre-service teachers with both digital literacy expertise and effective communication tools to support a digital literacy initiative. Our work is a collaborative program between the local school district, a Kings University's School of Education and School of Communication to provide digital literacy training to the parents of children in this district. Pre-service teachers were trained in digital literacy skills and tools as well as in ways to effectively work with parents. They then delivered a 6-week series of workshops in digital literacy to cohorts of parents. This study specifically focused on the effectiveness of this program to support and build parental competence in a cohort of pre-service teachers. Our research question is: What impact did teaching digital literacy workshops to K-12 parents have on the perceived competence of pre-service teachers?

Literature Review

The Digital Divide

The digital divide is defined by the gap that occurs between groups that have sufficient access and skill with technological tools and those that do not. Unfortunately, much of the research on this divide demonstrates that this gap parallels what is often seen with achievement gaps (Selwyn, 2004). Those with lesser access and skill tend to be on the lower end of the socioeconomic ladder (Van Dijk & Hacker, 2003). Thus, the gap in skill and knowledge then hampers efforts in education, job attainment, and even social services (Statti & Torres, 2020). Perhaps the most disturbing trend is that despite the increased awareness, this gap has been occurring for decades and very little traction has been made to lessen the impact (Mihelj et al., 2019).

Efforts to bridge the digital divide began in earnest in the late 1990s as various forms of computer technology began to become more commonplace in K-12 schools (Van Dijk, 2006). As research continued in the early 2000s, it became apparent that there was a wide gap between students' access and use of digital tools. The connection to academic performance has been harder to measure. One problem has been that there is a relationship between low socioeconomic status and access to technology. Thus, if students with poorer socioeconomic background perform lower on assessments, it has been difficult to understand if this is caused by socioeconomic status, lack of technology access, or a combination of these two (Sun & Metros, 2011). Studies that have been able to examine the relationship between these factors have determined that regardless of socioeconomic status, those with lower access to digital tools do have a decreased performance in academic achievement (Vigdor et al., 2014). The ability to furnish all learners with adequate and equitable access to digital tools is one way to attempt to

level the playing field. As Warschauer and Matuchniak (2010) note “Though technology-related access, use and outcomes are difficult to measure, all available evidence suggests they are critically important factors in shaping social futures” (p. 219).

Teacher Expertise in Digital Literacy

Teacher education programs have been challenged with increasing the digital skills of all teachers. They have been aided by the standards movement which have added specific standards that relate to teacher knowledge. Perhaps the best example has been the adoption of the International Society of Technology in Education (ISTE) standards which has a set of guidelines for student and teacher technology use (ISTE, 2021). While these standards are not new, the increased use of technology in schools has led schools to use these guides to ensure a level of digital expertise. Colleges that train teachers have used these standards to build curricula and other coursework to support their students. Colleges that have targeted increased instruction on technology tools have reported increased fluency, acceptance, and application of digital skills (Collier et al. 2004; Sun et al, 2017).

A second factor in teacher training has been the increased emphasis placed on Technological Pedagogical Content Knowledge (TPACK) which emphasizes integration of technology. Those teachers with high TPACK skill are able to seamlessly integrate technology into curriculum to advance learning outcomes. There is a strong body of literature that supports the value of TPACK as a key factor in successful technology integration (Mishra, 2019). Research illustrates that a teachers TPACK significantly impacts a teacher’s self-efficacy and increased use of technology (Joo et al., 2018). These factors can lead to more impactful use of technology in a teacher’s classroom. One persistent challenge has been that as technology advances at a lightning pace, it is impossible to keep teachers aware of the new technology

unless local school districts provide them with the relevant professional development.

Unfortunately, it is becoming increasingly common that students enter the classroom with more technological skills than the teacher (Lynch, 2017).

Teacher Preparation for Successful Communication with Parents

Historically speaking, teacher preparation programs have limited time to devote to supporting skills in working with parents, however, recent changes have led to an increased focus as colleges have recognized the value of this training (Epstein & Sander, 2006). The prevailing logic is that the training of new teachers should focus primarily on strategies that teachers can implement to be successful in advancing learning for one's students, as that is ultimately what teachers have the most control over. Thus, in preservice teacher preparation programs, the majority of courses focus on curriculum, pedagogy, and factors that influence successful learning. Epstein and Sander's (2006) reported that almost 60% of teacher preparation programs offer some type of family engagement course with 92% of preservice teachers surveyed reporting that family engagement was covered briefly in at least a few classes. Unfortunately, even with an increased focus, these programs have not dedicated enough time on developing the skills needed to help teachers build relationships with parents. Regrettably, a wealth of research has demonstrated that a lack of time devoted to understanding parent relationships is linked to some of the deficit perceptions that teachers commonly have about parental roles in education (Bakker et al. 2007; Brown, et al., 2014; Epstein et al., 2002; Yazdani, 2020).

