EXPLORING THE LIVED EXPERIENCES OF TEACHERS WHEN ENROLLED IN AN

ASYNCHRONOUS CERTIFICATION PROGRAM: A PHENOMENOLOGICAL STUDY

by

Sara Allen

Liberty University

A Dissertation Presented in Partial Fulfillment

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Abstract

This phenomenological study explored the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. This study was guided by John Keller's theory of motivation, as it explained the motivational factors that influence the Attention, Relevance, Confidence, and Satisfaction (ARCS) model for teachers who have completed an asynchronous educator certification program. A qualitative hermeneutical phenomenology design was combined with snowball and convenience sampling to enroll 10 participants from a school district in the Midwest. Responses from semi-structured individual interviews and a focus group with five participants were collected, and program description letters were obtained from all participants. The coding of all transcriptions helped in determining the study's themes and subthemes. The themes identified in this study were lifestyle preference for asynchronous learning, procrastination of asynchronous learning, program competencies, technology challenges, community of the program, meaningless peer communication, external factors for self-motivation, and human connection. The findings of this study are relevant as they revealed the common experiences of pre-service teachers enrolled in the asynchronous educator certification program. The study's conclusions included the communication and procrastination challenges participants faced and their motivations to overcome them and continue their program.

Keywords: asynchronous, pre-service teachers certification program, simulated field experience, video-based instruction, theory of motivation

Copyright Page

Dedication

I dedicate this to my friend and mother-in-law, Carla, whose encouragement, and belief in me never wavered. In moments when I felt overwhelmed and ready to give up, you gave me the hope to keep going. Your willingness to listen to all my concerns and issues as I went through my dissertation journey has been invaluable, and I am deeply grateful for your unwavering support. Thank you for always being there for me.

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First, I would like to thank my chair, Dr. Susan Quindag, for never allowing me to give up. Whenever I doubted myself, you always found the perfect words of encouragement for me to move forward. You always worked effortlessly to provide feedback to help me perfect my study. You helped me every step of the way. Next, I want to thank my husband for always supporting me while I spent countless hours researching and writing to complete this study. You allowed plans to change to allow me the time to continue my journey. I want to thank my friend, Christina, who always became available as a sounding board to allow me to talk through any problem I had. You were always there to offer advice when I needed it. I want to thank God for planting the idea to start this journey and giving me the strength and guidance to continue it.

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List of Abbreviations

Massive Open Online Course (MOOC)

Learning Management Software (LMS)

Attention, Relevance, Confidence, Satisfaction (ARCS)

Electronic Information Exchange System (EIES)

CHAPTER ONE: INTRODUCTION

Overview

The popularity of asynchronous educator certification programs has steadily increased

due to the convenience and flexibility offered by their structure (Dunn & Rice, 2019).

Furthermore, such programs allow learners to gain the appropriate knowledge and skills at their

own pace (Smydra et al., 2018). Nonetheless, asynchronous educator certification programs can

also present challenges for novice teachers (Carrillo & Flores, 2020). This study explored

teachers' lived experiences in asynchronous teaching certification programs and the motivation

required to overcome the related challenges. This introductory chapter discusses historical,

social, and theoretical contexts. Furthermore, the chapter ends by presenting the study's purpose,

problem, and research question, followed by the significance of the study, which explains the

need to explore the challenges of asynchronous teaching certification programs.

Background

Higher education is continually evolving to accommodate individuals' educational goals.

Many K-12 educator programs have modified their instruction to allow undergraduate pre-

service teachers to have the option of attending online training through an asynchronous,

synchronous, or blended learning modality. A blended learning modality allows pre-service

teachers to receive in-person and online instruction; thus, undergraduate pre-service teachers can

select a flexible option to accommodate their schedule and lifestyle (Graham, 2013). In addition

to enrolling in online classes to earn their certification, pre-service teachers can also enroll in

online classes to learn and develop skills and strategies to face the everyday challenges of

teaching K-12 students (Fuchs et al., 2022). Many asynchronous undergraduate teacher

preparation programs, such as Western Governor University (WGU), are formatted to address all the prerequisites and methods courses in the same way as any traditional in-person teacher preparation program through online and competency-based education (Barnes et al., 2020).

Many alternative educator certification programs also offer asynchronous learning environments to graduates without education degrees (Missouri Department of Elementary & Secondary Education, 2022). After completion of the program, these graduates who earn alternative licenses are able to teach. Alternative educator certification programs for learners are often accelerated; however, to obtain licensure, learners must follow the specific criteria established by the state in which the licensure is awarded (Mulvihill & Martin, 2019).

Historical Context

Asynchronous learning started in the mid-1970s, when the educational field adopted computer networking for academics (Haythornthwaite et al., 2016). Subsequently, researchers assigned to work with learners in higher education institutions began using asynchronous computer networks (Harasim, 2000). They discovered opportunities for learners to collaborate on their academic work through email and computer conferences; this asynchronous system was first known as the electronic information exchange system (EIES; Harasim, 2000; Haythornthwaite et al., 2016). Initially, scientists created the EIES to assist with problem-solving and making decisions regarding tasks or goals (Haythornthwaite et al., 2016). The New Jersey Institute of Technology adopted the EIES to become the platform for delivering asynchronous learning network courses, known as the virtual classroom (Haythornthwaite et al., 2016).

Asynchronous online education drastically expanded during the late 1990s, resulting in various attitudes toward incorporating technology into education (Harasim, 2000). Some faculty

members were skeptical of the digital expansion, while others saw the potential of online education since learners could collaborate online (Shelton & Saltsman, 2005). Much of the initial pedagogy of asynchronous online education consisted of professors offering online learners notes from their traditional in-person classes (Kentnor, 2015); however, as technology has grown and attitudes toward online education have improved, the pedagogy of asynchronous online instruction has developed for the online learning environment (Kentnor, 2015). Universities are continuing to invest in new technologies to improve the quality of education (Kentnor, 2015). A steady increase has occurred in distance education over the years, with at least 61% of all higher education-enrolled students taking at least one distance-educated class since 2021 (National Center for Education Statistics, 2023). Nonetheless, the percentage of students enrolled in at least one distance-educated class has declined since the peak of the 2020 coronavirus pandemic, dropping from 75% to 65% in 2021 (National Center for Education Statistics, 2023). Over the next 10 years, experts predict a 9% increase in this rate (National Center for Education Statistics, 2023).

Social Context

Many students choose an asynchronous learning method due to the flexibility of time and self-management of learning permitted by such pedagogy (Willems et al., 2021). Asynchronous educator certification programs are typically cheaper than in-person programs and accommodate non-traditional learners' schedules (Dunn & Rice, 2019). There are, however, disadvantages to asynchronous educator certification programs; for instance, asynchronous online learning aligns with a self-learning environment, which can create challenges (Kim et al., 2021). Learners are separated from their peers and instructors during an asynchronous environment, requiring them

to depend on self-monitoring and self-evaluation skills (Peck et al., 2018); a lack of these skills can thus hinder a pre-service teacher's progress toward completing their program. Learners need high motivational levels to succeed in a self-paced learning environment, and this strong motivation is particularly crucial in an asynchronous educator certification program due to the high levels of independence required by the course's structure (Willems et al., 2021). Consequently, pre-service teachers must study independently, requiring learners to have strong self-monitoring and self-evaluating skills (Peck et al., 2018).

High dropout rates may occur during asynchronous programs for various reasons, such as students' feelings of isolation while conducting assignments and obligations within the learners' home lives while enrolled in their courses (Barrot et al., 2021). High attrition rates among asynchronous programs can affect the number of teachers entering the workforce, thereby worsening the current shortage of teachers. Furthermore, asynchronous educator certification programs require the constant use of technology, which may result in challenges associated with maintaining internet-enabled devices. The loss of internet connection can become challenging, especially when learners cannot submit essential assignments or access vital online material (Ilias et al., 2020).

Theoretical Context

This study's theoretical framework follows John Keller's (1983) theory of motivation. Relevant theories related to this study include Albert Bandura's (1986) theory of self-efficacy and Alexander Astin's (1999) theory of student involvement; while the self-efficacy theory provides insight into how individuals align their abilities with their beliefs (Bandura, 1991), the

theory of student involvement provides insight into learners' engagement with their course or program of study (Astin, 1999).

The theory of self-efficacy aligns with learners' belief in their capabilities to motivate themselves to continue overcoming challenges and master the skills required to complete various tasks (Bandura, 1986). Self-efficacy is the determination to master challenges and leads to people exerting effort toward completing tasks (Bandura, 1991). Albert Bandura began formulating his self-efficacy theory after developing the social cognitive theory based on Miller and Dollard's social learning theory (Whitham et al., 2013). Bandura's self-efficacy theory explains human behavior and actions by focusing on the way in which people overcome the challenges and demands that people face in their environments (Bandura, 1986). Bandura established four sources to identify the factors that affect a person's level of self-efficacy: mastery experience, social comparison through vicarious experience, social persuasions, and inferences from physiological states (Bandura, 1986). According to Bandura (1986), an individual's perceptions of success toward achieving goals and persisting through their experiences, regardless of the difficulty level, are based on self-efficacy.

One study utilized Bandura's theory of self-efficacy to explore the relationship between pre-teachers' achievements in mathematics and their teaching of mathematics, finding a positive relationship between mathematics achievement and self-efficacy (Ampofo, 2019). Another study followed Bandura's theory of self-efficacy to evaluate the contribution of collective self-efficacy toward an individual's self-efficacy, revealing that higher levels of support within the teacher education program contribute to higher levels of self-efficacy within the individual pre-service teacher (Devi & Ganguly, 2022). Bandura's self-efficacy theory continues to be used in

educational research to explain multiple levels of self-efficacy toward various tasks, such as using technology in teaching (Bandura, 1986), and online learning similarly requires high self-efficacy due to its significantly individual work structure.

Another theory that may relate to asynchronous learning as teachers complete their certification process is Astin's (1999) theory of student involvement. Online education programs may illuminate student involvement theory by focusing on their capabilities toward completing the required tasks for their courses and programs (Astin, 1999). A learner's involvement can influence their learning and engagement with the outcome of a program; the more involved and dedicated learners are to their studies, the higher the chance of them gaining the desired outcome for their program (Astin, 1999). The theory of learner involvement focuses on what learners are doing to help develop their classroom preparation while overcoming the challenges faced during their online program. Aligning the theory of learner involvement to the challenges faced by teachers can identify various solutions to help better adapt online teacher programs.

Problem Statement

The central problem addressed by this study was the challenges faced by pre-service teachers during their asynchronous educator certification program (Korucu-Kış, 2021; Mehrabi et al., 2022; Yang et al., 2021). The attrition rate of pre-service teachers in asynchronous online programs is higher than pre-service teachers enrolled in a traditional setting (Mehrabi et al., 2022). The ways in which pre-service teachers handle the challenges during their educator certification program can affect how they address the problems that arise in their future classrooms once they become in-service teachers (Tareen & Haand, 2020). Further research regarding teachers' perceptions of their online teacher programs is needed to address the student

involvement required to overcome the challenges of online educator certification (Jin, 2023). Exploring the specific challenges that teachers face within their asynchronous pre-service educator certification programs helps close the gap in recent information on the motivational factors required for overcoming the challenges of these programs (Yang et al., 2021).

Purpose Statement

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. (Korucu-Kış, 2021; Mehrabi et al., 2022; Yang et al., 2021). For this research, "asynchronous educator certification programs" are defined as programs that enable pre-service teachers to gain educator certification through an online program. This research adds information regarding the challenges that teachers face during their asynchronous educator certification program and the motivational factors required to overcome these challenges.

Significance of the Study

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. This study contributes to John Keller's (1983) theory of motivation by exploring the motivational factors required for pre-service teachers to complete their asynchronous educator certification programs. Furthermore, the study determines the viability of the four motivational principles of Keller's (1983) theory of motivation, known as attention, relevance, confidence, and satisfaction (ARCS), toward asynchronous educator certification programs by exploring the challenges and motivational factors discussed by the study's participants (Keller, 2008).

Regarding the empirical significance of this study, recent literature has explored the challenges associated with asynchronous educator certification programs, such as technological challenges and the need for self-motivation (Enochsson, 2018; Fırat et al., 2018; Sun, 2020; Willems et al., 2021). This study contributes to the existing literature on the motivations associated with pre-service teachers completing their educator certification online (Smothers et al., 2020). Many earlier studies have examined the challenges of asynchronous educator certification, revealing obstacles associated with miscommunication, motivational issues, and technology disadvantages (Ajayi, 2009; Maheady et al., 2014; Perveen, 2016). Current studies focus on the broad spectrum of asynchronous learning, targeting challenges such as poor communication and a disconnect toward the community within a course or a program; however, these studies lack a specific focus on an asynchronous educator certification program from a K-12 pre-service teacher's perspective (Martin & Bolliger, 2018; Tareen & Haand, 2020). Some studies offer feedback on the instructor's perspective within an asynchronous teacher program (Erdem-Aydin, 2021; Quezada et al., 2020). Many current studies on the challenges of pre-service teachers in online programs address the obstacles associated with pre-service teachers teaching online classes due to the outbreak of the COVID-19 pandemic rather than the challenges that these teachers face while completing their asynchronous certification program (Mohamad Nasri et al., 2020).

