

The Needs of the Virtual Principal Amid the Pandemic

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Abstract

This mixed-method study evaluates P–12 principals' and district officials' experiences during the COVID-19 pandemic amid the abrupt change to virtual leadership. Professional learning needs are identified in relation to the three domains of leadership as seen in literature: school management, instructional leadership, and program administration. The quantitative study instrument, which included an online survey given to 270 principals and district officials in South Carolina, allowed principals and superintendents to rank order their professional development needs to be better prepared for the virtual principalship. The top need expressed across all races, genders, and school settings was virtual instructional leadership. The qualitative measure includes interviews of 10 principals/district officials, and five major themes were identified as administrative struggles/priorities in the virtual principalship during the pandemic: increased presence and communication; projecting calm during uncertainty; displaying flexibility, empathy, and patience; knowledge of technological capabilities; and a systems approach to sustained instructional leadership. The study showed a heightened need for soft skills development.

Keywords: Virtual leadership; Virtual principal; Soft skills leadership; Instructional leadership; Principal learning

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Introduction

The COVID-19 pandemic is not only wreaking havoc on the national health system and the economy, but it is also creating chaos amidst work settings with social distancing guidelines and other safety precautions. Educational settings are not immune to the effects of COVID-19. Schools delayed opening across the world as a way to curb the spread of the virus (Kim, Kim, Peck, & Jung, 2020; Stage, Shingleton, Ghosh, Scarabel, Pellis, & Finnie, 2020). “Close to 80% of the world’s student population is affected by school closures in 138 countries” (Chang & Yano, 2020, p. 1). Furthermore, many schools, both K-12 and higher education, across the world have resulted in some form of virtual instruction for students to inhibit the infection rates (Black, Ferdig, & Thomsson, 2020).

The impact of virtual instruction on student achievement has recently been studied (Black, Ferdig, & Thompson, 2020; Praghlapati, 2020) as well as the impact on teachers (Barton, 2020; Kaden, 2020). However, very little research has been conducted on how the pandemic has impacted the principalship and the individual’s preparation for the virtual principalship. As principals have more recently been noted to have a higher level of frustration with the lack of autonomy at the school level (Weiner & Wouflin, 2017) and increased burnout (Skaalvik, 2020), the rapid shift to becoming virtual principals has impacted the profession even further.

The purpose of this study was to examine principals’ perceptions of an effective virtual principalship and the professional development needs of virtual principals. Specifically, the research study focused on two overarching research questions. First, how do principals and superintendents describe the knowledge, skills, and abilities necessary for being an effective virtual principal? Second, how do principals and superintendents describe the professional development needs of virtual principals? Both of these questions will be answered through the lenses of Bass’s E-leadership (2008) and Bandura’s Social Cognitive Theory (1977).

Literature Review

The principalship has certainly evolved, as principals must fulfill multiple roles now. Rather than just being a building manager, principals must also perform the duties of an instructional leader and change agent (Hallinger, 2010; Kowalski, 2010; Mirfani, 2019; Naidoo, 2019; Author, 2020). School administrators have a hard enough time juggling these dueling roles in a traditional setting, which results in higher rates of principal turnover (Grissom, 2019; Snodgrass, 2018). The COVID-19 pandemic increased stressors with rapid changes for students, teachers, and administrators. Principals faced new complexities during the pandemic, such as virtual learning for all students, virtual instructional leadership, and virtual teacher evaluation.

Recent educational research has focused on the COVID-19 impact on students, both educationally (Black, Ferdig, & Thompson, 2020; Praghopapati, 2020) and emotionally (Cao, Y., Huang, L., Si, T., Wang, N., Qu, M., & Zhang, X, 2020; Elmer, Mephram, & Stadtfield, 2020). Researchers have even begun studying the impact of the pandemic on teachers with virtual instruction (Barton, 2020; Kaden, 2020); however, very little research exists on the COVID-19 impact on principals. This study utilizes two theoretical frameworks to research the impact of the pandemic on school administrators: e-leadership (Avolio & Kahai, 2003) and Social Cognitive Theory (Bandura, 1977).

The Pandemic's Impact on Schooling

COVID-19 changed how many schools operate. The modality of instruction, because of schools closing, has had to change by order of state legislature and local school board decisions to decrease the infection rates (Blackmon, 2020; McCraw, 2020). In doing so, principals have had to adjust to leading virtually and in hybrid formats. For the sake of this study, virtual leadership will be delineated as fully digital or on-line, where there is no face-to-face interaction; hybrid leadership is a blend of virtual leadership and face-to-face interaction (Raes, Vanneste, Pieters, Windey, Van Den Noortgate, & Depaepe, 2020). In both scenarios, principals are limited to the time they have with teachers to provide the leadership needed.

With the need for an online learning platform in virtual schooling, additional challenges have been faced by school leaders. Issues such as digital platform selection, teacher training on the digital platform, and training on engaging virtual instructional practices are all challenges that had to be addressed quickly (Schleicher, 2020). Technology issues also highlight a bigger problem: the digital divide. The digital divide has a greater impact on marginalized communities, which creates more inequality (Prescott, 2020), and the importance of the internet along with digital devices was amplified by the pandemic (Arias, 2020).