One consideration for the gap in preparation is that teacher preparation programs tend to have less access to parents in comparison to the types of experiences and access that in-service teachers have, and this may lead to some teacher training programs' overreliance on later teacher

experiences (Amatea et al., 2013). This leaves many new teachers with the belief that they lack adequate preparation for working with families which is particularly problematic given the increasingly diverse demographics of parents (Baum & Swick, 2008; Public Education Network, 2003). The long-term impact of a lack of training is that teachers may feel unprepared for interactions with parents which leaves them unable to effectively communicate with them (Loughran, 2008, Minke et al., 2014, Visković, & Višnjić, 2017). Although teacher preparation programs are adding curricula and building resources to better support new teachers, a lack of adequate preparation still exists and thus many efforts have shifted focus on strategies that reach in-service teachers (Smith & Sheridan, 2019; Weiss et al., 2010).

There are a number of studies that have demonstrated that when teachers are effectively trained in working with parents, positive outcomes are possible. Hoover-Dempsey et al. (2002) conducted a study with in-service teachers in two schools with high-risk student populations and found that teacher training was powerful enough to increase the teachers' self-efficacy and modified their beliefs regarding parents' efficacy for helping their children learn. Brown and colleagues (2009) conducted a case study where they investigated the impact of a federally funded professional development effort to build parental engagement. They found that teacher beliefs and practices changed as they gained skill in ways to promote effective parental engagement and relationships. Other studies have demonstrated that deficits in teacher preparation for working with parents can be overcome through targeted professional development programs (Epstein, 2018).

A more recent route to supporting teacher skill in working with parents have been tested through the use of partnerships between schools and key stakeholders and groups with school communities. Research supports those partnerships developed between school and home are

essential for school improvement and in building effective communication between parents and families. According to Epstein et al. (2019), programs that are designed to support partnerships that focus on “family and community engagement activities help improve student attendance, achievement, behavior and other indicators of success in school” (p. 2). However, many schools and teachers do not know how to build these partnerships successfully, and this is especially true for new teachers that are uncomfortable communicating with parents.

The goal of building strong relationships and partnerships between school and home is to support the success of students, ideally a shared goal in this partnership. Specifically, students that experience these family and school relationships are more likely to “feel secure and cared for, build positive attitudes and school behaviors, work to achieve their full potential, and stay in school” (Epstein et al., 2019, p. 15). However, many preservice and inservice teachers lack the appropriate training to be fully educated on the importance of fostering family and community engagement, including why and how to create these partnerships successfully.

Efforts to build and support teacher skill in effectively working with parents is likely going to need to start with changes in teacher training programs. Additional effort is needed to provide new teachers with the knowledge on ways to communicate and build relationships, but also provide opportunities to practice and hone these skills. While research illustrates that professional development and school partnerships can lead to positive outcomes in a teacher’s self-efficacy and skill for working with parents, it is unethical to not provide more of this training in teacher preparation programs as the primary way to build these skills in new teachers.

Transformative Learning

There are many different models that have been proposed for equipping teachers with a strong foundation for parental relationships (Epstein et al., 2002). Several have explored the

application of Jack Mezirow's transformational learning theory (1997). Transformational learning theory often applies to adult learning and it posits that learners evaluate their previous understandings as they shift their worldview as they acquire new knowledge (Merriam et al., 2007). This framework is consistent with the types of experiences that new teachers face during their teacher training programs. These students often begin with their only perceptions of teaching and learning through their own experiences in schooling. While these experiences set a foundation, it is through one's teacher preparation program where students learn how the social, political, and cultural factors influence the profession (Caudle & Moran, 2012). This can be jarring to students as they soon realize that teaching children involves much more than simply finding the best curriculum or practices to facilitate learning.