Regarding the study's practical significance, the findings offer online professors in teacher education programs information about the challenges faced by pre-service teachers while completing their online educator certification programs. Administrators and educators of online educator certification programs can utilize the study's findings to modify any program elements

that may hinder pre-service teachers from feeling motivated and becoming actively involved in developing the necessary skills to become proficient educators**.** Pre-service teachers enrolled in online educator certification programs can also benefit from this study; they can learn about teachers' challenges in online programs, gaining insights to prepare themselves for similar challenges and understanding the types of motivation required to overcome them.

Research Questions

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The following research questions were used to explore the lived experiences of graduate teachers during their asynchronous educator certification programs and expand upon their challenges and motivations during the program. The questions were based on the theoretical framework of Keller's (1983) theory of motivation.

Central Research Question

What were the lived experiences of current residential teachers during their asynchronous educator certification programs?

Sub-Question One

What were the challenges faced by current residential teachers during their asynchronous educator certification programs?

Sub-Question Two

What motivating factors did graduates of asynchronous educator certification programs identify during their program?

Definitions

1. *Asynchronous Learning* – No time set for learning to occur; self-paced learning within a module (Malik et al., 2017).

2. *Blended Learning* – The use of various internet and digital media in a classroom setting; requires teachers and learners to be present (Friesen, 2012).

3. *Mobile Learning* – Process of learning by using wireless technological devices that connect through unbroken transmission signals (Attewell & Savill-Smith, 2005).

4. *Online Learning* – The type of learning that requires learners to take a course or program that uses electronic media (such the internet or computer-based training) as the educational delivery method (Castro & Tumibay, 2021).

5. *Synchronous Learning* – A form of distance education where learners and facilitators are geographically separated but perform tasks such as group lectures at a scheduled time (Phelps & Vlachopoulos, 2019).

Summary

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The options for gaining educator certification continue to grow, encompassing different online delivery methods, such as asynchronous learning instruction. Asynchronous educator certification programs offer convenience and flexibility but have various challenges for pre-service teachers (Dunn & Rice, 2019). Literature indicates different challenges teachers face within the classroom. The challenges can be attributed to the type of education they received in their educator certification program but lack the factors that may correlate with asynchronous

educator certification programs (Gómez-Galán et al., 2020; Peck et al., 2018). The challenges

pre-service teachers face during their asynchronous educator certification program relate to the

relevant theories, including Albert Bandura's (1986) theory of self-efficacy and Alexander

Astin's (1999) theory of student involvement. Pre-service teachers may face challenges with

various aspects of the program's environmental elements, such as the motivation or connectivity

needed to complete the program (Terras et al., 2018). Furthermore, pre-service teachers face

challenges dealing with achieving professional competence. Examining the various aspects of

asynchronous educator certification programs from different institutions through teachers'

perspectives offers information from multiple sources that may help future teachers handle the

challenges of asynchronous educator certification programs.

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CHAPTER TWO: LITERATURE REVIEW

Overview

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. This chapter presents the current literature on novice teachers' challenges during online education programs or courses, with a particular focus on asynchronous programs. The first section presents the theoretical framework and its relation to asynchronous educator certification programs, while the second section presents current studies related to the research problem of pre-service teachers' challenges during an asynchronous educator certification program. The chapter concludes with a justification for this study.

Theoretical Framework

John Keller's (1983) theory of motivation elaborates upon the belief that learners require various motivation levels to complete their tasks successfully. The theory of motivation has four components, referred to as the ARCS model (Keller, 2010). The first principle, represented by the "A" in ARCS, is attention. This principle is based on the arousal of the learner's curiosity and how it promotes the acquired motivation; the instructor must actively engage the learners to draw their attention toward the task (Keller, 2008). The second principle, represented by the "R" in ARCS, is relevance (Keller, 2008). This principle states that purposeful knowledge that aligns with the learners' goals can promote motivation (Keller, 2008). Learners must feel that the content and strategies obtained through the class or program are relevant to their goals and desired course outcomes (Keller, 2008). Forming a connection to the setting will help learners perceive the learning experience as relevant and will increase their motivation to learn (Keller,

2010). The third principle, represented by the "C" in ARCS, is confidence (Keller, 2008).

Learners must be confident that they can learn the content and complete the related assignment

(Keller, 2010). Overconfidence can cause learners to believe that they already know the given

content; as a result, they may need to pay careful attention to the lesson to be receptive to new

information. The fourth principle, represented by the "S" in ARCS, is satisfaction (Keller, 2008).

Keller describes the satisfaction principle as feeling satisfied with the outcome of the learning

target (2008). Learners must have satisfaction with completing the task and gaining the desired

outcome to be fully motivated to continue the program (Keller, 2008). The satisfaction

component of the model entails the learner having the motivation to develop self-regulating

strategies that allow them to continue to work through the tasks required for a program (Keller,

2008); learners must thus feel confident with the skills that they have obtained throughout the

course (Keller, 2008).

Various studies have utilized the ARCS model of motivation to identify the factors

behind learners' motivation to learn (Aşıksoy & Özdamli, 2016; Durrani & Kamal, 2021; Ma &

Lee, 2021). Aşıksoy and Özdamli (2016) have examined the effect of the ARCS motivation

model on a flipped classroom approach and found that the ARCS model positively affected self-

sufficient learners. Durrani and Kamal (2021) conducted a case study guided by a motivational

framework following the ARCS model to assess the efficacy of student engagement while using

a blended teaching method in a course; the researchers found that the strategies associated with

blended teaching methods following the ARCS model helped sustain learners' motivation

(Durrani & Kamal, 2021). Ma and Lee (2021) compared the effectiveness of online and blended

learning modalities following the ARCS model as a framework, finding that blended learning

allowed students to develop higher confidence in achieving their learning goals. The findings revealed that blended learning increased student confidence in achieving learning goals (Ma & Lee, 2021). Following the ARCS model thus helps identify the motivational needs of asynchronous teaching certification programs (Luo et al., 2021).

Using John Keller's (1983) theory of motivation as a framework for this study helped clarify the underlying motivational needs associated with an asynchronous teaching certification program (Luo et al., 2021). To gain insight into the motivation to learn from the attention component, pre-service teachers reflected on the motivation required to gain and maintain attention throughout their educator certification asynchronous program (Keller, 2010). Pre-service teachers also identified attention-getting strategies to ensure learners maintain attention (Park, 2017). Gaining perspectives toward the relevance of the lessons and course material can offer insight into the motivation required to become goal-oriented (Keller, 2010; Park, 2017). Gaining perspective on competency toward content knowledge and classroom pedagogy also offers insight into the motivational factors regarding confidence (Keller, 2010). Exploring the teachers' perspectives of fulfillment after obtaining their goals throughout the program helps identify the satisfaction motivations required throughout an asynchronous program (Keller, 2010).

Related Literature

Pre-service teachers must fulfill all qualifications for educator certification before beginning their teaching careers in a public education classroom (A. L. Brown et al., 2019). Educators can become certified to teach in a K-12 public institution, depending on the state or country in which the educator pursues certification (dese.mo.gov). Pre-service teachers can

choose a traditional approach, following a classic four-year undergraduate program by completing core educator certification classes and passing equivalency exams (dese.mo.gov). Nonetheless, some pre-service teachers attend in-person classes, while others choose an online route (Kaya, 2023). The online mode of instruction allows pre-service teachers the option of asynchronous, synchronous, a blended method of online and in-person instruction, or a blend of asynchronous or synchronous learning, which is sometimes referred to as bichronous (Fabriz et al., 2021; Martin et al., 2020). Regardless of the mode of instruction, pre-teachers aspiring to gain a bachelor's degree in education with certification must undertake specific classes associated with literacy courses, classroom management, technology classes, and special education classes (Missouri Department of Elementary & Secondary Education). Although it is possible to achieve educator certification through the traditional routes, this literature review focused on the online aspect of educator certification through the traditional qualification mode.

Accreditation

Higher education institutions seek accreditation to ensure their delivery of high-quality education that prepares learners to gain a degree or skill and achieve a specific task or profession (Rivas et al., 2019). Accreditation is the process of evaluating the quality control of an institution or program within an institution (Viner et al., 2020). This process offers accountability toward a higher education institution or program (Romanowski & Karkouti, 2022).

There are two types of educational accreditation: institutional or specialized, which is also referred to as programmatic (Romanowski & Karkouti, 2022). The difference between institutional and programmatic accreditation is that the former is administered regionally or nationally to an entire institution, including all its programs (Hurlbut, 2018; Romanowski &

Karkouti, 2022). In contrast, accreditation agencies can grant specialized or programmatic accreditation after evaluating programs or departments (Hurlbut, 2018; Romanowski & Karkouti, 2022). During the accreditation process, a peer review team visits an institution to evaluate and verify the self-assessment report prepared by the institution (Panigrahi et al., 2018).

Some researchers oppose the benefit of accreditation agencies, arguing that these agencies contradict the academic freedom of United States educational institutions (Holt, 2020; Romanowski & Karkouti, 2022). Academic freedom is the process through which academic institutions have civil rights toward teaching, researching, or producing material free from their institution's control (Romanowski & Karkouti, 2022). These researchers argue that the accreditation process violates academic freedom by imposing restrictions on instructors, dictating the teaching methods and content while ensuring that course material contains language associated with the accreditation criteria (Holt, 2020; Romanowski & Karkouti, 2022). Some researchers are in favor of higher education accreditation, contending that accreditation can preserve academic freedom for an institution's members by incorporating their voices within the accreditation process (Abbott et al., 2018; VanZandt, 2017).

Rivas et al. (2019) have researched the diverse perspectives among faculty members regarding accreditation. Their study revealed various opinions regarding accreditation; some faculty members believe that the advantages of national or regional accreditations outweigh the cost, while others feel that the accreditation process causes excess workload and stress (Rivas et al., 2019). One faculty member argued that accreditation outcomes offer valuable guidance for instruction; however, another observer stated that the university abandoned the hard work invested during the accreditation process once it ended (Rivas et al., 2019). Rivas et al. (2019)

concluded that instructors felt that accreditation could enhance the status and prestige of a university but also felt that accreditation can cost financial and time resources (Rivas et al., 2019).

Online Learning

With the abundance of technological advancement, online learning is continuing to gain popularity worldwide (Panigrahi et al., 2018). Learners can choose how and when to learn and which approach aligns best with their lifestyle (Joosten & Cusatis, 2020). Online learning may include various modes of instruction, such as synchronous, asynchronous, and bichronous (Martin & Borup, 2022). Massive open online courses are another form of online learning that offers learners an inexpensive choice toward developing skills without gaining a degree (Littlejohn et al., 2016).

Synchronous Online Learning

Synchronous learning enables learners and instructors to virtually meet from various locations at scheduled times for the primary instruction of the course (Phelps & Vlachopoulos, 2019; Singh & Thurman, 2019). Synchronous courses typically use a learning management system and a video-conferencing program such as Zoom or Adobe to connect for real-time communication (Flynn-Wilson & Reynolds, 2021). Synchronous learning courses attempt to replicate the structure of a traditional in-person course, involving same-time video conferences to allow the instructor to offer lectures and immediate feedback (Flynn-Wilson & Reynolds, 2021).

Synchronous learning can provide benefits to learners that include immediate feedback, real-time interpersonal communication, increased learner engagement, enhanced social presence, community building, and an opportunity to acquire practical skills (Fabriz et al., 2021; Ogbonna

et al., 2019). With a digital device, synchronous learning can transition from traditional in-person to virtual learning environments by allowing learners to communicate through Zoom or Google Hangout. Synchronous learning may enable better communication and offer more support to learners than other modes of online learning (Liu, 2021), as it allows class members collaborative opportunities to brainstorm ideas and discuss answers to questions in real time (Liu, 2021). Through scheduled virtual meetings with video conferencing, learners can see a human face within the digital aspects of their program; gaining a better personal connection thus allows learners to feel a greater sense of the learning community within the program ((Carney, 2021; Wang & Wang, 2020). Synchronous learning allows instructors to summarize discussions and give immediate feedback to learners through short online meetings (Wang & Wang, 2020). Another option for gaining a personal connection is through e-mentoring, which consists of in-service teachers connecting with pre-service teachers enrolled in an online educator certification program to allow the latter to ask questions and voice concerns (Liu, 2021).