E-Leadership

Bass (2008) defines leadership as the “focus of group process” (p.11), with the leader at the center of the group activity, while Holladay and Coombs (1993) state that leadership is a behavior that results from communication. Operating amid the COVID-19 pandemic, group processes may be limited but the need for those processes in a new setting along with clear communication are the greatest needs. Li, Sun, Tao, and Lee (2021) state, “Organizational change, unplanned change, in particular, can cause many issues and lead to questions and uncertainties for employees, which may affect their relationships with the organization” (p. 1). As such, communication with employees during change is fundamental in determining how change is understood and managed (Oreg, Bartunek, Lee, & Do, 2018).

This research study begins with the examination of the school principalship through the conceptual lens of e-leadership. The purpose of e-leadership, as described by Avolio and Kahai (2003), is:

to take the relationships among organizational members defined by an organization's structure and enhance them. The key difference, however, is that e-leadership takes place in a context where work is mediated by information technology. In such a context, not only may a leader's communication with followers take place via information technology, but the collection and dissemination of information required to support organizational work also takes place via information technology. (p. 326)

In utilizing e-leadership, principals must use information technology to run the systems of the school: curriculum and instruction, teacher support systems, student support systems, and culture (Author, 2020). This is a daunting task in and of itself;

however, principals must also be mindful of the need for constant and clear communication to include visual communication. Teachers must “feel” the leader’s presence, which includes understanding expectations and feeling support to maximize effectiveness (Avolio & Kahai, 2003). To do so, leaders must be communication competent in the virtual setting to operate school systems and create positive outcomes for staff and students (Madlock, 2008; Titsworth & Okamoto, 2017).

The internet makes communication more accessible, but it can also highlight the lack of communication as well as communications that can have an inverse effect. For example, teachers may hear a rumor about teacher attendance that is believed to be true due to the lack of communication, or the tone of an email may be misinterpreted. Both of these situations can erode trust. Negative outcomes of communication dissatisfaction include absenteeism (Blau, 1985; Iverson & Deery, 2001) and turnover (Porter & Steers, 1973). However, when leaders communicate effectively, the employees experience higher levels of trust and satisfaction (Madlock, 2008), especially in a virtual environment. This communication and trust must also extend to the communities. When dealing with a crisis, the leader’s role is critical in communicating with both internal and external audiences (McLeod & Dulsky, 2021).

Principal professional development in the area of e-leadership may be required. The term “leadership” carries an assumption of social influence or a process of moving people toward and through challenges (Bush & Glover, 2003). Combine leadership with the electronic component, and principals need to know how to lead virtually. Adding to the complexity of the situation is that principals do not like to acknowledge deficiencies in skill due to the fear of judgment (Koonce, Pijanowski, Bengston, & Lasater, 2019; Author, 2020). This fear to acknowledge the need for support and the lack of available quality support for principals in the virtual environment creates a learning void. This gap then has a direct impact on the teachers’ learning and self-efficacy and student achievement (Fiaz, Qin, Ikram, & Saqib, 2017; Francis, 2017; Ma & Marion, 2019), as well as principal burnout (Olsen & Sexton, 2009; Riley & Langan-Fox, 2013).

Social Cognitive Theory

Albert Bandura (1977) theorized in his Social Cognitive Theory (SCT) that the way people feel about their capabilities and the outcomes of their efforts will influence the way people behave. Three major assumptions exist with this SCT:

1. People can learn through observation, even if they have had no prior experience.
2. Reinforcement is key to learning, but it is not all external. Intrinsic motivation is key to the mental preparedness to learn.
3. Changed behaviors do not necessarily result from something that has been learned. Self-regulation is necessary for change to happen and be sustained. (Bandura, 1991)

In the context of the COVID-19 pandemic, administrators may be struggling in the virtual setting because they may not have had the opportunity to observe virtual leadership, much less understand it fully. The pandemic’s timeline thrust schools into action without the time for planning, preparation, or procurement of resources — basic tenets of quality professional development (Guskey, 2003; Guskey & Yoon, 2009).

As Bandura (1991) points out, mental preparedness for learning is also key. Principals may not be mentally primed to deal with such a drastic change with the problems that entire school systems or districts faced in such a short timeframe. Problem-solving, according to Payne and Wenger (1998), includes two elements:

- a) description of all possible states of the task and problem solver (representation); and
- b) a list of the ways of moving among those states (search). The first element supports a problem solver to understand the problem by abstraction and identification. The second element enables the problem solver to search for a possible solution in memory. (p. 82)

For principals to be effective in solving the problems caused by the pandemic, they must first fully understand the problems and all possible solutions. Unfortunately, many of these solutions are not within a principal's control due to the lack of autonomy (Dou, Devos, & Valcke, 2017; Paufler, 2018). Furthermore, principals most likely have never faced anything similar to the current experience, so memory-based solutions may not exist. Lastly, principals may also be experiencing increased stress and anxiety due to the pandemic and the impact on their own families and communities (Canet-Juric, Andrés, Del Valle, López-Morales, Poó, Galli, & Urquijo, 2020; Montemurro, 2020; Pedrosa, Bitencourt, Fróes, Cazumbá, Campos, de Brito, e Silva, 2020).

