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# "It's Like Flying a Plane While Constructing It": Exploring Blended Formatted Courses in Teacher Preparation Programs Through the Instructor Perspective

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**Abstract**
The purpose of our case study was to center better understanding the perceptions and perspectives of approaches to blended instruction among teacher education faculty to improve teacher preparation programs. Data were collected before and during COVID-19 in the USA. Our findings indicated that the faculty consistently practiced differentiation of instruction in their blended formatted courses and viewed this mode of delivery as having a positive impact on preparing teacher candidates on teaching specific content and the skills needed as professional educators. Findings also revealed that the instructors faced obstacles, but they viewed this as a co-learning opportunity with their teacher candidates. With respect to COVID-19, our findings illustrated that successful adaptation of blended instruction among teacher educators is of an increased priority. The participants described the teaching techniques learned during the pandemic and stated they would incorporate these techniques to further improve their blended courses within teacher preparation in the future. We argue institutions should support faculty through investment in and promotion of faculty peer collaboration on structuring and designing blended courses.

**Key Words:** Blended instruction, COVID-19; instructor perspective, teacher candidates, teaching pedagogy

## Introduction

Blended instruction has rapidly expanded, especially in institutes of higher education. The National Center for Education Statistics (2021) reports that in 2018, nearly 40% of post baccalaureate students took distance education classes, while 79% of all colleges and universities in the United States offer courses and even degree programs in the blended format (McGee & Reis, 2012). This number is only expected to grow since research demonstrates that blended instruction combines the best components of face-to-face and online learning (Auster, 2016; Marquis & Ghosh, 2017). Scholars have used a variety of names to refer to courses that combine in-person and online components: flipped instruction, hybrid learning, and blended instruction (Linder, 2017). However, according to Margulieux et al. (2014), blended instruction incorpora-

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tes all aspects of online, hybrid, and flipped formatted instruction. As such, we used the term blended instruction throughout this study to refer to courses that have both in-person and online components.

Today's diverse students prefer flexibility in regard to time and place of learning (Chapman et al., 2020; Hall & Villareal, 2015; Vaughn, 2007; Wong et al., 2021) and expect multi-modal course content delivery (Lin, 2008). No matter what the mode of delivery is, students still require instructors as well as peer support and interaction to support their learning (Aspden & Helm, 2004; Dziuban et al., 2018; Wong et al., 2021), which a mindfully designed blended learning curriculum also provides (Stavredes, 2011). Therefore, it is imperative that educators have an intrinsic understanding of best practices before designing blended formatted courses. This importance is twofold for teacher preparation programs; teacher educators are not only teaching essential course content, but also demonstrating best practices in course design as teacher candidates engage with the blended formatted courses.

As a result of the COVID-19 global pandemic, classes at all levels were shifted to online instruction to avoid the spread of the virus. Notwithstanding individual and communal safety, well-being, personal and familial livelihood among educators—the COVID-19 pandemic has undoubtedly had an impact on the entire field of education. At present, research is formulating that the outlook on implications of COVID-19 is variable throughout grade-levels (e.g., access to technology/connectivity, professional development for teachers and school administrators), all while attempting to knowingly meet the challenges to improving structural conditions that have exacerbated existing inequitable and disproportionate impacts (Gaylord-Harden et al., 2020; López et al., 2020; Darling-Hamond et al., 2020; Johnson et al., 2020). The depth of scaling within P-12 schooling alone is enough to warrant its own proper examination or study (Gaylord-Harden et al., 2020; López et al., 2020; Darling-Hamond et al., 2020), the same can be said for continuing circumstances within higher education (Rapanta et al., 2020; Johnson et al., 2020; Anwer, 2020; Clark et al., 2020). With the benefits of blended instruction, it is reported that this model of instruction will become a new normal in the field of education post-COVID-19 (Ferlazzo, 2020).