The disadvantages of synchronous learning include time and technical challenges for learners (Iyer & Chapman, 2021). A lack of time flexibility can cause challenges for learners' commitments due to the synchronous meetings required of all learners (Iyer & Chapman, 2021). Due to overlapping commitments, social challenges may cause issues with other student responsibilities (Alhazbi & Hasan, 2021; Iyer & Chapman, 2021). Technological challenges may also occur and disrupt learning because of the high reliance on technology in the synchronous learning format (Iyer & Chapman, 2021; Xie et al., 2018). Some technological challenges include learners needing more reliable Wi-Fi or having outdated electronics that cannot run the required collaborative platforms (Iyer & Chapman, 2021; Xie et al., 2018). Another challenge

associated with synchronous learning is the anxiety invoked through individuals' level of self-awareness (Tien et al., 2023). This type of anxiety may occur when learners have their camera on during the live session and feel that others are evaluating them (Tien et al., 2023). Learners may become anxious, prompting them to alter their behaviors (Tien et al., 2023).

Bichronous Online Learning

Some courses or programs use a blended online learning method with both asynchronous and synchronous learning modalities, known as bichronous learning (Martin et al., 2020). The format of a blended course contains both asynchronous and synchronous learning by the instructor and their peers during the course (Farros et al., 2022). By utilizing a combination of asynchronous and synchronous learning platforms, higher learning outcomes targeting various learning styles are better promoted than by using the modalities separately (Enochsson, 2018). Bichronous learning can offer advantages associated with both asynchronous and synchronous learning, such as the flexibility of lessons with some synchronous sessions for learners to receive feedback and support (Martin et al., 2020). Better support can be achieved through the synchronous aspect with real-time participation by allowing instructors to answer questions and clarify answers through real-time sessions (Martin et al., 2020). Through bichronous online learning, instructors can offer more greater opportunities for learners to gain immediate feedback. (Martin et al., 2020). Bichronous learning modalities often offer video-based and text-based discussions, allowing learners to respond according to their preferred communication form (Enochsson, 2018; Martin et al., 2020). In a study by Farros et al. (2022), the researchers examined student performance in an asynchronous course with synchronous discussion sessions. The findings revealed that learners had higher expectations and engagement during the

synchronous discussion sessions than the asynchronous sessions, resulting in an increase in productivity throughout the course (Farros et al., 2022).

Massive Open Online Course

Another online education trend that has continued to increase is massive open online courses (MOOCs), with many following an asynchronous learning format (Aldowah et al., 2019). MOOCs are open courses that allow learners and others to receive informal educational experiences at low or no cost (Littlejohn et al., 2016; Salmon et al., 2015). Attending MOOCs allows learners to guide their educational journey, leaving and returning at their convenience while choosing whether or not to receive certification (Littlejohn et al., 2016). Pre-requisitions are not required for learners to begin MOOCs (Littlejohn et al., 2016), and learners from any location and at any stage of their education may enroll in the courses (Mabuan, 2018).

MOOCs have expanded to cover many topics, including various options in the education field, such as STEM courses, content-based courses, or even multicultural education courses (Yildirim, 2022). Some countries, such as China, have adopted MOOCs to support the professional development of their educators (Chen et al., 2020). Schools and organizations can use MOOCs to customize professional development to fit the needs of their educators and staff members (Chen et al., 2020). MOOCs allow users to retake aspects of the program to offer better support in addressing learners' challenges (Chen et al., 2020). They can also provide additional resources, such as skill-building, that best support educators in the classroom through a self-paced learning environment (Boltz et al., 2021).

Due to the large number of learners enrolled in MOOC classes, instructor interaction is limited, requiring learners to self-regulate their learning experiences (Littlejohn et al., 2016). As

learners navigate throughout the course, they must develop strategies to maintain their motivation and ensure progress with the course (Littlejohn et al., 2016). In addition to having high levels of self-motivation, learners (including pre-service teachers) must overcome the challenges associated with self-directed and self-regulated learning by developing time-management and metacognitive strategies (Alario-Hoyos et al., 2017; Sun, 2020). Two popular MOOC platforms include EdX and Coursera; courses on these platforms can meet the academic requirements for various universities and organizations (Mao et al., 2019; Shi & Lin, 2021).

Asynchronous Online Course

Asynchronous learning is a popular online instruction mode involving self-paced and learner-directed learning (Clark et al., 2016; Xie et al., 2018). An asynchronous learning environment allows learners to engage with their instructors and peers at their own convenient time and place; most likely, engagement will differ from their peers and instructors (Singh & Thurman, 2019). The instruction of asynchronous learning involves using learning management software (LMS) to disseminate and store information to learners in a class or a learning session (Moorhouse, 2020). Annotated slideshows or recorded videos help convey the material with opportunities that allow learners to view the material as many times as needed and pause sections to take notes (Costado et al., 2021; Moorhouse, 2020). Typically, during an asynchronous class, no real-time online or in-person meetings are conducted simultaneously with learners (Martin et al., 2020).

Asynchronous learning offers many advantages for learners. An asynchronous learning environment allows learners to engage with their instructors and peers at their own convenient time and place, different from their peers and instructors (Singh & Thurman, 2019). The

flexibility allows learners to adjust their learning to their schedule (Zeng & Luo, 2023). Due to the flexibility of when to complete assignments, learners can enhance their reflection and use higher levels of critical thinking (Zeng & Luo, 2023). The asynchronous learning modality allows for optimized classroom discussion due to the learner's ability to respond on their own time yet maintains the facilitation of multi-user collaboration for active participation (Lowenthal et al., 2020).

Asynchronous courses follow a different format from synchronous or traditional in-person classes, offering distinct components. During an asynchronous course, learners do not have to be logged on simultaneously with peers and instructors (Kunin et al., 2014). Instructors provide all materials and initiate assignments through discussion forums (Kunin et al., 2014). Discussion forums are online interaction platforms shared within asynchronous courses, beginning with the facilitator posting a prompt (de Lima et al., 2019). The learners then respond to the initial prompt and reply to a few of their peers' responses (Galikyan & Admiraal, 2019). Instructors found that discussion forums allow learners to elaborate and reflect upon their answers to questions and prompts (de Lima et al., 2019). IIn addition, discussion posts allow learners to easily collaborate and gain information by visualizing other learners' responses (de Lima et al., 2019). Nevertheless, some instructors experienced difficulties with discussion forums, including developing a structure for the forum (de Lima et al., 2019). Discussion posts are most beneficial when clear expectations of the post are established (McAlvage & Rice, 2018).

Self-regulated Learning and Motivation

Asynchronous learning requires learners to develop self-paced learning strategies to complete their program (Kim et al., 2021). There is less dependency on the learner's environment and greater dependence on the learners' strategies for learning (Fabriz et al., 2021). With the correct course design, an asynchronous environment allows learners to engage in higher levels of critical thinking due to the flexible due dates of the assignments (Brierton et al., 2016). Learners can achieve reflective thinking through asynchronous discussion posts (Foo & Quek, 2019). They must respond to discussion forums to elaborate on reflections based on prompts provided by the instructor for discussion posts (Nami et al., 2018). Discussion posts can also create social relationships among other learners (Ebrahimi et al., 2017).

Learners' motivation and self-regulation can affect the attrition rate of an asynchronous program (Peck et al., 2018). Factors that could hinder or decrease learner motivation include technology challenges, course content, limited communication and interaction, problems within daily life, rigid structure from an instructor, lack of personalization or diversity in the learning environment, and the emotions felt by learners toward their course (Fırat et al., 2018). In a 2018 study, Peck et al. explored the impact of motivation and self-regulation on the attrition rate in an online course, finding a correlation between self-efficacy and course retention. The researchers found that learners identified extrinsic goal orientation as the primary reason for their continued engagement in the program (Peck et al., 2018). However, during the interviews, five learners mentioned dropping out from their courses due to losing interest or importance in the program (Peck et al., 2018). These findings revealed the significance of the instructional design that focuses on student encouragement and motivation (Peck et al., 2018).

Video-Based Instruction

Online video-based instruction has grown in popularity due to the flexibility and convenience of allowing asynchronous educators to utilize recorded lectures, videos, and instructions to maximize learning (Martin et al., 2020). Video-based instruction engages learners through instructors providing auditory and visual instruction in video form (Yoon et al., 2021). Instructors develop their video-based instruction by uploading self-created videos or finding videos suited for the course (Yoon et al., 2021). Once uploaded, learners (including pre-service teachers) can access the course materials at any time (Yoon et al., 2021).

The use of videos can improve the course and encourage learners to think (Hervas et al., 2020). Different types of video-based instruction can be used during asynchronous learning, which may include the use of conventional videos, interactive videos, and learner-made videos (Konuk, 2022). Conventional video use allows instructors to control instruction by selecting content that aligns with the course (Konuk, 2022). The videos used during this type of instruction are created or found by the instructor to target the development of learners' skills (Konuk, 2022). Interactive videos allow users to interact with the content through embedded questions and may overcome the disadvantage of viewer passivity in conventional video usage (Haagsman et al., 2020; Konuk, 2022). Instructors provide pre-made interactive videos that may include exam questions and optimal user immersion through 360-degree videos or images (Tan et al., 2020). These pre-recorded videos or images allow learners to alter the view of the video or photo for a more rigorous exploration of the content (Caroline & Sandra, 2022).

Some educators incorporate video-enhanced discussions or apps like Flipgrid and EdConnect to improve learners' communication and reflection skills (Lowenthal et al., 2020). Video-enhanced discussion posts allow learners to create videos to reflect on their learning and

more effectively build self-regulation skills (Fidan & Debbağ, 2018; Lowenthal et al., 2020). Video apps may empower learners to respond to assignments by posting personalized videos to their peers and instructors. These videos can promote social connections with thoughtful responses or questions, making students feel more connected with the course and their peers (Lowenthal et al., 2020). Using video-enhanced discussions can offer a sense of synchronous learning in an asynchronous environment, thereby allowing learners to develop a sense of community in their learning (Lazarevic et al., 2023).

Hogue (2022) conducted a study that showed the effectiveness of utilizing instructor-made videos in an asynchronous environment. During the study, the researchers divided the class into two groups, and they were all required to create two lesson plans: one for the first four weeks of class and the second for the last four weeks. The first group of learners received written instruction with individual written feedback for both assignments (Hogue, 2022). In contrast, the second group of learners (the controlled group) received an instructor-created video segment for both lesson plan assignments (Hogue, 2022). The video included instructions on the assignment and best practices, with an explanation of the learning outcomes, rubric, and template (Hogue, 2022). The study results showed that all learners improved between their first lesson plan assignment and the second. The study found that the video implementation benefited all learners from the second group, allowing weaker learners to improve their initial scores on their lesson plan assignments. Furthermore, some learners from the first group with perfect scores on the first assignment experienced a decrease in their scores on the second assignment. Strong learners from the control group with perfect scores on their initial lesson plan assignment maintained a perfect score for their second assignment (Hogue, 2022).

Challenges of Asynchronous Learning

An asynchronous learning environment presents multiple challenges, such as a lack of visual cues and attention from the instructor and other peers, leaving learners to resolve challenges on their own (Aldosari et al., 2022). During a live session, whether in person or synchronously, instructors may offer visual cues to learners regarding the importance of specific lessons. Consequently, the learners may gain visual cues from other learners regarding their understanding of the lesson (Aldosari et al., 2022). However, asynchronous sessions lack this element of support. Furthermore, personal connections are better formed through visual cues during in-person interactions than in an asynchronous environment (Wang & Wang, 2020). Although many learners choose asynchronous learning for its self-paced learning style and open schedule, some find the isolation and self-paced learning environment challenging, causing a disconnect to the learning community within the program (Oyarzun et al., 2021).

Consequently, the isolation of self-paced learning and a lack of course engagement can diminish the benefits of a learning environment (Kim et al., 2021). Due to the independent nature of the schedule, learners may develop poor study habits like procrastination, since they may complete tasks at their leisure (Barakat & Meler, 2022; Xavier & Meneses, 2022). Since asynchronous learners are not in the typical school setting, they may have trouble focusing on tasks due to significant distractions throughout their environment (Rapanta et al., 2020). Technical problems involved in a program, such as internet connection or device malfunctions, can cause additional stress and may reduce the learners' motivation toward continuing in a program with an online delivery method (Başaran et al., 2017). Learners must have working devices with the adequate amounts of bandwidth to download media such as videos and pre-

recorded lectures, interact with the material uploaded by instructors, and create and post videos associated with the assignments and lessons (Başaran et al., 2017; Rapanta et al., 2020).