Consequently, Bandura (2006) expanded his SCT theory to include the important element of self-efficacy, the belief in one's own ability to be successful in task completion and dealing with stressors. Self-efficacy has been studied at length in education, including the impact on student achievement (Soehner & Ryan, 2011; Terziu, Hasani, & Osmani, 2016), the impact on teacher effectiveness (Fiaz, Qin, Ikram, & Saqib, 2017; Francis, 2017; Ma & Marion, 2019), and the impact on principal satisfaction (Baroudi & Hojeij, 2018; Gulmez & Negis Isik, 2020). However, self-efficacy in the face of a pandemic may not equate to that of a traditional setting.

Recent research has shown that self-efficacy is lower during COVID-19 (Yildirim & Guler, 2020), which directly impacts how people act regarding risk-taking behaviors (Wong & Yang, 2020). This impact affects teachers and students, which in turn, directly impacts principals. This lower sense of self-efficacy may result from the adults' lack of preparedness. Today's learners regularly utilize technology and connect with other learners in multiple electronic ways (Azevedo, Taub, & Mudrick, 2018; Moos, 2018); however, some administrators may feel ill-equipped to lead in the electronic world. This lower self-efficacy may directly link to professional development needs. The gap in the need and the provision of quality principal professional development places a sizable burden on the principal. As principals are expected to provide a vision, structure, resources, and processes necessary to create an environment for teachers that is conducive to professional learning (Koonce, Pijanowski, Bengston, & Lasater, 2019), principals need to be provided the same.

Methodology

Numerous research designs and methodologies have been employed to investigate the necessary knowledge, skills, and abilities required of effective K–12 principals. However, few research studies have focused on the knowledge, skills, and abilities needed by virtual principals. This research study focused on two overarching research questions. First, how do principals and superintendents describe the knowledge, skills, and abilities necessary for being an effective virtual principal? Second, how do principals and superintendents describe the professional development needs of virtual principals?

Research Design

The complexity of transitioning to a virtual leadership environment, diversity of stakeholder needs, as well as the myriad of environmental variables working in combination mandate thoughtful construction of the research design (Leavy, 2017). The changing role and expectations of virtual principals also necessitate in-depth consideration in the research strategy. For these reasons, this study employs a mixed-methods research design, including both quantitative survey research and qualitative structured interviews.

A mixed-methods design was utilized in this research study because the research questions focused on principals and superintendents' perceptions of the knowledge, skills, and abilities required of effective virtual principals as well as the associated professional development needs of the virtual principalship. Leavy (2017) asserts that utilizing a mixed methods research strategy is particularly powerful in gaining broader perspectives and a more comprehensive understanding of the research topic. This research strategy enabled both statistical analyses of participants' quantitative ratings as well as individual principal's rich personal reflections on their own experiences and professional development needs to be compared with other research study participants (Creswell, 2018; Strauss & Corbin, 2015; Leavy, 2017).

Research Participants

The participants in the quantitative component of this study included 77 principals and superintendents serving within K–12 schools or districts in South Carolina. Participants in the qualitative component of this study included 10 principals and superintendents serving at the secondary level within K–12 schools or districts in South Carolina. Each of the study participants recently gained experience as a virtual principal or district leader associated with the shift to online instruction in response to the COVID-19 pandemic. The research participants shared one critical characteristic which met the inclusion criteria for the research study—holding a role as a principal or district leader at the time of the study. The participants in this study were diverse in years of educational leadership experience, race, and gender, increasing the likelihood of the representativeness of the sample to be generalizable to a wider population of K–12 principals. Of the participants who completed the survey, 58.4% were female, 54.5% were from Title 1 schools, and 48.1% possessed between two and seven years of experience as a principal. Interview participant pseudonyms and demographics are provided in Table 1. Pseudonyms are used throughout the article for each of the research participants.

Table 1. Interview participant demographic characteristics

Participants (n = 10)	Principal Experience		Gender	Race
	Years	Level		
Melanie	13 Years	High School	Female	African American
Hanna	8 Years	High School	Female	Caucasian
Jack	1 Year	High School	Male	African American
Donna	3 Years	High School	Female	Caucasian
Hudson	3 Years	High School	Male	African American
John	4 Years	High School	Male	Caucasian
Christina	17 Years	Superintendent	Female	Caucasian
Don	29 Years	Superintendent	Male	Caucasian
Kay	9 Years	High School	Female	Caucasian
Bell	5 Years	Middle & High School	Female	African American

Survey Design and Analysis Procedures

The quantitative component of this study employed an online survey to gain the perspective of principals and superintendents currently serving in K–12 educational settings throughout South Carolina. Two hundred and seventy online surveys were administered, and 77 principals and superintendents participated, yielding a 28.5% response rate. The survey design drew heavily on Hallinger’s (2011) three-prong system of leadership, which highlights the interplay among leadership of school and community, instructional leadership, and school management roles, and has created the need for additional principal professional development beyond a principal’s initial preparation program (Naidoo, 2019; Rowland, 2017; Tang, Lu, & Hallinger, 2014).