While studies have addressed best teaching practices for blended instruction from student perspectives in higher education (e.g., Aycock et al., 2002; Chapman et al., 2020; Martin et al., 2015; Vaughn, 2007; Wong et al., 2021), minimal research has been conducted to examine blended instruction from instructor perspectives, especially in the field of teacher preparation. Instructor perspectives on designing and teaching blended education classes are a vital part of improving course designs that not only will benefit students, but their perceptions and experiences on this delivery mode of instruction are important because instructors' beliefs influence their pedagogical decisions (Liu & Tan, 2015; Wong, 2012; Wong et al., 2016). Thus, we were interested in exploring teacher educators' views on blended instruction, especially at the graduate

level. As an extension of short-term and potential long-term impacts of COVID-19 on higher education, we also expanded upon the discourse on blended instruction and how teacher educators navigated these formatted courses during the pandemic, and how we can learn from this experience for the future. The following question guided our study:

RQ: What are teacher educators' views on blended instruction specific to graduate student teacher preparation programs?

## Literature Review

### Blended instruction in higher education

Blended instruction has become a popular mode of delivery in a higher education setting (Hall & Villareal, 2015; McGee & Reis, 2012; Kaleem et al., 2016). Because blended learning has quantifiable benefits for both students and instructors (Auster, 2016; Chapman et al., 2020), it has become an integral means to offer courses in higher education (Norberg et al., 2011; Dziuban et al., 2018). Thus, researchers predict that blended learning would become the "new traditional model" (Ross & Gage, 2006, p. 167).

In regard to the design of blended instruction, Kozikoglu (2019) determines that these courses aim to facilitate the acquisition of lower order thinking skills and the in-person experience aims to facilitate the acquisition of higher order thinking skills. However, Kaleem et al. (2016) state that blended instruction allows students to have additional experiences with real-world issues they might face in their careers, cultivating the opportunity for problem-based learning. While there is not a single way to design a blended formatted course, such mode of instruction should include a mindful incorporation of out-of-class assignments to support student comprehension and engagement that students experience in an in-person classroom environment (Hall & Villareal, 2015; Kaleem et al., 2016; McGee & Reis, 2012).

Establishing strong instructor presence from the start of the semester is an important component of successful learning, including in blended learning programs (Glazier, 2016; Stavredes, 2011). When instructors communicate with students on a regular basis, their teaching presence is positively reinforced and student motivation consequently increases (Baker, 2010; Tichavsky et al., 2015). Students value instructor presence, especially in the form of timely and meaningful feedback as well as confidence in knowing that the instructor is there to guide the learning process (Richardson et al., 2016; Vesely et al., 2007; Wong et al., 2021). Instructors who create learning communities where both instructors and students had high levels of social presence enjoyed more positive outcomes (Soles & Maduli-Williams, 2019; Stavredes, 2011). Students also look to their instructors to model best practices by being approachable learning guides throughout the learning process (Hostetter & Busch, 2013; Vesely et al., 2007). In addition, without a strong sense of community with peers, students are

more likely to experience feelings of isolation that may lead to higher rates of dropping out (Rovai & Jordan, 2004).

There are consistent overlaps within the literature that discuss student preference on blended formatted courses. Some of the reasons include how this mode of delivery provided students with more flexibility when completing assignments and engaging in class work while also still generating improved learning outcomes (Aycock et al., 2002; Chapman et al., 2020; Martin et al., 2015; Vaughn, 2007; Wong et al., 2021). Students also feel more prepared when they can access content online before engaging in face-to-face discussions (Kenney & Newcombe, 2011; Thompson & McDowell, 2019). However, it is also important to note that students prefer that online and face-to-face sessions do not repeat course content, but rather, that they enrich one another, as students tend to spend less overall engagement with content when they know that it will be repeated in the face-to-face classroom (Hall & Villareal, 2015; Helms, 2014; Margolis et al., 2017). Rather than repeating course content, the graduate students in the study of Wong et al. (2021) demonstrated that students preferred when instructors connect the online materials and discussions to real-life learning activities. Similarly, an effective blended instruction model supports intellectual growth by encouraging interactions between all members (Aspden & Helm, 2004). Higher education students view effective instructor modeling as one of the most important components when taking classes in the blended format (Richardson et al., 2016; Sheridan & Kelly, 2010). However, unless institutions of higher education support instructors, blended learning courses will not be successful (Porter & Graham, 2016; Graham & Robison, 2007; Christo-Baker, 2004).