Asynchronous Format for Pre-Service Teachers

In asynchronous educator certification courses, educators may use discussion forums, video-based instruction, and simulated field experiences to encourage teaching pedagogical strategies such as student engagement and classroom management (Barmaki & Hughes, 2018; Lohmann & Boothe, 2022; Seago & Knotts, 2021). Discussion forums allow pre-service teachers to develop pedagogical practice skills through various discussion posts (Lohmann & Boothe, 2022). Video-based instruction encourages pre-service teachers to utilize reflective practice and gain higher-quality feedback (Hamel & Viau-Guay, 2019; Weber et al., 2018). An asynchronous course may implement a simulated field experience to enable pre-service learners to accumulate the structure and feelings that they may experience in their future classrooms (Barmaki & Hughes, 2018.

Discussion Forums

Lohmann and Boothe (2022) researched the various ways in which asynchronous discussion forums could be utilized to enhance the development of classroom management skills for pre-service teachers enrolled in an online educator certification course (Lohmann & Boothe, 2022). The researchers identified four different discussion methods: jigsaw discussion, shared product discussion, video-based discussion, and debates (Lohmann & Boothe, 2022). Jigsaw discussion encourages pre-service teachers to become exposed to different learning content and classroom management strategies (Lohmann & Boothe, 2022). Shared products allow pre-service teachers to create material for future use in their classroom, such as visual aids (Lohmann &

Boothe, 2022). This strategy may help pre-service teachers gain feedback from their peers and instructors, which may assist with classroom management (Lohmann & Boothe, 2022). Video-based discussions allow pre-service teachers to upload videos showcasing classroom management techniques, thereby allowing other learners to observe and learn from these techniques (Lohmann & Boothe, 2022). Debates allow pre-service teachers to engage in discussions involving both sides of debatable classroom management topics (Lohmann & Boothe, 2022); Lin and Sun (2022) found that debate discussions can improve interactions between learners while learning the content.

Video-Based Instruction for Pre-service Teachers

Video-based instruction can benefit pre-service teachers as they gain skills and knowledge from videos uploaded by the instructor regarding new concepts, strategies, or goals (Seago & Knotts, 2021). Some programs use video-based learning to encourage pre-service teachers to reflect (Hamel & Viau-Guay, 2019). Video-based instruction can improve the quality of feedback offered to pre-service teachers by their peers and instructors, allowing this feedback to be more accurate and individualized (Weber et al., 2018). During an asynchronous setting, video-based instruction may encourage pre-service teachers to explore the video and discuss their findings through another video post with peers (Hogue, 2022).

Gold and Holodynski (2017) used videos to measure the professional vision of classroom management and teacher competencies. The researchers developed a test of the video clips (including both positive and improvable clips of classroom management footage) to demonstrate examples of various classroom management levels. They administered the test to pre-service teachers pursuing bachelor's and master's degrees (Gold & Holodynski, 2017). The researchers

found that utilizing videos to assess the professional vision of classroom management could result in inferences being drawn toward generalizing a pre-service teacher's professional vision of classroom management; however, future studies are recommended (Gold & Holodynski, 2017).

Field Experiences

During educator certification, pre-teachers attend field experiences to gain the opportunity to put theory and knowledge into practice (Khoshnevisan & Rashtchi, 2021). Field experience practicums are activities within a teacher preparation program that allow pre-service teachers to gain hands-on experiences within a school related to their chosen field (Vu & Fisher, 2021; Zolfaghari et al., 2020). Virtual (or simulated) field experiences may become a substitute for the field experience practicum required by pre-service teachers during their asynchronous program (Vu & Fisher, 2021).

Through simulated field experiences, pre-service teachers can develop skills associated with classroom management, improve their pedagogical methods, and deliver content in an environment that does not include actual children (Barmaki & Hughes, 2018). Virtual teaching simulations align with the practice-to-theory approach to help pre-service teachers gain targeted practice in a virtual location (Luke et al., 2021), as the simulations allow them to rehearse the foundational teaching practices that they have obtained throughout their program (Luke et al., 2021). Virtual field simulations help pre-service teachers demonstrate the skills and knowledge obtained through their educator certification program and complete the required practicum hours for certification (Jackson & Jones, 2019). Online teacher preparation programs can adapt the virtual field simulation, altering components to suit the needs of the candidates (Jin, 2023).

Some online programs require pre-service teachers to participate in virtual or simulated field experiences to replace in-school practicum experiences when the latter are unattainable (Vu & Fisher, 2021). Vu and Fisher (2021) compared a course utilizing an in-person field experience with a virtually adapted field experience. During the virtual field experience, pre-service teachers observed pre-recorded videos of students and instructors interacting from the Teaching Channel website to simulate visiting classrooms in person (Vu & Fisher, 2021). The Teaching Channel website allows pre-service teachers to gain access to teaching videos and the ability to engage with the videos by posting comments or writing notes for those who are subscribed members (Reyes, 2019). The researchers found similar performance results, noting that virtual field experiences could be as efficient as in-person field experiences when adequately prepared and conducted (Vu & Fisher, 2021).

Ghazarian et al. (2023) conducted a study examining the pedagogical styles of pre-service teachers during a simulated field experience. During the study, 150 pre-service teachers completed a simulated field experience to analyze the variation in self-reported culturally responsive pedagogy (Ghazarian et al., 2023). The simulated field experience consisted of 24 virtual modules representing lessons taught in a virtual class that involved fictional virtual learners (Ghazarian et al., 2023). The virtual students were animated and exhibited characteristics often experienced in real-life students; pre-service teachers could use their tone of voice to influence virtual students, mimicking the actions of real students reacting to vocal tones (Ghazarian et al., 2023). The researchers used SimSchool virtual student profiles to design academic profiles for fictional learners (Ghazarian et al., 2023). Various learner emotions were incorporated, which changed based on the pre-service teacher's behavior and choices. The pre-

service teachers interacted with the simulated experiments and completed each module with varied sizes and compositions of the fictional class. Pre-service teachers could redo modules as many times as they felt was helpful. Feedback was provided after each module, allowing pre-service teachers to progress or restart a module to practice different strategies (Ghazarian et al., 2023). The study revealed that pre-service teachers who participated in the simulated field experiences demonstrated enhanced self-reported scores regarding their culturally responsive pedagogy practices (Ghazarian et al., 2023). Although simulated field experiences can help pre-service teachers gain a better understanding of differentiated instruction and develop skills toward improving self-efficacy of teaching through diverse simulated classrooms, simulated field experiences are not commonly used in educator certification programs (Vu & Fisher, 2021). As the study was based on a single institution, the researchers noted the need for additional perspectives of other simulated field experiences to gain additional findings (Ghazarian et al., 2023). Further research on simulated field experiences is therefore needed (Ghazarian et al., 2023).

A simulation strategy used through teacher preparation virtual field experience is known as micro-teaching (Luke et al., 2021). Micro-teaching involves small groups of teachers acting as learners to allow the teacher to practice specific teaching skills or techniques and gain constructive feedback after practicing the skills and lessons (Ledger & Fischetti, 2019). Micro-teaching allows the pre-service teacher to learn and reflect on their experiences (Ledger & Fischetti, 2019). The main difference between micro-teaching and traditional teaching is the class size; typically, micro-teaching has class sizes of five to 10 learners and contains short lessons that areof 10 minutes or less (Roza, 2021). The focus is placed on one skill at a time,

allowing the pre-service teacher to obtain specific feedback from their peers and instructor

regarding their performance (Roza, 2021). Micro-teaching in a simulated field experience allows

pre-service teachers to gain the opportunity to practice the necessary skills for teaching children

in a controlled learning environment before entering a real school practicum (Ledger & Fischetti,

2019). A controlled learning environment is designed to replicate a pre-service teacher's

challenges in a school environment with modifications to suit individual capabilities (Dalinger et

al., 2020).

Challenges for Asynchronous Pre-service Teachers

Although asynchronous courses offer many benefits, several challenges to the learning

modality exist (Carrillo & Flores, 2020). Some challenges that pre-service teachers may face

within an asynchronous course include technology problems, motivation, self-paced learning,

lack of community, and peer and instructor communication (Carrillo & Flores, 2020). The

structure of any asynchronous program may relate to the challenges faced by a teacher once they

begin teaching in their classroom (Gómez-Galán et al., 2020). Some pre-service teachers

describe their need for more support in sustaining classroom management, maintaining learners'

engagement, and mastering skills for their expected subjects (Hourigan & Leavy, 2017; McGarr,

2020). Furthermore, a pre-service teacher may experience challenges associated with mastering

professional competence (Wang & Sneed, 2019.

Attitude with Technology

As technology continues to evolve within the classroom, teachers must be competent at

embedding technology within their curriculum and lessons to teach the 21st-century skills

required by students (J. P. Brown, 2017; Jannah et al., 2020). Consequently, pre-service teachers,

as learners, must be able to navigate an online program adequately (Armah, 2020; Zha et al., 2020). Digital inequalities can affect pre-service teachers' attitudes toward technology usage (Ciftci & Aladag, 2017); these inequalities may include technical issues due to the quality of the learners' equipment, social factors of learners relying on others when technical issues arise, usage autonomy, and technology familiarity (Beaunoyer et al., 2020).

Mobile technology has become increasingly popular in education (Handal et al., 2019). Islamoglu et al. (2021) define *mobile devices* as multimedia portable electrical devices with internet capabilities. Mobile devices are being introduced into some classrooms as a means to learn, but they may cause additional stress to learners (Bai, 2019). Bai (2019) conducted a study evaluating pre-service teachers' perspectives on utilizing mobile technology in the classroom. The pre-service teachers utilized the training and created lesson plans using mobile devices but found that technology issues such as Wi-Fi accessibility and a lack of mobile learning hindered the learning experience (Bai, 2019). With new technology constantly emerging, it may be difficult for pre-service teachers to gain training to effectively use mobile devices and learning instruments in their future lessons (Islamoglu et al., 2021). Although mobile learning devices allow learners to complete their assignments and attend lessons virtually, they may cause unnecessary distractions (Handal et al., 2019); learners may quickly become sidetracked from the task at hand, creating additional problems with their workload.

A pre-service teacher with a positive attitude toward technology can readily adapt to the digital environment and learn the necessary tools (Demirkan, 2019). Pre-service teachers may become overwhelmed by certain aspects of a program or course components and feel frustrated (Badilla Quintana et al., 2017); however, teachers in traditional in-person teacher preparation

courses demonstrated better attitudes toward integrating technology than those in distance education teacher preparation courses (Konca et al., 2016). In a study conducted by Konca et al. (2016), the findings revealed that traditional in-person classes taught pre-service teachers how to use and incorporate technology within their classroom, which encouraged better attitudes toward using technology and greater motivation toward navigating the hardships that they faced when integrating technology (Konca et al., 2016). Incorporating technological instructional strategies within online teacher preparation instruction is needed to help promote a better understanding for pre-service teachers to integrate technology most effectively (Mohebi & Meda, 2021).

The experiences of pre-service teachers during their online program may indicate the effectiveness with which they can integrate technology into their future classes (Baydas & Yilmaz, 2018; Mohebi & Meda, 2021). A study conducted by Baydas and Yilmaz (2018) examined the motivational factors regarding practical affective, cognitive, and social needs influencing pre-service teachers' attitudes toward mobile learning. They discovered that pre-service teachers' cognitive and affective needs positively affect their attitudes toward mobile learning. They also found that pre-service teachers' attitudes toward technology usage significantly shaped their intentions to adopt mobile learning, indicating that a positive attitude toward technology resulted in a positive attitude toward mobile device usage implementation in the classroom (Baydas & Yilmaz, 2018). Baydas and Yilmaz found that pre-service teachers must fulfill their cognitive, social, and affective needs and be knowledgeable about effective and efficient strategies for implementing mobile learning (Baydas & Yilmaz, 2018).

Motivation

Motivation can affect the behaviors surrounding how pre-service teachers process the information that they obtain to reach a specific goal (Fırat et al., 2018). Due to the limited interaction of an asynchronous learning environment, asynchronous courses require greater autonomy to maintain motivation (Peck et al., 2018). Pre-service teachers may face challenges with sustaining motivation during asynchronous courses due to the high level of motivation required for the self-regulated learning environment followed by these courses (Tarchi et al., 2022). Pre-service teachers are still developing their teaching skills and may therefore find it more challenging to self-regulate their learning effectively without regular in-person guidance and instructor support, which may hinder their motivation to continue with the program (Ali & Nath, 2023).

Intrinsic motivation is essential in asynchronous learning environments because learners are primarily responsible for studying independently (Fırat et al., 2018). Intrinsic motivation refers to completing actions that result in internal emotions such as personal interest, enjoyment, or mastery over goals (Atav & Altunoğlu, 2013). Internal motivation allows pre-service teachers to reach their desired academic success (Atav & Altunoğlu, 2013), and it can influence how learners handle their programs and challenges (Stiller & Bachmaier, 2017). Clear instructions and feedback from instructors can help pre-service teachers maintain intrinsic motivations (Chan et al., 2023).