The study employed 13 survey questions, asking participants to rate their professional development requirements in 12 virtual principal learning outcome domain areas (Table 2) and to identify their top professional development needs (Table 3). The survey utilized a five-point Likert scale, which ranged from 1 (no support need) to 5 (very high support need). The survey questions were aligned to the study’s two overarching research questions and utilized questions to encourage research participants to elaborate on their perceptions of the knowledge, skills, and abilities needed to be an effective virtual principal as well as their professional development needs associated with the virtual principalship. In the survey analysis, data was examined by aggregate results as well as disaggregated by gender and by K–12 school characteristics associated with technology resources, geography, and socioeconomic indicators.

Interview Design and Analysis Procedures

The qualitative component of this study utilized 10 structured individual interviews with current secondary principals and superintendents. Forty-three out of the 77 principals and district leaders who responded to the online survey also reported a willingness to share their perspectives in a follow-up interview. Ten interview participants were selected utilizing a randomized process from the 43 who expressed a willingness to participate. A randomized process was utilized due to the recognition that all principals likely possessed valuable relevant experience navigating the COVID-19 pandemic. Percy, Kostere, and Kostere (2015) assert that even a re-

search sample that is small may provide great insight and information on the research topic.

The interview questions were aligned to the study's two overarching research questions and utilized questions to encourage research participants to elaborate on their perceptions of the knowledge, skills, and abilities needed to be an effective virtual principal as well as their professional development needs associated with the virtual principalship. Throughout each interview, open-ended questions were utilized to gain insight into the virtual principalship. The interview questions focused on two important areas: knowledge, skills, and abilities needed for virtual principal effectiveness; and top professional development needs that would be helpful in their roles as virtual principals. By purposefully constructing the interview questions to be open-ended, drawing on the research literature, and aligning each interview question with one of the study's research questions, the researchers ensured the interview questions were relevant and appropriate (Strauss & Corbin, 2015). While not based on the survey questions, the interview questions were designed to complement the survey questions by adding the opportunity to share more in-depth personal and descriptive experiences. Each interview was recorded for transcription to increase data trustworthiness (Creswell, 2018). The research interviews were conducted utilizing video conferencing software spanning two weeks.

Following the completion of the first research interview, the researchers utilized a thematic, constant-comparison analysis (Merriam & Grenier, 2019). Using a thematic analytic strategy, the researchers engaged in multiple stages of coding, classifying, and clustering words to ensure saturation was reached and to better understand developing themes, categories, and patterns about principals' professional development needs in virtual settings (Braun & Clarke, 2006). The researchers frequently revisited the interview data utilizing the constant comparative analysis. This inductive analysis led to six themes emerging from the data that answered the study's overarching research questions and provided insight into the professional development perceptions of virtual principals.

Creswell (2018) states, "The process of data analysis involves making sense out of text and image data. It involves preparing the data for analysis, conducting different analyses, moving deeper and deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data" (p. 183). While the coding was immensely beneficial during data analysis, an analysis of published research literature was also a valuable component of the analysis process. Previous research literature on instructional leadership and professional development was instrumental in assessing the data collected in this research study and evaluating the research findings in the context of the current literature on instructional leadership. Research literature assisted in better understanding emerging themes and patterns in the research findings and helped corroborate the study's findings.

Results

Principals and superintendents who participated in the qualitative component of this study answered a variety of interview questions designed to generate insight about the following two overarching research questions: 1) How do principals and

superintendents describe the knowledge, skills, and abilities necessary for being an effective virtual principal? and 2) How do principals and superintendents describe the professional development needs of virtual principals? All of the participants interviewed in this research study reported that the knowledge, skills, and abilities required by a virtual principalship role differ from those required by traditional principalship roles. Each of the interview participants also expressed the need for continued professional development to strengthen virtual principalship roles. Research participant responses were strikingly similar despite differences in years of experience, gender, race, and ethnicity.

An analysis of the individual interview data highlights that participants view the virtual principalship as more difficult, requiring stronger knowledge, skills, and abilities in several key areas. During the individual interviews, all 10 principals and superintendents expressed the belief that there is a difference in the knowledge, skills, and abilities required of effective virtual principals and those required of effective principals in traditional school settings.

Most interview participants also characterized the virtual principalship as “more challenging,” “more difficult,” “harder,” and more “time-intensive” than leading in traditional face-to-face educational environments. When asked about the transition to virtual leadership, John, a high school principal with four years of experience, described it as “moment to moment survival.” Hanna, an experienced high school principal, elaborated on her transition to virtual leadership:

This is year nine for me in this seat and after a while, you get to a point where you feel like you’ve seen pretty much everything and how to handle everything. And what it did was it basically took me down to being a first-year principal again in some cases. I’ll be honest in saying that unlike first-year principals whom you know are first-year principals and people are giving them support, I think we all felt like first-year principals again in so many cases. No one knew how to support us because they were flying by seat of their pants too in terms of what is needed.

Interview participants identified five distinct knowledge, skills, and abilities as central to being an effective virtual principal: 1) the ability to demonstrate a strong sense of presence and sustain frequent communications, 2) the capability to project calm during uncertainty, 3) skill in conveying flexibility, empathy, and patience, 4) strong knowledge of technology capabilities, and 5) proficiency in the utilization of a systems approach to sustain strong instructional leadership practices. The following sections present the data gained relating to each of the aforementioned areas to provide insight on principal and superintendents’ perceptions about the knowledge, skills, and abilities required to be an effective virtual principal and associated professional development needs.