**Blended instruction and teacher preparation**

Blended instruction in the field of teacher education is emerging (Wong et al., 2021). For example, Chiero and Beare (2010) examined the efficacy of blended teacher preparation programs by collecting evaluations from thousands of novice teachers and their supervisors. The survey responses revealed that blended formatted ratings were considerably higher than the traditional formats. Another study by Mumford and Dikilitas (2019) evaluated how reflective teaching practices are strengthened via blended instruction. Their research revealed that blended instruction provides multimodal communication for teachers as well as opportunities for meaningful reflection to enhance their teaching practices.

On the contrary, the study by Wong et al. (2021) found that the graduate teacher candidates expressed negative experiences in their blended formatted courses, particularly during their online sessions and described the online component as "busy work" (p. 106). The participants wished their professors could have focused more on their clinical practice and delved more into the discussions in their blended courses. The authors state that blended instruction requires a unique set of pedagogical skills

rather than simply combining the components of in-person and online. Thus, careful planning and knowledge of digital learning in order to weave important constructivist theory throughout the blended learning experience is necessary (Soles & Maduli-Williams, 2019; Oh & Jonassen, 2007). As teacher educators and educational researchers, we have drawn upon existing literature and our own previous scholarship to explore how we can strengthen blended instruction to support the learning of and professional development for pre-service and in-service teachers, especially those at the graduate level. As blended instruction becomes more widespread in the field of teacher education, there is a need for research to focus more on this area, especially on the instructors' experience.

**Theoretical Framing**

In teacher preparation, the discourse on and applications of praxis or the centering of pedagogical practices in education is an important component for teacher educators to impart on their students. In relation to facilitating blended learning, what we believe to be effective in this endeavor is to ensure the communication of underlining pedagogical theory. Research, for example, has suggested that no one single theory may capture all aspects of blended learning. However, teacher educators as well as teacher candidates are encouraged to be introduced to a range of theoretical underpinnings that promote and reinforce learner-centered engagement (Lokey-Vega et al., 2018). Therefore, theoretical framing that underscores effective blended instruction may include, but is not limited to: a greater sense of instructor emphasis on understanding blended learning reception among learners to promote student cognitive and emotional engagement; revisiting of what it may mean to be learner-centered and how differentiation in the blended learning space may differ or is similar to a traditional learning environment; increased attention to quality in strengthening student metacognitive skills; intentionally fostering learner affirmation; and promotion of variety in active learning competencies (e.g., integrating the combined processes of lesson planning to technology use to increased participatory engagement) (Jenkins et al., 2009; Halverson & Graham, 2019; Lokey-Vega et al., 2018). These considerations can be understood as interconnected and speak to the importance of conceptualizing and implementing blended learning though a pedagogical spectrum of multiple practices.

A clear inroad being made through theory application in blended learning is increasingly placing instructors in a position to better decision-make not solely based on a sudden or abrupt pivot in course design and delivery, but to actually changing pedagogical practices to meaningfully account for how students learn both during the in-person as well as in the online space (i.e., from a research informed position). In addition, this may also mean designing a blended learning environment through the combination of both asynchronous and synchronous class sessions—re-envisioning a blended synchronous/asynchronous alignment (Bower et al., 2015) (e.g., promotion

of skills across complimentary apps, including social media, or videos) as an opportunity to further explore, link back to, and extend out. This familiarity and increased blended learning fluency can spotlight theoretical framing that encourages revisiting how pedagogical knowledge, skills, practices, and professional learning can all be maximized, ideally also supporting empowering instructors with the tools necessary to lead. We foresee that blended learning among instructors is an opportunity for them to re-identify and re-define as continuous learners.

**Methodology**

An instrumental case study approach (Merriam, 1998; Stake, 1995) was applied in this study, with a purpose of gaining insights into teacher educators' views on blended instruction for their graduate students. Throughout this study, we referred to the students in the participants' courses as teacher candidates, but we recognized that these courses included a combination of pre-service and in-service teachers enrolled.