Self-regulated Learning

Asynchronous online learning programs require learners to acquire the skill of self-regulated learning due to the mor Online video-based instruction has grown in popularity due to the flexibility and convenience of allowing asynchronous educators to utilize recorded lectures,

videos, and instructions to maximize learning (Martin et al., 2020). Video-based instruction

engages learners through instructors providing auditory and visual instruction in video form

(Yoon et al., 2021). Instructors develop their video-based instruction by uploading self-created

videos or finding videos suited for the course (Yoon et al., 2021); once uploaded, learners

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which may include the use of conventional videos, interactive videos, and learner-made videos

(Konuk, 2022). Conventional video use allows instructors to control instruction by selecting

content that aligns with the course (Konuk, 2022); the videos used during this type of instruction

are created or found by the instructor to target the development of learners' skills (Konuk, 2022).

Interactive videos allow users to interact with the content through embedded questions and may

overcome the disadvantage of viewer passivity in conventional video usage (Haagsman et al.,

2020; Konuk, 2022). Instructors provide pre-made interactive videos that may include exam

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their peers and instructors (Lowenthal et al., 2020); these videos can promote social connections with thoughtful responses or questions, making students feel more connected with the course and their peers (Lowenthal et al., 2020). Using video-enhanced discussions can offer a sense of synchronous learning in an asynchronous environment, thereby allowing learners to develop a sense of community in their learning (Lazarevic et al., 2023).

Hogue (2022) conducted a study that showed the effectiveness of utilizing instructor-made videos in an asynchronous environment. During the study, the researchers divided the class into two groups, and they were all required to create two lesson plans: one for the first four weeks of class and the second for the last four weeks. The first group of learners received written instruction with individual written feedback for both assignments; in contrast, the second group of learners (the controlled group) received an instructor-created video segment for both lesson plan assignments (Hogue, 2022). The video included instructions on the assignment and best practices, with an explanation of the learning outcomes, rubric, and template (Hogue, 2022). The study results showed that all learners improved between their first lesson plan assignment and the second. The study found that the video implementation benefited all learners from the second group, allowing weaker learners to improve their initial scores on their lesson plan assignments. Furthermore, some learners from the first group with perfect scores on the first assignment experienced a decrease in their scores on the second assignment; in contrast, strong learners from the control group with perfect scores on their initial lesson plan assignment maintained a perfect score for their second assignment (Hogue, 2022) independent environment of online programs compared to synchronous online learning (Kara et al., 2021; Peck et al., 2018; Willems et al., 2021). Insufficient self-regulated learning skills among pre-service teachers can hinder their

success in a course, resulting in low confidence in their levels of understanding (Cho & Cho, 2017). Learners with insufficient self-regulated learning skills may have a tendency to attribute their unsatisfactory performance to external factors like the instructor or poor course design (Cho & Cho, 2017). As pre-service teachers gain the appropriate knowledge to acquire the skills required as elementary teachers, they must act as self-directed learners to prioritize their responsibilities by monitoring their task comprehension (Beach et al., 2020). Some pre-service teachers may face challenges in developing autonomy and independence, which may reflect a low obtainment of self-regulation skills (Enochsson, 2018); however, pre-service teachers can improve their self-regulation skills through co-regulation (Schunk & Greene, 2017). Co-regulation occurs through learners engaging in collaborative learning processes with their peers, adapting motivational and behavioral strategies, and receiving guidance and support from instructors and peers through shared regulation (Schunk & Greene, 2017).

Self-regulated learning can occur in three types of interactions: between the learner and the content, the learner and the teacher, and the learner and other learners (Cho & Cho, 2017; Kara et al., 2021). Pre-service teachers must be able to self-regulate during the learner and content interaction by logging into their course management system at the beginning of the week and identifying the tasks needed to be completed throughout the course to plan (Cho & Cho, 2017; Vanslambrouck et al., 2019). Furthermore, pre-service teachers must be active learners when communicating concerns or questions about assignments and discussions (Cho & Cho, 2017). When pre-service teachers struggle with self-regulation during their interactions with the instructor, the instructor may have difficulty offering proper guidance that meets the learner's needs, causing additional challenges for the learner to overcome (Cho & Cho, 2017).

Self-regulated learning allows students to become self-directed, proactive, and competent learners with goals aligned with the expectations and standards of a course (Bembenutty et al., 2015). Self-regulated learning allows pre-service teachers to evaluate and monitor their progress toward goals with strategies (Bembenutty et al., 2015). A learner's goal orientation can influence their level of self-regulated discipline and may include goals relating to mastery approach, performance approach, or avoidance (Willems et al., 2021). Mastery-approach goals relate to intrinsic motivation, while performance-approach goals relate to performance achievement (Willems et al., 2021). This type of goal orientation predicts learners' motivation to achieve their goals and enhances their determination to successfully accomplish these aims (Willems et al., 2021).

Lack of Community

Some pre-service teachers need a stronger sense of community within their asynchronous program (Berry, 2019). A community can be established in a traditional in-person course by allowing high levels of social interaction but can be limited in an online format (Shepherd & Bolliger, 2019; Terras et al., 2018). A community involves a group of pre-service teachers who share a common interest or a sense of belonging within a program of study (Berry, 2019). Connecting with the course community allows pre-service teachers to feel more accepted within the class and may provide opportunities for comfortable interaction (Berry, 2019). Many asynchronous learners believe that it is vital to connect with instructors to form a sense of community (Mays & Ross, 2022). Nonetheless, although creating connections is beneficial, some online learners prefer to limit their connections with others (Terras et al., 2018). Some

learners choose the asynchronous learning style for the solitude offered by the style, allowing them to disengage from other learners (Terras et al., 2018).

According to Shepherd and Bolliger (2019), some online pre-service teachers feel that their institution does not promote community; many learners rarely visit their institution, if at all (Shepherd & Bolliger, 2019). In contrast, attending traditional in-person classes allows pre-service teachers to feel a greater sense of community toward their program (Sriram et al., 2020). Terras et al. (2018) analyzed the desired connectivity among teachers enrolled in an asynchronous graduate special education program. The study revealed that teachers experienced high connectivity with their advisors, varied connectivity with their instructors, and low levels with their peers (Terras et al., 2018). Learners who experienced a delay in their feedback toward grading and unanswered questions became frustrated and felt disconnected from their instructor (Terras et al., 2018). Furthermore, the researchers found a positive correlation between connective experiences with students and instructors, resulting in a greater connection with the academic program and institution attended (Terras et al., 2018). The findings revealed that these connections improved communication response times between learners with their advisors and instructors (Terras et al., 2018).

Peer and Instructor Communication

Pre-service teachers need high-quality feedback from their instructor to increase subject knowledge and gain the ability to apply the received knowledge (Wang & Wang, 2020). Communication is vital in the social interaction between learner-to-learner and learner-to-teacher for effective feedback (Fang et al., 2021). Asynchronous environments can present challenges regarding the instructor feedback received by pre-service teachers (Wang & Wang, 2020).

During an asynchronous learning environment, some pre-service teachers experience delayed feedback from their instructor, causing a disconnect toward the course community and feelings of isolation from their peers and instructor (Terras et al., 2018). Delayed feedback or communication gaps may occur between the instructor and learner, causing feedback challenges for the learners (Wang & Wang, 2020). Various commitments or schedules implemented to accommodate the flexible schedule offered by the asynchronous educator certification programs can also cause communication gaps (Wang & Wang, 2020). In a study by Terras et al. (2018), some learners described their frustration regarding little interaction from the professor resulting in limited feedback.

Quality communication is essential to ensure learners feel connected within the community of the course (Terras et al., 2018). Quality communication can occur through reciprocal emails, in which instructors initiate communications with check-in messages and timely responses (Terras et al., 2018). Although communication within an asynchronous class is the instructor's responsibility, learners must be accountable for connecting with faculty by reaching out when they feel disconnected (Terras et al., 2018). Furthermore, learners should actively engage in discussion posts to help promote a higher social presence within the course (Enochsson, 2018).

Poor communication may disconnect pre-service teachers from their relationships with their peers or instructor (Tareen & Haand, 2020). Pre-service teachers might receive less effective peer feedback in an online setting than in a traditional in-person course (Oh et al., 2018), and the feedback gained may lack meaningful responses (Oh et al., 2018). As pre-service teachers interact with discussion posts, only some responses contain active engagement with

higher thinking skills, resulting in meaningless collaborative discourse (Oh et al., 2018). A disconnect between fellow learners may occur due to the course format when offered limited opportunities for interaction (Terras et al., 2018). Nevertheless, some learners may prefer limited connectivity with their peers (Terras et al., 2018); one participant from the study noted that they had enrolled in a fully online program expecting little interaction with others to allow complete dedication to their learning without the distraction of others (Terras et al., 2018). Some pre-service teachers felt that they gained greater value from the learner-to-instructor interaction than from peer-to-peer interaction, since peers sometimes provided misleading answers to questions, requiring the instructor to intervene and correct the issue (Vásquez-Colina et al., 2017).

Teaching Online and In-Person

Many pre-service and novice teachers need help with adequately motivating and engaging their future students (Valtonen et al., 2020). Classroom teachers must maintain learner engagement in brick-and-mortar and online settings (Jin, 2023). Although some teachers attend asynchronous educator certification programs to gain the appropriate training to enter the classroom, not all asynchronous programs prepare teachers to teach online (Ogodo et al., 2021; Pulham & Graham, 2018; Rice & Deschaine, 2020). Some pre-service teachers teacher preparation programs need their programs to provide K-12 online learning training to adequately prepare them to successfully teach online and hone the skills needed for successful online teaching, such as maintaining learner engagement (Farmer & West, 2019). Rapanta et al. (2020) conducted a study interviewing four online teaching and learning experts to explore the need for quality online pedagogical practice within educator certification programs. They found that teaching online differs from teaching in person, requiring instructors to find or produce good

quality material and develop strategies for encouraging student autonomy (Rapanta et al., 2020).

Online educator certification programs must prepare pre-service teachers with the necessary

skills to effectively employ flexible online and in-person pedagogy and successfully navigate

through various learning environments (Hills & Peacock, 2022).

Pre-service teachers must master the content to confidently teach the required subjects

and gain pedagogical content knowledge toward all required curricula (Batmang et al., 2021;

Bjerke & Solomon, 2020; Hourigan & Leavy, 2017). Teachers need to be thoroughly

knowledgeable in their field to pass on the knowledge to their pupils (Wang & Sneed, 2019;

Zygouris-Coe, 2019). Nonetheless, Hourigan and Leavy (2017) state that increasing academic

content does not improve teaching subjects; instead, they contend that prioritizing strategies that

promote modeling and engagement to encourage new teaching and learning approaches will

improve teaching subjects. Hourigan and Leavy (2017) found that instructors implementing the

curriculum with quality pedagogical strategies can positively impact higher levels of teacher self-

efficacy.

Gaining Classroom Management Skills

Classroom management is a set of skills or strategies that educators use to teach a whole-

class or small-group setting through effective instruction while maintaining productive and social

behavior (Stevenson et al., 2020). Classroom management can be incredibly challenging to in-

service and pre-service teachers, requiring them to stimulate and sustain learner engagement

while limiting disruptive behavior in a safe learning environment (Stevenson et al., 2020). In

order to successfully implement their teaching, pre-service and novice teachers must be prepared

for classroom management, communication, and differentiation of lessons while targeting

various teaching modalities (Liu, 2020). Some teachers note that poor classroom management practices can be associated with unpreparedness during their teacher program due to not gaining the appropriate skills associated with classroom management (Valtonen et al., 2020).

Ghateolbahr and Samimi (2021) conducted a study analyzing classroom management strategies by novices and experienced teachers in an online setting. The researchers note that when there is difficulty managing a class online, teachers need training on developing the best strategies for online classroom management (Ghateolbahr & Samimi, 2021). Some of the challenges noted by the researchers were time management, lack of interaction, and inappropriate usage of classroom materials (Ghateolbahr & Samimi, 2021). The study indicated that learners desired additional online classroom management courses that teach techniques and strategies to help improve classroom management practices, thus targeting novice teachers' challenges in an online class to ensure that they are prepared to teach online (Ghateolbahr & Samimi, 2021).

The lack of ability to manage problematic classroom behaviors can harm student learning and increase stress for the teacher (Flower et al., 2017). Lack of classroom management experience can lower pre-service teachers' self-efficacy and affect their preparation during their first year of teaching (A. L. Brown et al., 2019). Pre-service teachers often need experience in school classrooms to gain practice in classroom behavior management skills (Larson et al., 2020). Online pre-service educator certification programs must therefore offer more opportunities to develop vital classroom management skills (Larson et al., 2020).