As new teachers begin their teaching careers, schools and districts offer professional development to strengthen a variety of areas ranging from new curriculum, technology and working with parents and communities. These professional learning experiences have the power to support the acquisition of knowledge and skill, but also serve as opportunities to support transformational learning (Fraser, et al., 2007). Well-designed professional development can shift belief systems and offer a teacher time for reflection on their own worldviews. Visković and Višnjić (2017) explain that a "one-time professional training experience can lead to attitudes that encourage change in highly motivated professionals, but only continuous training leads to professional development" (2017, p. 1572). This does not mean that brief professional development experience cannot lead to transformational learning, rather a more sustained experience can have a much longer and far-reaching benefit.

Studies that have explored transformational learning in pre-service teachers often rely on qualitative methods to study how the participants ideas or beliefs change over time. Carrington

and colleagues (2015) explored the impact of service learning and how these experiences led to transformations in the beliefs of preservice teachers. They employed the use of focus groups as the primary data source and used this data to better understand how transformational learning occurred in the participants. A study by Curran and Murray (2008), utilized transformational learning theory and applied it to an exploration of pre-service teachers' abilities to build competence for working with parents. In this mixed methods study, they focused heavily on the use of interviews and focus groups to better understand how an intervention focused on parents impacted and ultimately improved pre-service teachers' awareness of parental views and expectations. These and other studies (Smith & Sheridan, 2019) which utilize transformational theory as a theoretical framework to study change in teachers often use qualitative methodologies for data collection and analysis, thus our study borrowed these key features in our own exploration of transformative learning in our teachers.

Methodology

A partnership between a local metropolitan school community (Smith School District) and a private university (Kings University) located in the Southeastern United States was forged to provide digital literacy workshops to parents within this district. The Smith School District is located in a community that historically suffers from low access to technology as well as a shortfalls in digital literacy skills. Kings University has a reputation in the community for its work to support advancement in all technology related areas. This particular project was led by a group of faculty members in the education program within Kings University. Over the course of the summer, they designed workshops to promote digital literacy skills with parents in the Smith School District. The structure of the workshops was a six-week timeframe with one workshop presented each week. Each workshop lasted approximately two hours and was taught within one

of the Smith schools. To support efforts to improve access to technology, all parent participants received a laptop as a part of their participation in the workshops as well as access to hotspots that were supplied by a Verizon partnership.

The instructors of the program were recruited from the Kings University School of Education where we offered this opportunity to pre-service teachers within this program. We ensured that all pre-service teachers had taken the Digital Literacies in Education course at Kings University to ensure they had the technology expertise; however, we did not specify any specific experience level in classroom teaching. This allowed a wide range of pre-service teachers to participate. In sum, we had thirteen undergraduate pre-service teachers participate as well as one Master's level pre-service teacher. These students were trained by the Kings University faculty and a member of the School of Communication who directs a program that works with the local schools to support technology skills. Training specifically targeted a review of the technology skill as well as support for working with adults and parents.

This study presents the data collected from the pre-service teachers who participated in teaching the workshops. In total, fourteen pre-service teachers taught in the workshops, and all consented to be a part of our study. These participants were asked to participate in a two-hour focus group two weeks following completion of all the workshops. Two identical two-hour sessions were offered, and all participated in these sessions. The pre-service teachers were asked a series of questions which focused on two main areas, their perceptions regarding the parental experience and their perceptions as a teacher in these workshops. Sample questions included: a) How prepared do you feel you were to teach these workshops? b) How did this experience impact your perceived skill at working with parents? c) What difficulties did you encounter when

working with the parents in the workshops? The focus groups were audiotaped and transcribed in a word for word format.

The transcription was completed by interpreting the interview in a word-for-word basis; thus, the basic units of information were the spoken words. We began the coding process without an initial list of codes as we wanted the codes and themes to emerge from the data. As we read through the transcript, we created codes which represented ideas that were mentioned frequently. The coding of the data was performed with the assistance of the qualitative analysis software NVivo. This software was used as a tool to assist in the coding and sorting of the interview data. The software assists the user to identify “episodic units” found in the transcripts (Grant-Davie, 1992). Once we had a complete set of codes, these were reviewed to identify themes which appeared to be emerging through the data. The data was reviewed through repeated readings to identify the frequency, omission, and/or declaration of emergent themes (LeCompte, 2000). The analysis was assisted through the use of the taxonomic analytic method described by Spradley (1979). This process required reviewing the data and identifying relationships among the data. The use of taxonomic patterns as in Spradley’s semantic relationships provided a method to assist in the categorization of the data. The next step in the analysis was to use the taxonomic relationships to explicate the emergent patterns which was done through constant comparative analysis (Glaser & Strauss, 1967), where the data was compared with the themes as they began to emerge. This iterative process afforded a consistent review and categorization of the data (Miles et al., 2014). The frequency of themes was tabulated, and representative quotes were captured and presented in the findings.