The study took place at a mid-sized liberal arts private university in the Northeast area of the United States. The two graduate teacher education degree programs offered at the time of the study were Masters of Arts in Teaching (MAT) and Masters in Special Education. There were approximately 10 courses offered each semester in a blended format within these programs with a variety of certifications (Elementary, Secondary, K-12) and endorsements (Early Childhood, Special Education, Teaching English as a Second Language). There were approximately 10-15 teacher candidates in each course. Instructors determined the format of their own courses. Some instructors decided to follow the same format, of their courses, that was previously taught by prior instructors. In addition, the design of these blended courses was based on the professors' preferences without a set rule or guidelines of how they should be structured.

**Researcher positionality**

As authors, we identify ourselves as teacher educators who also teach blended formatted courses to graduate students. Our positionality through our teaching experience, research, and practice contributes to our understanding of the benefits of blended instruction. We also know that many faculty members lack training and support in leading this mode of delivery. Thus, aligning with our expertise, we are interested in exploring how other teacher educator fellows design their blended courses and their experience in offering these courses to their graduate teacher candidates. Our goal in this work is to better develop effective blended formatted courses within teacher education programs.

**Participants**

At the time of the study, there were six full-time instructors teaching blended formatted courses within the two graduate teacher education programs. The first re-

searcher sent an email to these six instructors and invited them to participate in the study. Of the six instructors, five of them were willing to participate. As such, there were a total of five participants. We considered this sample size to be sufficient for our case study because of two reasons. First, we focused on the contexts and the perspectives of the participants; thus, sample size is irrelevant (Creswell, 2013; Vasileiou, et al., 2018; Yin, 2009). Second, we saw repetitive patterns from our data analysis, which is essential for qualitative research (Charmaz, 1990). We called these five instructors Abbey, Cara, Cindy, June, and Mia (pseudonyms) throughout this study. Table 1 indicates these five instructors' experience of teaching higher education and with blended instruction. Although all of the participants received some online instruction training from various places, they never had training on blended instruction. They also used the learning management system (LMS) provided by the university for their blended courses.

Table 1.
*Participants' Experience with Blended Instruction*

| Participants | Years of Teaching in Higher Education | Experience with Teaching Blended Instruction |
|---|---|---|
| June | Nineteen | Taught blended courses since the beginning of her career as a professor. |
| Abbey | Ten | Taught a total of three different courses over the course of ten semesters. One course per year in the first four years, then one per semester. |
| Cindy | Eight | Taught three different blended courses over ten times. |
| Cara | Seven | Taught two blended courses per semester over the course of seven years (three different courses). |
| Mia | Five | Taught one blended course five times. |

**Data**

The data sources collected for this study were: 1) field notes from two in-class observations of a selected course by each participant, 2) field notes from an observation of the same course on the LMS site, and 3) transcripts of an in-depth, semi-structured one-on-one interview with each participant. First, each participant selected which course they wanted to be observed. The first researcher and a graduate assistant conducted the in-class observations and observed the LMS site before and after the in-class observations. After the observations, both the first and second researchers conducted a one-on-one interview with each participant. The interview questions included: a) What do you consider when teaching or planning for blended courses for your teacher candidates at the graduate level?; b) Based on your experience thus far, what do you think of the connection between in-class and online sessions for your blended courses?; c) What do you think of the interaction between you and your teacher candidates in your blended courses; d) What are the academic positives/negatives for teacher candidates concerning the blended format? We also included questions that came up during the class observations.

The interviews took place before the start of the COVID-19 pandemic, but we were also interested in learning more about the participants' perspectives on blended instruction during the pandemic. Thus, we reached out to the instructors and invited them to participate in a follow-up interview. All of them accepted the invite. Examples of the follow-up questions were: How do you structure your blended instruction during COVID-19? and What is your observation of your students' learning in your blended courses during COVID-19?

**Data analysis**

Thematic analysis (Braun & Clarke, 2012) was applied in this study. In the first phase, we each read the data from the field notes repeatedly to gain a deep understanding of how the courses were structured and what happened in the classes. We also modified the interview questions based on our analysis of the field notes. In the second phase, we focused our analysis on the interview data. We first read through the transcripts individually through the open coding strategy (Rossman & Rallis, 2003). We, then, read the data again and applied In Vivo coding method (Saldaña, 2016) to learn more from the participants' experiences. We also referred to the field notes and summarized the participants' experiences using analytic memo writing during this stage of the analysis. Upon completion of the individual analysis, we collaboratively compared our notes and if there were any differences, we referred to the data and discussions were carried out. After that, we reexamined the codes and employed Pattern Coding to develop overarching themes for the research question (Saldaña, 2016).