Summary

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The central problem addressed by this study is the assistance required by pre-service teachers from their asynchronous educator certification program (Korucu-Kış, 2021; Mehrabi et al., 2022). The perspectives of K-12 novice teachers regarding their K-12 educator certification program address a variety of challenges within their program. John Keller's (2008) theory of motivation helps connect the different motivation levels from the ARCS model with novice teachers' motivation challenges during their asynchronous educator certification program.

The different delivery methods among online educator certification preparation programs include asynchronous, synchronous, and a blended method called bichronous or online collaborative learning (Martin et al., 2020). Various elements within asynchronous teaching offer benefits and challenges to pre-service teachers attending the program (Jin, 2023). Online pre-service teachers face challenges utilizing the technology needed to complete an asynchronous educator certification program, causing additional stress and possible motivational problems toward continuing with the program (Badilla Quintana et al., 2017; Handal et al., 2019). Other challenges faced by online pre-service teachers include maintaining motivation and sustaining self-regulated learning (Gómez-Galán et al., 2020). Online pre-service teachers may possibly experience poor connections with their peers, faculty, and the program, hindering them from forming positive feelings toward the community within a course (Shepherd & Bolliger, 2019). The challenges associated with an asynchronous educator certification program can affect the amount of effort that learners put into their involvement, which can determine a pre-service

teacher's success in completing their program (Gómez-Galán et al., 2020). Additional research

regarding teacher perceptions of their online teacher programs is needed to address the

motivational factors required to overcome the challenges of online educator certification.

CHAPTER THREE: METHODS

Overview

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. This chapter presents the rationale for this phenomenology design and explains the study's setting and teacher participant recruitment process; it outlines the social constructivist framework and discusses my philosophical assumptions as well as explaining the procedure for recruiting potential participants and collecting data. This chapter also describes the data collection process, which entailed semi-structured interviews, a focus group, and letter writing as document analysis. In addition, it addresses how I collected permissions, discusses how I analyzed the data, and elaborates upon the trustworthiness of this study.

Research Design

The study used a qualitative phenomenology design that followed a hermeneutic approach. A qualitative design allows the researcher to develop a complex picture of the issue and become the human instrument for collecting data (Creswell & Poth, 2018); this design allows the researcher to focus on understanding the perspectives offered by the participants. Data collection methods can include interviews, notes, diaries, observations, etc. (Nassaji, 2020). A qualitative study was appropriate for exploring the challenges of asynchronous educator certification programs because it enabled me to understand teachers' perceptions of the challenges associated with attending such a program. Utilizing a qualitative design allowed me to gain a detailed understanding of teachers' motivations when completing their program by speaking directly with graduates of asynchronous educator certification programs (Creswell &

Poth, 2018); the graduates of these programs thus had the opportunity to expound upon their experiences of the teacher program by utilizing the qualitative design (Creswell & Poth, 2018).

This research followed a phenomenological design to allow the participants to share their experiences when attending an asynchronous educator certification program. A phenomenological design allows the researcher to explore the lived experience of individuals (van Manen, 1990); the researcher focuses on the phenomenon's value, gaining further understanding within the study (van Manen, 1990). Using this phenomenological design allowed me to understand the lived experiences of asynchronous graduate teachers and rationally interpret the meaning behind the challenges mentioned by the study participants (van Manen, 1990). For this study, I used three forms of data collection from participants: interviews, a focus group, and a written letter.

The research followed a hermeneutic approach, which allowed me as the researcher to justify and integrate my views of an asynchronous educator certification program with the challenges associated with other individuals' perceptions of a similar lived experience (van Manen, 1990). By using a hermeneutic approach, I interpreted the experiences described by the teachers who participated in this study. As the asynchronous educator certification program graduates expressed their perceptions of the lived experience of their program, the truth about their hardships and challenges emerged; I then co-constructed the meanings with my perceptions of asynchronous educator certification programs (Huttunen & Kakkori, 2020).

Research Questions

Central Research Question

What were the lived experiences of current residential teachers during their asynchronous educator certification programs?

Sub-Question One

What were the challenges current residential teachers face during their asynchronous educator certification programs?

Sub-Question Two

What motivating factors did graduates of asynchronous educator certification programs identify during their program?

Setting and Participants

This section outlines the study's setting and describes the potential participants. I conducted the study at a school district located in the Midwest. The participants included teachers who had completed their Missouri educator certification through a higher education asynchronous learning program.

Setting

I conducted the study at a school district identified by the pseudonym L. Brown School District in the Midwest. The ethnic population of the towns that encompass the L. Brown School District comprises 61%, European American, 17% African, 7% American, 11% Hispanic, and 5% other, with 26% of the children under 18 falling below the poverty line (Census et al.). The district has approximately 6,000 students and 396 certified teachers (nces.ed.gov). Of the 396 certified teachers, 39% are elementary teachers. The urban school district comprises two pre-schools, five elementary schools, one middle school, one junior high school, and one high school. The school district extends into two cities and was associated with a military base.

Participants

Participants included L. Brown School District teachers who have completed their Missouri educator certification through a higher education asynchronous learning program and hold a bachelor's degree. All potential participants must have taught in a traditional brick-and-mortar school for at least two years. Potential participants must have held a valid Missouri teaching certification license in either early childhood, elementary, secondary, or special education and could not be in the course of the certification program process. I recruited 10 potential participants for my study.

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Researcher's Positionality

</div>

I was a human instrument to gather information during this phenomenological study. I have worked in education for over 15 years in various programs to gain certifications. I hold a technology integration specialist position that allows me to observe many other K-12 teachers in their classrooms, ranging from experienced to novice teachers. I have noticed that many teachers face various challenges during their lived experiences of their asynchronous educator certification program. Having my own lived experiences through an asynchronous program, I was interested in further investigating the issue of the challenges of these programs. Through an asynchronous educator certification program, I have experienced various challenges associated with online teaching programs. I have interpreted a different paradigm or worldview from the experience that I gained through my asynchronous educator certification program, which slightly differs from the asynchronous educator certification program completed by the participants.

Interpretive Framework

I used a social constructivist view to interpret this study. Social constructivism explains

how people acquire knowledge through social interactions (Creswell & Poth, 2018). To achieve

social constructivism, individuals construct knowledge by observing the collaboration of ideas

among individuals, drawing upon the experiences and prior knowledge of others, and actively

involving themselves in conversations to understand different perspectives and experiences

(Creswell & Poth, 218; Noguera et al., 2022). A social constructivist view allowed me to gain

information by seeking an understanding of the experiences of pre-service teachers during their

asynchronous educator certification program through the interactions and collaboration of the

participants as I collected data through the semi-structured interviews and a focus group

(Creswell & Poth, 2018). As participants shared their experiences through group interviews, I

gained the opportunity to interpret the views of others regarding the challenges of the lived

experiences associated with asynchronous educator certification programs. Open-ended

questions during the group interview allowed the participants to expand upon their experiences,

which triggered others to elaborate upon their experiences regardless of whether the experience

was similar or different.

Philosophical Assumptions

This section presents my ontological, epistemological, and axiological assumptions. My

ontological assumption allowed me to view the different perceptions gained by teachers

throughout their asynchronous educator certification program, offering various paradigms to

explore. My epistemological assumption allowed me to learn from the participants' feedback

about the challenges associated with their lived experiences and how they overcame these

obstacles to complete the program and enter the classroom. The axiological assumption allowed

me to incorporate my paradigm of challenges associated with the lived experience through my

asynchronous educator certification program to bracket my views from the perceptions offered by the participants.

Ontological Assumption

Ontology is the study of reality (Creswell & Poth, 2018). My ontological assumption was that every person holds their own perception of reality; the participants of this study offered multiple perceptions of realities (Creswell & Poth, 2018). As I conducted my research and analyzed the data, I examined the various views of reality offered by the participants, which revealed teachers' challenges during their asynchronous educator certification program.

Epistemological Assumption

Epistemology is the study of knowledge and how knowledge is obtained (Creswell & Poth, 2018). My epistemological assumption was that effective communication between individuals creates knowledge (Creswell & Poth, 2018); therefore, during the data collection process, I asked participants questions about their communication with the instructor and peers.

Axiological Assumption

Axiology is the study of values (Creswell & Poth, 2018). My axiological assumption was that I value the motivation attributed by learners for them completing an asynchronous program. The motivation behind a person's will to complete a project can affect how well they will accomplish the related tasks; motivation can allow learners to surpass their goals, whereas a lack of motivation may hinder a person from completing the tasks needed to reach these goals. Consequently, I used the theory of motivation as this study's framework to determine how learners completed an asynchronous program (Keller, 2008).

Researcher's Role

During this study, I was the human instrument for gathering data as I interviewed the participants both individually and as a focus group. To ensure that I did not influence the opinions or perceptions of participants' experiences, I had no authority over them; all questions were asked during the interviews and focus group while inquiring about additional details for clarification. As I analyzed the documents and interview feedback, I incorporated my own opinion regarding the challenges that I faced during my experience with an asynchronous program (Creswell & Poth, 2018).

Procedures

First, I acquired approval from the L. Brown School District (Appendix B). After I successfully defended my proposal, I completed and submitted the IRB application. After I received IRB approval (Appendix A), I began my study. I used a gatekeeper to gain a list of potential candidates who have completed their educator certification through an asynchronous program. I emailed each potential participant (Appendix E) from the list that I received from the gatekeeper to request participation in my study. If potential participants agreed to participate in the study, I emailed them the information sheet (Appendix C) to offer additional details for my study. Once I gained the agreement of each potential participant, I arranged an individual interview, either in person or virtually, and asked each participant to write a letter explaining the components that they liked and disliked about their asynchronous program. I requested that participants return the letter within four weeks of being interviewed. I interviewed each potential candidate and asked questions during the interviews while I recorded the sessions on my device.

After interviewing 10 participants, I invited five participants to participate in a virtual focus group. Once the data was collected, I began the data analysis process.

Permissions

I contacted the school district with an email outlining my study and obtained permission to use various teachers from the district (Appendix B). I applied to Liberty's Institutional Review Board committee and gained approval to conduct my research (Appendix A). Once I gained approval from Liberty's IRB, I used the gatekeeper to lead me to other teachers who have completed an asynchronous educator certification teacher program. With that information, I requested the participants' participation in my study and provided them with the information sheet (Appendix C).

Recruitment Plan

The sample pool for this study included K-12 teachers from the L. Brown School District who have graduated from an asynchronous educator certification program. I used the gatekeeper to email me information on potential participants from the school district, which comprises five elementary schools, a middle school, and a high school. A gatekeeper is an individual who is used to recruit participants for a study (Aaltonen & Kivijärvi, 2018); the gatekeeper for this study is an individual who I already knew and works as the media specialist at the middle school within the district. The gatekeeper completed an asynchronous educator certification program and knew of others that have completed such a program. I emailed the gatekeeper a letter (Appendix D) with instructions for a list of potential participants.

With the gatekeeper's information on the initial potential participants, I emailed the potential participants (Appendix E) to state the purpose of my study and request their

participation. In the email, I requested potential participants who agreed to participate in the study to email me a response of whether they attended scheduled virtual live meetings with their instructors and peers during their educator certification program. I used a combination of convenience sampling and snowball sampling as methods to collect potential participants from established participants when inviting them to join the study. Initially, I used convenience sampling to collect potential participants from the surrounding district due to the convenience of using people from the local school district (Kempf-Leonard, 2005). I used snowball sampling to request additional potential participants from the potential participants who I emailed. Utilizing snowball sampling allowed me to solicit potential participants one at a time, gaining the expertise of the previous participant surrounding whom to solicit next. Regardless of their willingness to participate in the study, I requested contact information from any potential participants; if I did not receive any additional potential participants, I contacted the gatekeeper again to obtain more names. I continued to ask for references from other potential participants until I recruited 10 participants.

Once I identified the potential participants who completed an asynchronous educator certification program, I emailed them the IRB-approved information sheet (Appendix C). The information stated that participation was voluntary and that potential participants may drop out at any time. The IRB-approved information sheet informed potential participants that I would remove all identification to allow future research to use the information gained from this study.

Once I obtained agreements from 10 potential participants who qualified for my study, I assigned a pseudonym to each participant to ensure that their identity remained confidential. I emailed each participant to arrange the individual interview, allowing them to choose the

interview setting. Participants were either interviewed virtually or in person for their individual interviews. I informed the participants that the focus group interview would be conducted virtually and would occur when I had conducted all individual interviews. I asked each participant at the end of their individual interview if they would participate in a focus group interview. I emailed the focus group interview procedure (Appendix H) and informed the participants at least two weeks in advance of the time and date of the focus group interview. After five participants agreed to participate in the focus group, I continued to invite additional participants; this approach allowed me to promptly replace one of the original participants who could not attend the session.