Increased Presence and Communication

During the individual interviews, all 10 principals and superintendents identified the ability to demonstrate a strong sense of presence and sustain frequent communications as critical in the virtual principal role. Therefore, 100% of the research par-

ticipants viewed communication strategies as paramount in their perception of virtual principal effectiveness. The ability to navigate different expectations for presence and communication associated with the 24/7 nature of virtual learning is represented by the following comment of a current principal. When asked about the knowledge, skills, and abilities needed by virtual principals, Kay, an experienced high school principal, stated,

What I did find from the leadership position was how important it was to be accessible almost round the clock, twenty-four seven, to faculty, to staff, to parents, and even to students. I made sure that all of my school community had my cell phone ... I'd begin at least 6:30 in the morning and usually did not end until 10:30 at night in terms of communication. And that would be individual communication but also beginning immediately routinized at least weekly if not biweekly communication with parents and with faculty and staff.

Melanie, a high school principal with extensive experience, stated that as a virtual principal, she “doesn't have an office; the school is my office.” Similarly, Jack, a first-year principal, reported he frequently “pops into online classes to show visibility,” and states, “Communication in the virtual environment should be more. It's more important. Because we don't have these students in the building.”

John, a high school principal with four years of experience shared that this sense of presence also needs to extend to the local community:

Being a rock or a cornerstone for the community. I did as much food delivery in the Spring as I did instructional leadership ... it was a reminder to the community that we are present and still here.

Christina, a school superintendent with extensive experience, also noted the importance of considering the delivery of communications in the virtual environment by noting,

Your mannerisms and your voice, sometimes it can be misconstrued. You have to be really careful not to sound too enthusiastic otherwise you sound aggressive ... You have to control your style and delivery.

Melanie also noted the importance of delivery and overcoming communication barriers as a virtual leader, noting the importance of strengthening “active listening. We all need to listen to one another.”

Projecting Calm During Uncertainty

The capability for virtual principals to project calm during uncertainty was a second critical skill identified by the overwhelming majority of interview participants. Kay, an experienced high school principal, noted the importance of providing encouragement and constantly communicating to teachers “you can do this” and further elaborated,

We have to be the anxiety relievers in chief ... we have to be the calm voice of reason, the person who does not devolve into hysteria, but keeps the steady hand, keeps even keel as communication comes down to us from the state or district and get that out and in-

terpret it . . . communication has been frustrating for teachers. They read things in the newspaper, they read things on the state department website, they listen to the board meetings. Who is pulling all that together for them and keeping the calm focus on student learning? That has to be the principal more than ever.

Hanna, an experienced high school principal, described the transition to virtual learning:

Teachers were thinking we'll be back in a month. And then a month turned into two months, and that's when I really began to see the just sheer fear in them. It was fear. [Teachers were saying] I don't think I can do this. I don't know how to do this. I had to keep telling them we are in this together. We are all going to make mistakes but as long as in the forefront always is what is in the best interest of children and we have grace, we care about our kids, and we make sure they are safe. That's our big priority right now.

Bell, a secondary principal with five years of experience, shared how important the ability to "spend time re-assuring others it was possible" was to the learning environment. John, a high school principal with four years of experience, also shared this sentiment, saying, "Having stability to cope with and deal with uncertainty, flexibility, and stress, was essential and to process it, absorb it, and project out calm to your staff."

Conveying Flexibility, Empathy, and Patience

All of the interview participants also noted strong skills in conveying flexibility, empathy, and patience as a third key area of knowledge, skill, and abilities. This sentiment is described by John, a high school principal with four years of experience:

The most critical aspect of leaders during this time is keeping the morale and mindset of teachers checked-in. We've had a tremendous focus on supporting our teachers . . . I have a belief that every teacher is doing the very best they can do every day when they come to school, just like students. Now you could be in a bad place and your best is not the best you've ever done, but it's the best that you've got that day . . . so keeping up with their emotional status and taking pressure off them.

John added, "You don't always get it right. The solutions don't always work. But as a leader, a hundred percent, they just care that you tried."

Jack, a first-year principal, shared the following observation: "It's all about adaptability. You have to be patient. You have to have compassion, empathy, and sympathy." Christina, a school superintendent with extensive experience, shared a similar belief: "You've got to be real[ly] flexible . . . you need to have some experience in the brick and mortar world. You can't just pick up someone and drop them in a virtual world and say swim."

Donna, a high school principal with three years of experience, stated "You have to be flexible." Similarly, Melanie, a high school principal with extensive experience,

shared, “Learn to be more flexible ... I’m listening to [teachers] more. I have to make a conscious effort to listen and be more patient. ... This has made me look at social and emotional elements for staff.”

Don, an experienced school superintendent, noted, “In the midst of a virtual landscape, this notation of concern and care and support, though different, are still the hallmarks of what is good in education.”