## Findings

To answer our research question on teacher educators' views on blended instruction specific to teacher candidates at the graduate level, three main themes were generated: 1) curriculum design for teacher candidates, 2) impact of blended instruction on teacher preparation, and 3) COVID-19 and beyond. Sub-themes for the third theme "COVID-19 and beyond" were also determined. They were: advantages of synchronous sessions, instructors' feedback, and effective use of technology for teacher candidates. Below, we summarized our findings, supported with quotes from the participants.

### Curriculum design for teacher candidates

All of the participants stated that creating a meaningful and interactive blended formatted course requires very careful curriculum planning. Considering students' content learning needs during the design process is important, because it is vital for them to provide a balanced structure that allows teacher candidates to connect theory and practice. In addition to theory and practice, the participants discussed the importance of connecting the in-person and online components to prepare students for the authentic and meaningful teaching experience during the ongoing clinical practice. They emphasized the importance of making sure what is taught in the course needs to be aligned to what the teacher candidates are experiencing in the schools during their observation hours. For instance, Cara commented, "It has to be very, very organized. They're actively working in the field, I make sure that their activity and the focus of the content aligns with the lesson plans and intervention plans they're doing out in the field."

Besides content, another aspect that goes into planning is related to student consideration. Availability of technological resources and access to K-12 classrooms were brought up by the participants. According to the participants, what resources are available for the students to maximize their learning during the online component cannot be ignored. The excerpt from Cindy illustrates the instructors' needs to carefully consider their students prior to the start of the course. She said, "Do my students have the required technology on their end? I have high-speed internet here. I have the support of the IT department here. I don't know where my students will be. What if their connection is not working?" In addition, since not all graduate students are full-time teachers, the instructors stated that they need to consider whether their students have their own classrooms when planning for course activities and assignments. From our observations, we noticed that four of the participants included a variety of activities, such as case studies to provide classroom scenarios for those that did not have their own classrooms.

Furthermore, four participants emphasized that planning is an ongoing process for blended instruction. Over the course of a semester, they look at areas that they feel they

need to emphasize more during the in-person component by conducting different types of classroom assessment. For instance, Mia said, "I definitely reserve anything that I think needs further instruction, further guidance, more facilitation, my facilitation on their learning for in-person instruction versus the online portion." Although instructors were given complete freedom to determine the format of their courses and how they would like to deliver their blended formatted courses, without proper training, the instructors were not sure how they should structure and design their courses. Rather, they described it as a self-taught process with a great deal of trial and errors. The comments below reflect the participants' struggle regarding blended instruction. Cindy stated, "We don't really get training to teach [blended] format courses. For traditional classes, we can shadow what we liked our former teachers did. I'm still changing the course even after teaching it 10 or 12 times."

Abbey said,

> *"The planning of which content goes well with online was tricky to sequence, like which topic do I want to cover first. Is it better for online? So maybe I should wait for next week and think about it. Planning is time consuming and it's difficult. It's kind of like flying a plane while you are constructing it. "*

In fact, Abbey's comment matches our online observation of her LMS. Instead of having all course materials available for her students, she seemed to design her lessons week by week. These findings reveal that blended courses require an immense amount of planning on the part of the instructors to utilize time effectively, so that time spent with their teacher candidates in the course helps guide them in conducting and facilitating projects they will lead in their teaching practicum.

**Impact of blended instruction on teacher preparation**

All of the participants agreed that blended instruction has a great impact on teacher preparation, especially for those at the graduate level. The data from our field notes and interviews indicated that the in-person sessions allow for ongoing discussions among the professor and students, possibly creating the chance for instructor and student connections. These connections are powerful and meaningful as instructors not only can relate class material to the personal and professional lives of their students, but the in-person component also provides opportunities for students who are less self-directed and less-motivated to stay on track. According to the participants, these students can still see their instructors, build connections, discuss content in-person, and eventually become more self-directed to succeed in the course.