Data Collection Plan

Using multiple data collection techniques can help strengthen qualitative research by triangulating various sources (Creswell & Poth, 2018). For this study, I collected data in three forms. The first form of data was in-person, semi-structured interviews with each individual participant. The second form of data collection was a focus group of at least five teachers who held an educator certification from an asynchronous program. The third form of data collection was a letter directed to the certification organization written by the participants, which explained the valuable aspects of the asynchronous teacher program and the aspects that needed to be improved. Once I gained the participant's consent form, I gave them the letter prompt to allow participants multiple weeks to complete the letter.

Individual Interviews Data Collection Approach

The first type of data collection included individual semi-structured interviews with the participants. Participants decided whether they would like the interview to be held in person or

virtually, and each interview took approximately 45 minutes to conduct. The semi-structured interviews allowed me to collect structured information and information regarding participants' feelings, beliefs, or attitudes (Creswell & Poth, 2018). An interview gathers qualitative research information through dialogues between the researcher and potential participants (Moustakas, 1990). Before conducting the interview, I created a protocol with Microsoft Office Word for memoing during each interview (Appendix G; Creswell & Poth, 2018). Through the process of memoing, I took notes about my thoughts during the interview and jotted down themes or concepts that I noticed (Creswell & Poth, 2018). I set up a recording device with my laptop disconnected from a network. I used the individual interview questions (Appendix F) as a guide for the interview, allowing time for participants to discuss the responses while I took notes. I started an audio recording with my laptop at the beginning of the individual interviews and began by describing the study to the participant. I related to the participants to develop rapport with them by stating that I graduated from an asynchronous program; however, I did not expound upon my experiences (Creswell & Poth, 2018). Similarly, I did not state my views on the challenges of asynchronous educator certification programs to avoid influencing the participants' opinions. I maintained a participant position during the individual interviews while taking brief notes, which allowed the interview to be semi-structured; I also asked follow-up questions to the participants' responses (Creswell & Poth, 2018). I used the recording and transcription to add details to the notes taken during the interview.

Individual Interview Questions

1. Tell me why you decided to become a teacher. CRQ

2. Why did you choose an online program over a traditional residency program to obtain your certification? CRQ

3. Please explain challenges toward gaining and sustaining your attention throughout your program. SQ2

4. What helped you maintain your motivation throughout the asynchronous courses of your program? SQ3

5. What challenges did you face regarding peer interaction during your asynchronous program? CRQ

6. How did you overcome these challenges regarding peer interaction? SQ1

7. Elaborate on your sense of connectivity toward the community of your asynchronous educator certification program. SQ1

8. What challenges did you face while mastering various content through your program?

9. How did you overcome these challenges regarding mastering content? SQ1

10. What challenges did you face in your certification program classes regarding time management? SQ1

11. How did you overcome these challenges regarding time management? SQ1

12. What other challenges did you face that you felt were difficult to overcome? CRQ

13. How did you overcome these other challenges? SQ1

I designed the first two questions to build rapport with the participants and encourage them to discuss their lived experiences (Creswell & Poth, 2018). I designed questions three and four to address external motivational issues, since a study by Peck et al. (2018) found a statistically significant correlation between motivation and self-efficacy, which affected student

retention. I designed questions five and six to evaluate challenges associated with peer

interaction; a study by Kohnke et al. (2021) evaluated pre-service teachers' perceptions during

their asynchronous program, with results demonstrating an uneasiness toward collaboration due

to the lack of interaction with peers in the course. Question seven allowed the participants to

expand their sense of connectivity within their program, based on Terras et al.'s (2018) findings

that pre-service teachers enrolled in an asynchronous educator certification program need higher

levels of connectivity with their peers. Questions eight and nine evaluated the challenges

associated with mastering content online; Bjerke and Solomon (2020) conducted a study

evaluating the perceptions of subject knowledge among pre-service teachers enrolled in a

educator certification program, finding a need for more adequate knowledge and skills for online

pre-service teachers. Questions 10 and 11 related to the challenges associated with time

management within an asynchronous educator certification program, since Fuchs et al. (2022)

found that many pre-service teachers enrolled in a German university showed weak engagement

toward time management during their asynchronous teacher program. The remaining questions

allowed participants to address any additional challenges that may have hindered their progress

(Paul & Jefferson, 2019). The individual interviews thus allowed participants to openly discuss

their perspectives regarding the asynchronous educator certification program (Creswell &

Creswell, 2009).

Individual Interview Data Analysis Plan

After each interview, I uploaded and transcribed the recorded session using a qualitative

analysis software called NVivo. Once the sessions were transcribed, I compared the recording

and the transcription to validate the latter's accuracy (Creswell & Poth, 2018), and I then had the

participants read the completed transcription to check for accuracy. Once the participants had

read the transcription of their interview, I added my notes to the transcripts in NVivo. I

completed this process for all the interviews until all recordings had been transcribed and

checked for accuracy by their respective participants. I used the interview transcription and

memos that I created to develop coded data and organize the information using NVivo (Saldana,

2021). To code the data, I manually created codes based on the needs of the interview

transcriptions and memos. I began creating codes by starting with the initial interview and

classifying the answers to the interview questions and annotations to different codes. This

process allowed me to code the information from the rest of the interview questions and memos

using the established codes (Saldana, 2021).

I analyzed the different codes for similar descriptions and group patterns (Saldana, 2021).

After grouping patterns, I began a second cycle of the coding process and synthesized the code

descriptions into categories and subcategories (Saldana, 2021). I later triangulated the categories

with the other categories coded from all data obtained through this study (Creswell & Poth,

2018). I thoroughly analyzed and synthesized all data into categories and subcategories, which

helped me establish themes.

Focus Groups Data Collection Approach

In addition to analyzing the individual interviews and letters to collect data, I conducted a

focus group with at least five participants from the previous individual interviews. A focus group

allowed for additional validation and refinement of the data (Creswell & Poth, 2018). I kept the

remaining individuals who accepted the invitation as alternative participants in case I needed

additional participants to join the group.

I conducted the focus group interview via Zoom as the virtual platform. Before I began the group interview, I emailed the focus group procedure information sheet (Appendix H) to all participants to ensure that they understood the interview process. I removed any identifiable information in any shared personal information and arranged the interview by emailing participants about their availability to meet virtually. Using the available times given by the participants, I arranged the focus group interview at a time that suited everyone. I recorded the focus group interview on my laptop for later transcription and analysis. As the group interview began, I introduced myself and reviewed the study and focus group purpose to ensure that all participants understood the intention of the interview and the study. I instructed all participants to keep their cameras off and reviewed the virtual meeting etiquette, which involved muting mics unless speaking. Once I had introduced the study, I began asking questions and taking notes using a protocol with Microsoft Word. I asked follow-up questions when clarification was needed.

The setting followed a semi-structured interview approach, which allowed me to ask additional questions (Appendix I) and allowed participants to engage with each other (Creswell & Poth, 2018). Like the interview plan, a protocol was created before the focus group interviews to create a document for notetaking during the focus group. Once the interview was over, I listened to the recording to expound upon the notes. The following questions were a guideline; however, they were adjusted based on the analysis of the individual interviews.

Focus Group Questions

1. What challenges did you face regarding communicating with the instructor and your peers? CRQ

2. What was the most effective feedback you received and why? SQ1

3. What could be done differently with an asynchronous course to increase your motivation? SQ2

4. What challenges did you face toward self-regulated learning throughout your program? SQ1

5. Describe your competency toward classroom management coming into the classroom after completing your asynchronous program. SQ2

6. Describe your competency with content knowledge into the classroom after completing your asynchronous program. SQ2

7. What type of relevant lessons were used throughout your program of study? CRQ

I designed the questions to explore participants' perceptions of the challenges faced during their asynchronous educator certification program and trigger different views from other participants about their program (Paul & Jefferson, 2019). I designed question two to engage the focus group in discussions regarding the challenges associated with feedback from their peers and instructors; a study by Vásquez-Colina et al. (2017) compared feedback within a traditional in-person and an online course, finding more feedback responses offered with the traditional course. Question three questioned participants' motivation, which allowed them to expound upon the motivation needed to complete their asynchronous teacher program (Gómez-Galán et al., 2020). Question four allowed participants to discuss the self-regulated learning skills obtained during their program, since a study by Willems et al. (2021) found that students established higher levels of self-regulated learning when they felt more motivated. The last question allowed participants to outline their competency as classroom teachers after completing their

asynchronous educator certification program (Liu, 2020). A study compared teachers'

perspectives in a course associated with their elementary teacher education program; the

researchers split the class into two sections and taught with two different delivery methods:

entirely online and traditional in-person formats. The researchers found no significant difference

between the delivery methods, stating the need for further exploration of the impact of the

asynchronous educator certification program on teachers' competency in the classroom (Hurlbut,

2018).

Focus Group Data Analysis Plan

After I conducted the focus group, I transcribed, member checked, and analyzed the data

in the same manner as the data collection conducted for the individual interview process.

Document Analysis Data Collection Approach

In addition to participants elaborating on their experience of their asynchronous educator

certification program, participants developed a letter in which they explained the valuable

aspects of their asynchronous program and improvements that could be made to the program to

help alleviate its challenges. Although the phenomenological study focused on in-depth

interviews that described the phenomenon's meaning (Creswell & Poth, 2018), this additional

analysis helped the study. The program description letter (Appendix J) explained the aspects of

the program, which offered details supporting whether the program sufficiently prepared the

teachers for entering the classroom. The letter also addressed any improvements that the program

could make to allow higher levels of success when entering the classroom. Having participants

write letters allowed them to add information that they may have missed during the interview.

Participants wrote a letter of no more than two pages addressing the following prompt:

Write a letter addressing program directors to discuss aspects of your program that were useful or needed additional improvements. Please discuss the following points in relation to your asynchronous program: communication between instructors and peers, technology requirements and challenges, relevance of assignments, motivational factors, and confidence toward entering the classroom.

This letter addressed the central research question by allowing participants to elaborate upon the various aspects of their asynchronous educator certification program. The letter also aligned with the ARCS model by offering insight into the type of motivational factors necessary for the participants to complete their program (Keller, 2010). I asked participants to return the letter to me within four weeks of their interview using the school's interschool mailing system. Giving participants time to write a letter allowed them to reflect and elaborate on their program without feeling rushed to answer immediately within an interview.

Document Analysis Data Analysis Plan

The letters were mailed to me and uploaded to NVivo to analyze and code the letters. As I analyzed the first letter, I sorted information into existing codes or created new codes for new information. I added memos to the document to help clarify aspects of the letter. I followed this process for all letters and ensured that I had received letters from every participant.

Data Synthesis

To synthesize the data, I completed open coding of all data through individual interviews, focus group interviews, and documents from participants by categorizing various parts of the data into the appropriate code. Once I categorized all the data into established codes, I used axial coding to identify the relationships within all categories or codes. I used axial coding to break

down developing patterns into one category and subcategories (Creswell & Poth, 2018). Once I

coded all data using axial coding through a second-cycle coding, I used selective coding to

finalize themes that absorbed the categories and subcategories (Saldana, 2021). After thoroughly

analyzing the data from all three methods through multiple rounds of coding to classify all data

into subcategories, I began the second cycle of coding to assemble themes from the

subcategories created (Saldana, 2021). I triangulated all data to compare credibility among the

three data collections; once I established credibility, I combined the data to create separate

themes using NVivo. I used NVivo to identify possible patterns that I did not detect through the

initial rounds of coding (Saldana, 2021). Once I identified all possible patterns, I developed the

study's themes, subthemes, and outliers.

<div align="center">**Trustworthiness**</div>

The trustworthiness of qualitative research is needed to ensure that a study holds truth

(Lincoln & Guba, 1985). Elaborating upon this study's credibility, transferability, dependability,

and confirmability promotes trustworthiness; therefore, this section thoroughly explained all

ethical considerations to ensure that I conducted the research as ethically as possible.

Credibility

Through various validation strategies, the study's credibility allowed the findings to

accurately describe the truth behind the experiences associated with asynchronous educator

certification programs (Lincoln & Guba, 1985). I used triangulation to compare all data

collection forms (Merriam & Grenier, 2019), allowing the findings from the semi-structured

interviews to be compared with the documents and focus group findings; triangulation is a

helpful tool as not all participants attended the same university and thus offer unique

experiences. Another strategy that I used to establish credibility and validity through this research was peer debriefing, which was achieved. I used peer debriefing by allowing another colleague to review the collected data and compare it with the findings. Peer debriefing allowed me to state whether the findings were plausible (Merriam & Grenier, 2019). In addition to a colleague scanning the results, committee members completed the peer review process as they thoroughly reviewed the study (Merriam & Grenier, 2019). Finding credibility in the data and the findings allowed the study to gain partial trustworthiness.