Knowledge of Technology Capabilities

The importance of virtual principals developing a strong knowledge of technology capabilities was also noted by a hundred percent of the interview participants as a critical knowledge, skill, and ability area. Most interview respondents also expressed a desire for additional professional development in better understanding current and emerging technologies. This sentiment is highlighted in the following statement by Hanna, an experienced high school principal, who described her transition to being a virtual principal:

All of a sudden, I had to be much more techno-savvy than I ever thought I could possibly be. And learning all of the different programs and things that would be best for my teachers. Trying to find avenues for our career and technical classes that are so hands on ... and what can I purchase to make the transition easier for them.

Christina, a school superintendent with extensive experience, highlighted the importance of professional development in this area:

Technology skills ... I had to go to a lot of sessions and professional development myself and I’ve realized that our teachers need a plethora of professional development so they feel comfortable teaching virtually.

Kay, an experienced high school principal, reinforced this in the following quote:

[Virtual principals] need to have a sense of what is possible versus being a technology expert. Have a sense of what the technology is available and can do in the instructional environment ... It’s beyond principalship 101. I’ve been doing this for 30 years, so I don’t need Principalship 101. We need the things that are timely and useful in the moment. We need people directing professional development programs to look ahead.

Kay further elaborated, “Technology is a way of life and must be embraced for learning. We can’t avoid it any longer ... this door is open it is not going away.”

Systems Approach to Sustain Instructional Leadership Practices

Utilizing a systems approach is a fifth knowledge, skill, and ability area that emerged as being influential throughout the individual interviews. It is interesting to note that the majority of the research participants identified the importance of having a “systems approach” in which to operate as a virtual principal. The influence of the desire for a systems approach is evident in the following interview excerpt from Melanie, a high school principal with extensive experience, who described her transition to virtual leadership:

The first thing I did was reflect on what we could still do virtually ... We had to look at the current systems we had in place to see what we could tweak ... made us become more efficient and effective with our processes ... If you had systems in place, you just had to tweak it to make it electronic ... If you didn't have systems in place when you were brick and mortar, it really showed. I said to my district friends, COVID-19 has exposed the cubic zirconia. You are either going to be a diamond or you are going to be a cubic zirconia. COVID-19 has said did you really have systems in place? And if you didn't, it shows big time.

John, a high school principal with four years of experience, stated,

Develop a sound leadership team with teachers and coaches or whomever your instructional supports are, collect data on your school, and respond to the unique challenges that your school faces. Communicating that consistently in every faculty meeting talking about the goals we are accomplishing together.

Coaching and investments in professional development as part of the systems approach emerged as a key finding from several interview participants. For example, Kay, an experienced high school principal, stated,

The coaching model became more integral when we were completely online. Being there for teachers with words of encouragement and the expertise to say have you tried this ... have you tried that, and even more importantly, talk to this person It was important for me to have a really good handle on who among my faculty and staff had this down, who were the go-to people, as well as who is my best building site technology guru in terms of software and hardware systems.

Christina, a school superintendent with extensive experience, asserted that virtual principals must be "more deliberate and more thoughtful about the needs of our teachers, what type of professional development they need, their learning, and what experiences they need." Hudson, a high school principal with three years of experience, described his school's approach to systematizing professional development in the following excerpt:

Modeling the model. When our instructional team does professional development, they try to model some of the best practices in engaging teachers just like we would hope teachers are engaging their students ... It takes a lot of time, but we've tried to do what we call personalized professional development because we know that our teachers are in such different places, again modeling the model, because our students are also in such different places. We meet the teacher where they are.

Hudson further elaborated,

A teacher who was one of the most dynamic teachers face-to-face

may be one of the least dynamic teachers because they don't have the skills. And I always go back to a skill gap versus a will gap. I think in most cases, you see teachers who have a skill gap ... and so with our personalized [professional development] we're really meeting them where they are.

Christina also elaborated on the importance of personalized professional development for virtual principals in the following observation:

I think it would be helpful if they did an internship with a virtual leader ... There's a lot that goes into it. You have to know learning management systems, there's a lot more to it than just turning on the computer. You have to train parents, teachers, have a parent university of some sort, constant orientations for different levels ... the training is perpetual, it's non-stop.

Quantitative Results

Principals and superintendents participating in the quantitative component of this study answered 13 survey questions designed to generate additional insight about one of the study's two overarching research questions: How do principals and superintendents describe the professional development needs of virtual principals? Three of the most important roles required of principals include the leadership of the school and community (Kempa, Ulorlo, & Wenno, 2017), the instructional leadership of the school (Zepeda & Lanoue, 2017), and the management of the school (Mestry, 2017; Spillane & Healey, 2010). Hallinger's (2011) three-prong system of leadership highlights the interplay among these different roles and has created the need for additional principal professional development beyond a principal's initial preparation program (Naidoo, 2019; Rowland, 2017; Tang, Lu, & Hallinger, 2014). Hallinger (2011) examined the three main avenues through which leadership is believed to be linked to learning: vision and goals, academic structures and processes, and people. Each domain of the survey instrument was derived from Hallinger's three-prong system.