In a professional sense, because the majority of the students in the programs are either full-time teachers or have a full-time job, the participants view that the online component not only gives these students the ability to take responsibility for their

own learning, but it also respects their schedules. They voiced that blended instruction prepares teacher candidates much more professionally than a traditional in-person class format because it enables them to get more content across to students. Teacher candidates are able to study the content within their own schedule, use that information to create interactive lessons, and apply the content and skills in their classrooms or teaching practicum. During the face-to-face component, they come together and demonstrate their lessons, share their experiences with their peers, and provide feedback for one another. In addition, the online component offers students time to practice teaching and for professional development, which will increase their readiness to teach a specific content. The excerpts below illustrate how blended instruction has a positive impact on teacher preparation programs. Mia explained,

> *"Say, they are doing something with the classroom climate indicator. It's a reliable tool adopted by the state. We'll learn how to work with the tool, have a lot of dialogue about it. And the students will be able to ask me lots of questions about it. So that when they're going out in the field, they're maximizing their time, they're utilizing those tools, and they're ready for it."*

Similarly, June described,

> *"My goal is to give them the tools to teach Science, so I require them to go through a certificate program during the online component. Some of the districts have now required it; one of the reasons they'll hire our" [teacher candidates].*

Regarding the in-class component, four of the participants view that collaboration, interaction, and communication play a significant role in a teacher's career and blended formatted courses provide the face-to-face time for their students to practice these skills. From our in-class observations, all of the participants spent the majority of course time on group work and discussions. They referred to the readings and course materials that the teacher candidates had completed during the online session. For example, Cindy asked her students to pair up and design a short lesson based the course readings and a scenario given. Cara supported this strategy and said, "Teachers need to communicate with so many people; they have to practice that ahead of time. We can't drop them into the schools and say 'go.' Part of the program should be practicing those skills so they are well-prepared."

**COVID-19 and beyond**

Three sub-themes were developed in regard to blended instruction during COVID-19 and beyond: advantages of synchronous sessions, instructors' feedback, and effective use of technology for teacher candidates, particularly at the graduate level.

***Advantages of synchronous sessions***

The COVID-19 outbreak forced all courses to be fully online. The participants discussed how they kept learning and modifying their teaching and structure of the blended courses based on students' feedback and their learning needs. Even though their courses became fully online, the participants learned that many of their teacher candidates preferred a synchronous component. Thus, through this experience, all of the participants realized that blended instruction can be implemented in a fully online component and that it can be interactive. All of them agreed that COVID forced them to think about online instruction in a much more impactful way. Rather than simply transferring content from in-person to virtual, it was critical for them to think creatively of how they could engage teacher candidates and to ensure they still have the same experience. They realized that including synchronous sessions can strengthen not only their online instruction, but also their blended formatted courses. For instance, June stated, "If a professor has an online course and all they're doing is not meeting with their students, they're not providing personal attention, it could be a disaster… [students] miss the human connections."

Not only does synchronous meetings deepen students' learning, the time also increases students' levels of collaborations, which is a vital aspect in the teaching profession. In Cara's words,

> *"I found that even though it is completely online, we need to have synchronous meetings with some frequency. I will send them off in small groups and let them talk to each other again...it would increase their level of collaboration with one another...using voice, not just text. "*

Similarly, Cindy said, "My students said that because everyone in their schools are so stressed during these crazy times, they appreciate the synchronous time where they can interact with their classmates and share teaching ideas." However, one important point that the instructors mentioned repeatedly was in regard to connection. Whether it is a blended course with in-person and online or a blended course with synchronous and asynchronous components, there should be a connection between the sessions and there needs to be a connection between what teacher candidates are learning in class and what they are doing in the field. The excerpt from Mia illustrates this: "I have synchronous components in all my classes. I like having that if my students are in the field if they're implementing lessons or interventions with students, I like having that contact with them, for sure."