Reliability and Validity

Issues related to reliability and validity are important to consider when conducting research. Creswell (2007) outlines eight strategies (prolonged engagement, triangulation using multiple data sources, peer review, negative case analysis, declaring researcher bias, member checking, rich thick description, and external audits) which can be utilized in qualitative research to increase both reliability and validity. He suggests the use of at least two of these strategies to build credibility and transparency in one's work. Our study utilized member checking as all transcripts and their initial coding framework were returned and shared with the participants in our study. Each participant received a copy of their transcript and related codes and were asked to make any changes or modifications required. This technique increases the reliability and validity of our data as our participants were able to validate our data. Peer review was conducted as we asked a colleague who was not involved in our work to review the transcripts, codes, and the emergent themes. There was consistency of the work we completed with the interpretation of our peer reviewer which strengthens the validity and reliability. Finally, in our narrative we have attempted to use rich thick descriptions of our data to allow the reader to have a full understanding of the collected data. The use of extensive quotes and attention to the voice of the participants provides a thick description of the participants expressed thoughts (Geertz, 1973) and thus also builds the validity and reliability of the data and findings.

Findings

Pre-service Teacher Initial Competence of Working with K-12 Parents

Our research question focused on the perceived comfort of the pre-service teacher's ability to effectively work with parents. One of the first questions asked during the interview examined what prior experience these teachers had working with parents. The consensus was

that they had little experience. All but one of the participants believed that they had no meaningful previous experience with parents. While several noted that they had informally talked with parents, they did not believe this had any impact on their work as a teacher. One student explained “I have discussed teaching with parents I babysit for, but I feel unprepared to deal with parents as an actual teacher.” Another student discussed that one of the reasons that she signed up to teach the workshops was to gain this skill. “Prior to teaching in the workshops, I knew that I had no real experience working with parents ... I felt that this would give me experience that would help me when I have my first job in a school next year.” In sum, only one student felt that they had acquired enough experience to effectively work with parents as they began their first teaching job.

One interview question asked the pre-service teachers to consider how their teacher preparation program supported their ability to work with parents. When asked what experiences they had in the program, they explained that there were only “hypothetical situations” that they encountered. One pre-service teacher explained, “we do some mock situations in our Critical Issues class, but this doesn’t really prepare me.” Another noted “parents have come up in our program, but we don’t have any opportunities to have actual interactions with them.” One participant shared the experience of her friend who graduated the year before. “Jen told me that she had to do a parent-teacher night during student teaching, and it was so stressful because I never talked to a parent before.” While only one student described any meaningful experience working with parents, not one described that they felt comfortable in working with them, nor did any describe specific experiences working with parents during their teacher training program. Overall, the initial baseline in experience and perceived competence to work with parents in an

education setting was low for this group of pre-service teachers, yet they understood this was a potential weakness as a future new teacher.

Building Comfort and Relationships with Parents

Participants were asked what they believed were the major competencies that they gained as a result of teaching the workshops and several themes emerged. The most prominent ones focused on an increased level of comfort in working with parents. There was a clear consensus in the focus group interviews that participants often felt “worried” and even “scared” at the prospect of interacting with parents as a future teacher. One individual shared “I was really nervous before the first workshop because ... while I believe I know how to teach, working with parents is not something I have done before.” However, many students explained that even though they were nervous, this environment was much less challenging than a future interaction with parents at events such as parent-teacher conferences. One participant explained that “having the opportunity to work with a parent in a low-risk situation eased my fear in discussing problems they may have with their child that I am teaching.” This sentiment was shared across the participants as they were more confident and were thankful that they had this opportunity to work with parents. “Having the experience of working with parents in the POWER program will help me a lot when I start my first job next year.” Another participant shared “I agree it definitely did help build my confidence in speaking to parents, especially talking to parents...speaking to parents is one of the hardest things because they're older than you.” While no other teachers specifically mentioned the age difference, several described that they “initially felt a strange power balance in the workshops... it's a weird kind of hierarchy and balance because we're not usually in the higher role with parents.” This quote was important because as this specific teacher shared that they had no experience with parents prior to this experience and thus it is not

surprising that a 20-year-old pre-service teacher would potentially be intimidated by parents. It was clear from the interview data that this group of pre-service teachers gained a “comfort level” and some confidence in working with parents.