Table 2 presents the descriptive statistics for the participant responses to 12 survey questions where principals and superintendents rated their own professional development needs. As depicted in the table below, significant professional development needs were reported by principals and superintendents in each of the 12 virtual principal learning outcome domains. The overwhelming majority of principals and superintendents ranked every virtual principal learning outcome domain as a moderate to very high need, ranging from virtual management of budgets (64.9%) as the lowest-ranked domain to developing a virtual systems perspective (90.9%) as the highest. Professional development in virtual instructional leadership, developing a virtual systems perspective, rallying community in a virtual environment, effective time management, and utilizing elements of instructional leadership in a virtual environment were the five highest learning domain areas, with over 85% of all principals and superintendents reporting moderate to very high support needs in each of these areas.

Table 2. Principal professional development needs

	Percent of respondents indicating support needs					
	1 No support needs	2 Small support needs	3 Moderate support needs	4 High support needs	5 Very high support needs	Principals reporting moderate or higher support needs
Virtual instructional leadership	2.6% N = 2	7.8% N = 6	32.5% N = 25	39% N = 30	18.2% N = 14	89.6% N = 69
Developing a virtual systems perspective	2.6% N = 2	6.5% N = 5	35.1% N = 27	41.6% N = 32	14.3% N = 11	90.9% N = 70
Using all elements of instructional leadership to include alignment, assessment, and observation in the virtual world	3.9% N = 3	7.8% N = 6	33.8% N = 26	39% N = 30	15.6 % N = 12	88.3% N = 68
Understanding how to implement successful multi-tiered systems of support programs in the virtual world	6.7% N = 5	16% N = 12	24% N = 18	30.7% N = 23	22.7% N = 17	75.3% N = 58
Understanding how to effectively monitor progress as a virtual administrator	5.2% N = 4	10.4% N = 8	32.5% N = 25	39% N = 30	13% N = 10	84.4% N = 65
Understand how to deal with difficult teachers virtually	6.8% N = 5	18.9% N = 14	13.5% N = 10	37.8% N = 28	23% N = 17	71.4% N = 55
Understanding how to manage budgets virtually	16.9% N = 13	18.2% N = 14	19.5% N = 15	26% N = 20	19.5% N = 15	64.9% N = 50
Understanding how to staff a school virtually	11.8% N = 9	18.4% N = 14	19.7% N = 15	34.2% N = 26	15.8% N = 12	68.8% N = 53
Understanding how to deal with building and resource needs virtually	5.2% N = 4	22.1% N = 17	22.1% N = 17	37.7% N = 29	13% N = 10	72.7% N = 56
Understanding how to rally a community in a virtual environment	3.9% N = 3	6.5% N = 5	32.5% N = 25	33.8% N = 26	23.4% N = 18	89.6% N = 69
Understanding how to communicate with staff and students in a virtual environment	6.6% N = 5	7.9% N = 6	34.2% N = 26	35.5% N = 27	15.8% N = 12	84.4% N = 65
Understanding how to manage your time effectively as a virtual administrator	2.6% N = 2	11.7% N = 9	42.9% N = 33	31.2% N = 24	11.7% N = 9	85.7% N = 66

Table 3 depicts the percentage of respondents rating each of the virtual principal learning outcome domains as their top professional development needs. Virtual instructional leadership is rated highest, with over 37% of respondents reporting it as their top professional development need. Developing a virtual systems perspective and effective progress monitoring rated the second and third highest, with over 15% and 10% of respondents, respectively.

Table 3. Top professional development needs

Percent of respondents rating each area as top professional development need	Aggregate (N = 77)
Virtual instructional leadership	37.6% N = 29
Developing a virtual systems perspective	15.5% N = 12
Understanding how to effectively monitor progress as a virtual administrator	10.3% N = 8
Using all elements of instructional leadership to include alignment, assessment, and observation in the virtual world	9% N = 7
Understanding how to rally a community in a virtual environment	7.7% N = 6
Understanding how to implement successful multi-tiered systems of support programs in the virtual world	7.7% N = 6
Understanding how to manage your time effectively as a virtual administrator	5.1% N = 4
Understand how to deal with difficult teachers virtually	3.8% N = 3
Understanding how to manage budgets virtually	1.2% N = 1
Understanding how to staff a school virtually	1.2% N = 1

Table 4 depicts the percentage of respondents rating each of the virtual principal learning outcome domains as their top professional development needs, disaggregated by gender, socioeconomic status (SES), and geographic indicators. Findings remained consistent, with virtual instructional leadership rated the highest professional development need across all disaggregated views of the data.

Developing a virtual systems perspective also maintained a consistent second-highest professional development rating, except for urban school principals reporting a greater need for professional development in progress monitoring and rallying a community in a virtual environment. Greater variation was realized in participants' third top-rated area, with women emphasizing a need for professional development in rallying a community in a virtual environment higher than effective progress monitoring, which was consistent across all other demographic categories.