***Instructors' feedback***

All of the participants stressed that instructors' feedback was critical pre-COVID, and it was even of greater significance during COVID. Without the opportunity to observe and carry out projects with actual children in in-person school settings as well

as communicate with their teacher mentors, the participants believed that instructors' feedback was of utmost importance in teacher candidates' learning. During the pandemic, the participants could see that some of their teacher candidates were not at their highest point. Thus, they believed not only should teacher educators think creatively of how they should engage teacher candidates to ensure that they had those meaningful experiences if they were not in the classroom, but their feedback was critical in their learning process. For instance, Mia believed that her feedback to her teacher candidates pushed them to think and apply the information in a more impactful way. She described, "I said, 'you guys are the teachers, come up with your own questions, make it thought provoking, think of it in relation to a student in the case study video'."

Delivering clear, personal, and meaningful feedback as well as giving an opportunity for teacher candidates to discuss the feedback was important to the participants. When asked how they provided feedback for their teacher candidates, June said "I try to make my classes as personal as possible. Instead of providing feedback on the assignments written in a little box they provide on [the LMS], I am videotaping my responses, which gives my students a more personal connection." Similarly, Cindy discussed how all of the assignments for her courses included a rubric and she would fill it out with detailed feedback and return it to the students in a timely manner so they would be aware how they performed on the assignment in correspondence to the rubric guidelines.

***Effective use of technology for teacher candidates***

All of the participants discussed the importance of technology in blended instruction and, particularly, in teacher education before the pandemic because technology allowed them to use many resources to expand the teacher candidates' knowledge and train them to be more independent and critical thinkers. June explained, "I've gotten them to expand their reading resources. I require them to read some serious Science article and discuss it. And they love the discussion on it. So, I'm able to get Science across to them, especially current science." Because teacher candidates were not able to work with school aged students for their course projects or to perform the in-person labs due to school closure to avoid the spread of COVID, these participants modified assignments to accommodate their teacher candidates' needs by making good use of technology, such as video scenarios and simulations which let them continue learning and applying course content.

On the other hand, four of the participants admitted that they were still learning how to teach blended and online courses more effectively. They stated that technology can never replace real classroom experiences and wondered how prepared teacher candidates would be with technology only. Mia's comment illustrated this uncertainty: "We've simulated those experiences. I don't know that it's the same level of preparedness that you would have if you actually did it with a student or in a classroom."

Another point in regard to technology is that the participants were able to show their students that they are co-learners in this aspect. Because all of their teacher candidates were new to virtual teaching as a result of COVID, three of the participants shared that they and their teacher candidates were able to learn about different online teaching tools together. The comments from Cara and Abbey demonstrated their stance as co-learners with their teacher candidates. Cara: "Having them understand that I was learning and I was okay showing them that I might make mistakes they would feel more prepared doing that." Abbey: "We are learning from each other. Sometimes they learn about the tool through my class and then sometimes they share with me what I am looking for."

Although the participants lack formal training to design and teach blended formatted courses, they mainly learned from student feedback, observations of students' performance, and their desire to prepare teacher candidates well in their teaching career. Overall, our participant instructors agreed that blended instruction is valuable for graduate level teacher preparation courses. They believed that blended instruction not only respects students' personal time and obligations, but it also brings forth a high level and an engaging type of learning experience that is needed for teaching content, professionalism, and use of technology in classroom settings.

**Discussion**

The results of our study provide valuable insight into how teacher educators of blended courses deliver differentiated instruction to their students. Differentiated instruction, especially within the blended model, is critical in teacher preparation programs as it promotes professional growth and development for teacher candidates. Our findings indicated that through online collaboration with classmates, teacher candidates learn about and reflect upon a broad range of perspectives, particularly relevant professional skills related to teacher education—such as collaboration with a range of stakeholders (e.g., parents and colleagues), use of synchronous time, and the importance of continuing to develop teaching pedagogy. These kinds of collaborative opportunities in blended learning environments reaffirms theoretical framing behind blended instruction, that suggests intentionality in fostering multiple metacognitive competencies and experiences (Jenkins et al., 2009; Halverson & Graham, 2019; Lokey-Vega, Jorrín-Abellán & Pourreau, 2018). For example, in our findings, the following can be understood as attention to intentionality: a) instructors continuously extended their teaching pedagogy to account for curriculum design in their blended courses, from considerations for theory to practice, to better alignment of in-person to online sessions to conceptualization involving continuous ongoing processing and instructor reflection; b) in relation to teacher preparation specifically, the participants acknowledged that acclimating their teacher candidates to increased exposure and experiences with blended instruction offered both their teacher candidates and themselves