The pre-service teachers expressed that teaching and leading the workshops helped them build relationships with parents. One teacher explained “I didn’t think I would be able to easily connect with a parent with children as I am not a parent myself... also all the parents are from pretty low socioeconomic backgrounds and that was very different than adults that I normally associate with.” All the digital literacy workshops targeted high poverty schools in the Smith School District and this population is demographically quite different from this cohort of students. In fact, all but one of the pre-service teachers was a white female, and all were from at least a middle-class background. While those in our teacher preparation program do have experiences working in high poverty schools, interaction with parents did not often occur. Thus, this experience also offered an opportunity to work with individuals who likely did not share social or cultural experiences and certainly came from vastly different economic backgrounds.

There were other students who shared ideas related to poverty, one noted “I didn’t realize the poverty in this community until I started talking with some of the parents.” When we asked teachers about the needs of those who participated in the workshops, many expressed a greater appreciation for how many of the parents lacked basic access to technology. One explained, “Initially I had a hard time getting past the fact that so many parents lacked access to a computer or even had internet access at home.” Another stated “the experience really built empathy for the lack of basic digital skill that so many parents had ... after the first week, I was better able to appreciate their situations (with technology access), and this helped me build relationships.” This finding supports the notion that this teaching opportunity provided a transformational experience

for some of the participants who needed to consider their own life circumstances in relation to the parents and future students. One teacher summed it up “I really learned a lot about myself ... this experience was extremely valuable to see the inequities that exist regarding wealth and technology.” In addition, the new confidence in relationship building was also noted as something that would help them support their future students. “If the parents have a good relationship with the teacher then the student is going to want to do better in class ... seeing that I could build relationships with them will certainly help me as a future teacher.” Collectively, it was apparent that this experience was beneficial for the preservice teachers in their ability to be more comfortable around parents but also in forging relationships with parents who come from vastly different backgrounds.

New Understanding of Parental Challenges

The realization that future teachers will often be working with a diverse range of parents also related to a new understanding of the unique challenges of parents from underserved groups. In the focus group interviews, we asked the preservice teachers what things they struggled with during the workshops. One of the biggest challenges was just in basic communication with parents as they found that many of the workshop participants could not speak English and most of them were unfamiliar with even the most basic technology tools used in schools. In terms of the language barrier, many teachers were unsure what the parents were getting out of the workshop because they had trouble communicating. One explained “it was frustrating that I could not communicate with those who spoke Spanish ... and even though there was supposed to be an interpreter there, they were unreliable.” Several saw the relationship to their future work as a teacher as “...eye opening when I started to realize that maybe some parents don’t reach out to their teacher, simply because they do not speak English.” Another explained “this helped me

realize the stereotype that poor parents don't care about their child's schooling might be that they cannot communicate effectively with teachers.”

Many teachers explained that they were surprised that so many parents lacked fundamental technology skills especially how to communicate or reach out to talk to teachers. Luckily one module in the workshop focused on helping parents effectively use technology to communicate with school personnel. One pre-service teacher explained “we taught them how to send an email because a lot of them didn't even know how to even do that ... how could they reach out to a teacher if they can't email?” Another teacher shared that most of her group of parents “only know how to reach people by cell phone and we had to explain that teachers are much less likely to return calls but will return emails.” When the workshops focused on the types of technology that students used in school, parents were largely inexperienced with these tools. “One parent said that she can't help her kids at home because she doesn't know how to use the programs they work on.” The teacher shared that the program was only Excel. Collectively, the pre-service teachers gained a new understanding for many of the challenges that these parents experienced.

Discussion and Conclusions

The data from this study illustrates that experience teaching the digital literacy workshops had a positive impact on pre-service teachers perceived competence of working with parents. In addition, the pre-service teachers gained experience in communicating and building relationships with parents while also improving their understanding of the various challenges that these parents faced when attempting to support their children in school. We believe that this is an example of transformative learning as described by Mezirow (1997) as these pre-service teachers

gained both critical knowledge and skill on how to interact and relate to the parents of school aged children.