Table 4. Disaggregated top professional development need

Percent of respondents rating each area as top professional development need								
	Aggre- gate (N = 77)	Female (N = 45)	Male (N = 31)	SES Non- Title 1 (N = 42)	SES Title 1 (N = 34)	Sub- urban (N = 35)	Rural (N = 9)	Urban (N = 33)
Virtual instructional leadership	37.6% N = 29	28.8% N = 13	51.6% N = 16	33.3% N = 14	44.1% N = 15	34.2% N = 12	66.6% N = 6	33.3% N = 11
Developing a virtual systems perspective	15.5% N = 12	20% N = 9	9.6 % N = 3	21.4% N = 9	8.8 % N = 3	25.7% N = 9	N/A N = 0	9% N = 3
Understanding how to effectively monitor progress as a virtual administrator	10.3% N = 8	8.8% N = 4	6.4 % N = 2	9.5% N = 4	11.7% N = 4	8.5% N = 3	11.1% N = 1	12.1% N = 4
Using all elements of instructional leadership (alignment, assessment, and observation) in virtual environment	9% N = 7	11.1% N = 5	3.2% N = 1	4.7% N = 2	8.8% N = 3	5.7% N = 2	N/A N = 0	9% N = 3
Understanding how to rally a community in a virtual environment	7.7% N = 6	11.1% N = 5	9.6% N = 3	4.7% N = 2	11.7% N = 4	5.7% N = 2	N/A N = 0	12.1% N = 4

Discussion and Future Implications

All of the participants interviewed in this research study reported that the knowledge, skills, and abilities required by a virtual principalship role differ from those required by traditional principalship roles and most characterized the virtual principalship as “more challenging” and “harder.” It is also critical to note that each of the interview participants expressed a strong need to address this knowledge and skill differential through continued professional development to strengthen virtual principalship knowledge, skills, and abilities. This strength of this professional development need was further illustrated by over 85% of all principals and superintendent survey respondents reporting moderate to very high support needs in five virtual principal learning outcome domain areas.

The quantitative data combined with the qualitative data from this research study highlighted one theme that is constant: the need for virtual instructional leadership professional learning in the form of systems approaches to virtual instructional leadership, virtual progress monitoring for administrators, and elements of virtual instruc-

tional leadership. What this highlights is that principals need professional development on developing systems in the same areas: instructional leadership and progress monitoring for administrators. For example, an instructional leadership system should highlight the interconnectedness of unit planning, lesson plans, assessments, using data to inform instruction, professional learning communities, et cetera. Once those systems are established, further professional development is needed in transferring those systems to a virtual realm. This theme was consistent among administrator participants across gender, ethnicity, and years of experience. District leadership, as well as higher education institutions, should take heed because the virtual element of education may not end when the pandemic ends.

The qualitative data analyzed from this research study also underscores a need for educational programs and continued professional development, and that there is the need to focus on soft skills development in administration, especially in the realm of communication. Many principals struggled and emphasized the need for constant communication, which was more evident in the virtual environment than in a brick-and-mortar environment. Crosbie (2005) identifies the eight soft skills of leadership, and six of the eight include the following:

1. Collaboration/teamwork
2. Communication skills
3. Leadership ability
4. People development/coaching
5. Personal effectiveness
6. Planning and organizing (p. 47)

If you look at these skills in the context of the five themes revealed in this study, they strongly align: increased presence and communication (communication); projecting calm during uncertainty (leadership ability); displaying flexibility, empathy, and patience (people development); knowledge of technological capabilities (personal effectiveness); and a systems approach to sustain instructional leadership (planning and organizing). Self-awareness, self-regulation, empathy, and social skills in leadership have been on the rise in successful leadership practices (Marques, 2012), but yet these attributes were struggles for school administrators during the pandemic. Perhaps the social and emotional aspect of the pandemic had a far bigger impact on administrators personally, which affected them professionally. Intensive study of the soft skills needed in the virtual environment versus a traditional environment may be warranted.

However, the learning of the complex, soft skills of leadership does not happen of its own fruition through normal course development. Intentional experiences, support, coaching, and self-assessments are necessary to improve practices (Crosbie, 2005). Robert Bolton (1986) stated that people who fail at work most often do not fail due to ability levels or skill development but rather they fail because of their inability to relate to others. Education cannot afford additional failures in an already heightened state.

To address the needs, these researchers suggest that professional development be provided by school districts in the form of Wenger's Communities of Practice (CoP) (2011). Mendels and Mitgang (2013) state that once districts employ new

principals, districts have a responsibility to promote and support their principals' growth and success. In a CoP, principal participants engage in school improvement efforts as committed partners who aim to solve problems and address knowledge gaps. The advantage of district CoPs is that the district and school leaders can work together to achieve district goals rather than leaving each school leader to "figure it out" on their own. In this practice, isolation is obsolete. The latter practice also helps to create inequities across a district, which is never ideal. These CoPs should focus on systems development and the elements of instructional leadership first, and then system transference to a virtual environment. Once systems are created, the aforementioned soft skills become a part of the systems and should be highlighted. District leaders can then provide support and mentoring where needed.

Future studies should also reveal the personal impact of COVID-19 on administrators as it relates to the professional impact experienced. The uniqueness of the societal impact experienced along with the fear for personal and family safety may have hindered professional abilities and may be worth considering. Additionally, this study focused on high school principals only. Studying the impact of the pandemic and the professional development needs at varying levels, such as elementary and middle school principals, may reveal different outcomes. Lastly, a bigger sample size that spans multiple states may reveal different outcomes. The needs expressed in this study may be centralized to one state.

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