opportunities to practice and develop enhanced teaching pedagogy, including introducing and engaging with new online/technology tools and by extension increased range in approaches to communication; c) a possible enduring outcome of blended instruction was its continuance during COVID-19, as instructors reflected on their experiences with navigating synchronous sessions and leading courses while being mindful of providing meaningful feedback to students and improving technology use and application. Just as Comas-Quinn (2011) reported a decade ago, blended courses offer opportunities for instructors to implement multiple modes of instruction for their diverse learners, whereas in addition too, flexibility was also of great importance to the reception of blended courses (Chapman et al., 2020; Wong et al., 2021). Thus, advancing our understanding for how blended formatted course instructors take full advantage of the potential in accessing flexibility in their courses, whether in-person or online, becomes an increasingly salient component to maximize students' learning fully and effectively (Wong et al., 2021).

As to the urgency to study outcomes in relation to the ongoing COVID-19 pandemic, research can examine additional contexts associated with how COVID-19 has potentially changed the ways in which instructors approach teaching and learning, emphasize self-care, and gain access to a range of support systems. Most notably, our participants expressed that they did not receive any formal training on blended instruction. As such, the participants' week-to-week course planning in general and adaptation to changing circumstances of COVID-19 became challenging for them.

Within the context of teacher preparation and applying more effective practices, we suggest supporting faculty through institutional investment in and promotion of faculty peer collaboration, discussion, and sharing of ideas on structuring and designing blended courses to avoid what Abbey experienced, "flying a plane while you are constructing it." Institutions, for example, should create ongoing professional development opportunities, perhaps by discipline, such as addressing what blended instruction may look like for teacher educators. This way, concentrating on how teacher educators can better demonstrate best practices within a blended model to their teacher candidates. With the arrival of newer technologies and capacities and access to virtual settings, professional learning should be leveraged as a means to strengthen faculty community building. In addition, the extension of research in this area should better identify how instructors have been changing their practices during COVID-19, so as to model better designed means of effective engagement with their teacher candidates that integrates knowledge of teaching pedagogy, technology applications, and increased attention to equity. With continued revisiting of sustainability in the context of COVID-19 and higher education, we anticipate blended learning permanently being a focal point in strategic planning and systematic considerations for addressing (in) equitable access as well as professional learning and advocacy.

**Limitations and Expanding Research**

An implication of our study is contributing to the literature on blended instruction, teacher education preparation, and the instructor experience combined, particularly considering how higher education instructors have been adapting to changing circumstances tied to the ongoing COVID-19 pandemic. A limitation we acknowledge is the need to better identify and explore institutional response to support respective faculty in meeting the demands of technology use and applications, most notably changing newer technologies as well as the degree of quality in virtual access and participation. In our study, we did not highlight whether real-time institutional intervention, technology offerings, or program support may have all also contributed to instructor views on blended instruction. We encourage expanding research on this latter work by studying how institutional policies, practices, and creation of innovative initiatives may reinforce instructors practicing and advancing quality in teaching and learning. Lastly, we recognize the important role of students' perceptions on this mode of delivery. As such, future studies should include comparisons of students' views to that of instructors in hopes of providing a clearer picture of the impact of blended instruction on teacher candidates.

**Conclusion**

Blended instruction is closing the digital equity gap worldwide. As our study suggests, exploring the intersections of faculty preparation, mindfulness, and experiences with blended instruction before and during COVID-19 can enhance intentional course design and delivery for teacher preparation and continued professional development of teachers. We believe that an increased significance in what is known about blended instruction and higher education, including the nuances of pairing blended instruction with teacher education and evolving theory in teaching pedagogy, combined will create a more robust and in-depth comprehension for teacher education. Meaningful insight regarding the flexibility, planning, student/teacher interactions, and the implementation of technology from the perspectives of instructors who utilize blended instruction for teacher preparation courses will continue to benefit the learning experiences of respective educational communities moving forward and at large. We suggest further research should identify how teacher educators adjusted their teaching pedagogy to better model designed means of effective engagement with their teacher candidates.

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