This work is one of the few studies that explored non-professional development-based efforts to support teachers in building competence for working with parents (Uludag, 2008). As expected, and as consistent with the research literature, our teachers did describe a lack of skill and firsthand experience in working with parents (Flanigan, 2007). This is important as it suggests that teacher preparation programs are not adequately building parental relationships into their students' experiences. In our study, we did not expect that the digital literacy workshops would have provided enough experience to change their perceptions of their competence. Research by Birman et al. (2000) suggests that the most effective professional development that leads to meaningful change needs to be of adequate length and include active learning. Although these workshops were short in length, it may be that the hands-on interactive teaching that was occurring provided the pre-service teachers with the knowledge and skill to indeed transform their thinking. The data suggest that not only did the teaching experience fill a gap in their teacher preparation, but the experience also appeared to transform and build their skillset in some of the realizations that they gained about the parents in the local community.

The findings related to shifts in how our teachers understood the challenges of the parents they taught illustrated a meaningful shift in beliefs. There is certainly a wide range of literature that suggests that teachers often begin their career with deficit thinking (Castro, 2010). In fact, some studies have demonstrated that teachers may even hold negative beliefs toward parents (Graue & Brown, 2003). Again, this has major implications for teacher preparation programs. If pre-service teachers have limited firsthand experience with parents, they may begin their

teaching profession with a mindset that sets them and their students up for failure (Tichenor, 1997).

Limitations and Future Research

While this study did not explicitly explore the teacher's beliefs prior to the workshops, the descriptions of how their thinking changed following the workshop does suggest that many revised some of their previous perceptions and this indicates some form of transformational learning has occurred. For us, this finding served as a bonus byproduct of the workshop experience, and it provides us with an avenue for future study to more carefully explore how and why teacher beliefs may become altered. This also has a potential link to some of the identity literature on how new teachers' identities can be altered as they develop both during and after their teacher training programs (Hong et al., 2017; Settlage et al., 2009). This also suggests that we need to pay more careful attention to what components of the workshop may lead to changes in thinking. In our workshops, the teachers were trained in content, trained in basic skill in working with adults, engaged in reflection following the workshops and of course taught the workshops over the six-week period. Which of these components was most critical is unclear and identifying which was most critical is important for us to explore in future work.

While this study is limited in that we examined a small group of pre-service teachers who attended the same university, it does support the value in participating in out of class opportunities to engage with parents within school communities, especially if this is not occurring in teacher preparation programs. Our findings have led us to revisit what experiences we are lacking in our teacher preparation program, while also exploring ways to continue efforts such as these workshops to expose our future teachers to parents within the schools we serve. In addition, the findings imply that similar community-based activities may provide a fertile ground

to help teachers better understand the needs and challenges that people face in the school communities that we serve. We found that our participants were better able to build relationships and increase their confidence in this as a result of their experiences teaching the workshop. Since relationships are an important component in a child's education (Brown et al., 2014) our data suggests we have made a positive impact in this realm. In addition, changes or increased understanding of the challenges that parents faced was a second important lesson for our teachers. While some curriculum in our program does focus on parental involvement, it was evident that our students needed firsthand experiences working and talking with actual parents for them to internalize this information. In other words, our program was ineffective in instilling transformational learning regarding parents, however, the workshop experience was effective in doing so.

This study has considerable applications for teacher preparation programs. First, it illustrates that pre-service teachers are not adequately prepared for relationship building with parents solely based on the usual curriculum. We suggest that colleges look for ways to allow these teachers ways to have meaningful firsthand experience working with parents. In addition, since our pre-service teachers had indicated that they did not feel adequately prepared to work with parents, it is important to consistently survey our students to better understand areas where our curriculum may be inadequate. This feedback alone has the potential for us to make meaningful changes in how we prepare our future teachers how to work with parents. The effectiveness of out of the classroom experiences to build a better understanding of parents also suggests that there are important ways teacher preparation programs can leverage the community resources to build positive learning experiences for our students. Perhaps most important, since the goal of schools is student success, it is important for future teachers to understand why

building parent-teacher relationships is important; for that reason, teacher preparation programs must help prepare preservice teachers to build successful partnerships between school and home. Equipping teachers with knowledge about parent and family dynamics and providing future teachers opportunities during coursework could potentially better prepare new teachers to communicate and collaborate with families and build relationships that focus on the success of students. Epstein et al. (2019) stated that

If educators view students as children, they are likely to see the family and community as partners with the school in children's education and development. Partners recognize their shared interests in and responsibilities for children and they work together to create better programs and opportunities for students (p. 11).

Therefore, in our teacher preparation program, we need to provide practical experiences that help transform our students' mindset on how they view students, families, and partnerships. Most of our students are new to the Smith School District community and thus providing opportunities to gain experiences working with parents and other community members may lead to transformative learning experiences that we cannot easily recreate in our college classrooms.

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