Transferability

Depending on the reader's perception, they can infer the conditions offered through this study to connect with various studies. Transferability occurs by thoroughly explaining the study and elaborating on its purpose, procedure, data, and findings. By allowing the participants of this study to offer their perceptions of the challenges associated with their asynchronous teacher programs, I used the comparisons and contrasts to identify the study's findings (Holley & Harris, 2019). The findings can allow other researchers to gain insight into the perceptions of asynchronous teacher preparation program graduates, which may help future studies expound on navigating the challenges associated with asynchronous educator certification. The findings can also guide future research associated with asynchronous programs of other disciplines.

Dependability

Dependability makes the findings reliable in qualitative research (Lincoln & Guba, 1985). All findings of this study have the potential to be repeated in various settings while following the same procedure with a similar population. The results of this study are made dependable by adding sufficient detail about the research methods (Lohmann et al., 2019). The

inquiry audit from the dissertation committee and the qualitative research director offers further awareness toward promoting greater care with the material recorded, offering additional trustworthiness (Stahl & King, 2020).

Confirmability

I used the audit research process to establish confirmability (Creswell & Poth, 2018). In addition to a research process audit, participants' views expressed triangulation throughout the various forms of data collection. Allowing the participants' views to shape the research promoted confirmability that my views did not influence the study. Utilizing reflexivity allowed me to reflect critically as a human instrument (Merriam & Grenier, 2019), bracketing my views toward the study.

Ethical Considerations

Ethical considerations are vital throughout the research process (Creswell & Poth, 2018). Using thorough explanations in understandable terms allowed participants to freely choose whether to participate and understand that they could withdraw from the study at any time. All identifiable names were coded and assigned pseudonyms to protect the confidentiality of all participants (Creswell & Poth, 2018). All electronic data (such as interview and focus group recordings and transcriptions) and electronic documents provided by the potential participants are stored on external devices with password protection to access electronic files in a locked area; this data will be stored for up to three years, after which it will be destroyed. All risks and benefits were discussed multiple times with the potential participants to ensure that they fully understood the risks and benefits of the study. All participants were similarly encouraged to express their views freely.

Summary

Chapter 3 has outlined the methods for this phenomenological study exploring the challenges faced by novice teachers during their online educator certification program. The research was conducted in Southwest Missouri, allowing participants to offer their views on their lived experiences during their asynchronous educator certification program. Participants included teachers who have taught in the classroom between one and five years and have graduated from an asynchronous teacher accreditation program. I was the human instrument, collecting the data through individual interviews, a focus group, and document analysis using letters from the participants. I followed a social constructivist view as I interpreted the framework of this study. I used convenience and snowball sampling to obtain participants for this study.

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CHAPTER FOUR: FINDINGS

Overview

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The study's theoretical framework was John Keller's (1983) theory of motivation. In this chapter, the participants' lived experiences while completing their asynchronous educator certification program will be presented; the chapter includes descriptions of the participants' experiences during their program, themes from the data, and responses to the research question.

Participants

A combination of convenience and snowball sampling resulted in 10 participants. Participants must have worked for at least three years in a K-12 public school and have completed an asynchronous educator program. Table 4 shows the participants' demographic data breakdown by the following factors: years taught, highest degree earned, age, and grade level. To meet Liberty University's qualitative research requirements, I chose 10 participants for this study. All 10 participants were interviewed and wrote letters, while five of the 10 participants participated in the focus group.

Table 4

Teacher Participants

Teacher Participant	Years Taught	Highest Degree Earned	Age	Grade Level
Penelope	4	Masters	31	2nd
Karen	3	Bachelors	32	5th

Sally	10	Masters	47	7th
Sara	3	Bachelors	25	5th
Laura	8	Bachelors	35	4th
Wendy	11	Masters	36	3rd
Victor	3	Masters	29	8th
Kent	5	Masters	32	2nd
Hannah	9	Educational Specialist	43	6th
Sam	3	Bachelors	28	5th

Penelope

Penelope is a 31-year-old who currently works as a second-grade teacher. She has taught in public schools for six years. Penelope earned a Master of Education in English as a Second Language. She chose an elementary education degree because she was ready to start an educational career as a teacher, and there was a shortage of teachers. Penelope chose an asynchronous program because of the convenience that the program provided for her lifestyle; she was still able to work and go to school.

Karen

Karen is a 32-year-old who currently works as a fourth-grade teacher. She has taught in public schools for three years. Karen earned her Bachelor of Science in Elementary Education; she became a teacher to help make a difference for young people. She chose an asynchronous program because it allowed her to attend school and continue her work schedule.

Sally

Sally is a 47-year-old who works as a seventh-grade mathematics teacher. She has taught in public schools for 10 years. Sally earned her Master of Education in Curriculum and Instruction; she became a teacher after she began substitute teaching and fell in love with the educational profession, deciding that she wanted to teach in her own classroom. Sally chose an asynchronous program because of the program's flexibility; she could stay home with her children and continue working while attending school.

Sara

Sara is a 25-year-old who currently works as a fifth-grade teacher. She has taught in public schools for three years. Sara earned her Bachelor of Science degree in elementary education and is currently pursuing a Master of Education in Instruction Technology. Sara became a teacher because she wanted her children to be proud of her career choice. She chose an asynchronous program because it was cheaper than the previous residential program she had attended, and she also thought that it would be easier.

Laura

Laura is a 35-year-old who works as a fourth-grade teacher. She has taught in public schools for eight years and earned a Bachelor of Science degree in elementary education. Laura became a teacher because she had a teacher who positively impacted her life; she similarly wanted to have the opportunity to positively impact students' lives. Laura chose an asynchronous program because she was a military wife and would not be stationed at a location long enough to enroll in a residential program. She liked to have flexibility in her school schedule because her schedule was unpredictable.

Wendy

Wendy is a 36-year-old who currently works as a third-grade teacher. She has taught in public schools for 11 years. Wendy earned a Master of Education in Educational Leadership; she became a teacher to help students grow and become passionate about learning. She chose an asynchronous program because of the flexibility and self-paced schedule offered by the program.

Victor

Victor is a 29-year-old who currently works as an eight-grade science teacher. He has taught in public school for three years. Victor earned a Master of Education in Curriculum and Instruction. He became a teacher because he wanted to help students thrive in school, choosing to work at a junior high school to be a positive role model for junior high students. Victor wanted an asynchronous program because his initial choice of a residential program was too hard and did not fit his schedule. He moved to an asynchronous program and was able to continue to support his family while taking classes.

Kent

Kent is a 32-year-old who works as a second-grade teacher. He has taught in a public school for five years. Kent earned a Master of Education in Educational Leadership; he became a teacher because he thought it would be a great career. Kent chose an asynchronous program because he could not attend an actual university and work; he took an online class through his associate degree and enjoyed it.

Hannah

Hannah is a 43-year-old who works as a sixth-grade teacher. She teaches English Language Arts and has taught in public schools for nine years. Hannah has earned a Specialist of

Education in Reading, Literacy, and Assessment. She became an English Language Arts teacher

because she loves teaching reading; she is passionate about reading and thought that she could

share her passion through teaching. Hannah chose an asynchronous program because she was a

military spouse and traveled often.

Sam

Sam is a 28-year-old who currently works as a fifth-grade teacher. She has taught in

public schools for three years and has earned a Bachelor of Science in Elementary Education.

Sam chose an asynchronous program because she could continue to work and become certified

to teach without attending an actual university.

Results

I collected data on the participants' lived experiences of their asynchronous educator

certification program. Participants' individual interviews were conducted either in person or

virtually via Zoom. The interviews were recorded on a MacBook and were then transcribed on

Microsoft Word. All letters were emailed and then altered to remove identifiable information.

The focus group interview was conducted, recorded via Zoom, and transcribed on Microsoft

Word. To ensure the data was secure, I stored all recordings, documents, and transcriptions on a

password-protected flash drive. All transcriptions were sent to the participants to check for

accuracy. The study followed the central research question and two sub-questions to explore

teachers' lived experiences by collecting data using individual interviews, a focus group, and

written letters. The data revealed eight themes: lifestyle preference for self-paced learning,

procrastination during asynchronous learning, competencies of the program, technology

challenges, community of the program, meaningless peer communication, external factors for self-motivation, and human connection.

NVivo was used to assist in coding all data. All individual interviews and the focus group interview were transcribed and changed to remove any identifiable information through Microsoft Word and uploaded to NVivo. Similarly, all letters were slightly altered to remove identifiable information and uploaded to NVivo. All data was open-coded; after multiple rounds of open coding, I determined 23 codes for categorizing the data from all three sources. To identify relationships among the codes, I used axial coding to help establish and classify the cases to develop themes and subthemes. Table 2 presents the codes, theme frequencies, themes, and subthemes.

Table 2

Codes, Themes, and Sub-themes

Codes	Theme Frequency	Themes	Sub-theme
Schedule and Location Flexibility	13	Lifestyle Preference for Asynchronous Learning	Schedule and Location Flexibility
Completing Assignments on Time	11	Procrastination during Asynchronous Learning	
Time Management	10		
Overwhelmed Feelings	4		
Student Teaching	9	Program Competencies	Student Teaching Competency
Classroom Management Skills	8		Classroom Management Competency
Mastering Content	8		Learning the Program Competency
Assignments Throughout the Program	8		
Virtual Teaching Competency	5		
Technology Issues	6	Technology Challenges	
Feedback	9	Community of the Program	Program Communication
Instructor Communication	8		
Program Connection	8		

Hidden Information	3	
No Connection with Peers	9	Meaningless Peer Communication
Minimum Word Discussion Post	5	
Meaningless Replies	4	
Self-Disciplined Techniques	10	External Factors for Self-motivation
Program Cost	8	
Program Completion Time	7	
Desire to Become an Educator	5	
Mentor Check-In	8	Mentorship
Instructor Communication	5	

Theme 1: Lifestyle Preference for Asynchronous Learning

The first theme identified by this research was the lifestyle preference for asynchronous learning. This theme appeared 13 times throughout all sources of data. Many pre-service teachers choose an asynchronous educator certification program due to the program's attributes, such as convenience and flexibility through a self-paced learning style. Eight participants from the individual interviews expressed that one of their reasons for choosing an asynchronous educator certification program was the program's convenience for their lifestyle. Karen stated, "It [the asynchronous educator certification program] was more compatible with finding the right balance for studying and everything else life offers." Penelope similarly described the reason for

choosing her program: "Because it [the asynchronous educator certification program] was convenient for my lifestyle choices, allowing me to fit learning into my schedule rather than fitting my life choices into a learning schedule."

Schedule and Location Flexibility

The subtheme that emerged from the lifestyle preference of asynchronous learning was schedule and location flexibility. All participants elaborated on their lifestyle, explaining why an asynchronous educator certification program was the best choice. The data resulted in 13 theme entries regarding the schedule and location flexibility of the program between the individual interviews and the program description letters. During her individual interview, Sally stated, "Self-paced [learning] offered flexibility so I could stay home with my kids and still go to school." When interviewing Hannah about why she chose an asynchronous program, Hannah also elaborated on the program's flexibility: "Because we were a military family, we traveled a lot. An online program allowed me the flexibility to study wherever and whenever." In her program description letter, Laura similarly noted having a military family. As she and her family lived a transient lifestyle, Laura chose an asynchronous program: "I had a family to raise in Germany, and I was unsure when and where I was going to move. My program allowed me the flexibility to learn wherever and whenever I needed." She stated, "Many people who chose this program are working adults who usually have a family or work that is keeping them from attending a scheduled class."

During her individual interview, Karen discussed the convenience of the program's flexibility: "With the flexible schedule, the program allowed me to work on things outside of normal business hours. It was more compatible with my lifestyle. I had to find the right balance

for studying and everything else in life." In her program description letter, Sara described the convenience of the flexibility of her program: "I chose an online program because I work full time and have a family. I do not have the time to attend [a residential college] in person." In his individual interview, Victor discussed the convenience of a virtual location by noting, "It was much easier with my schedule, and where I was living because I lived in a small town, so I would have to drive far to go to the university." When I interviewed Kent about why he chose an asynchronous program, he replied, "It was too hard to attend an actual university and work. I had taken an online class during my associate degree and thought I would like it. The asynchronous aspect of the program allowed me a flexible schedule." In her program description letter, Sam expressed how well her asynchronous program fit her life: "I needed something with time flexibility so that I can continue to take care of my family and study when I could."

Theme 2: Procrastination of Asynchronous Learning

The second theme that emerged from the research was procrastination during asynchronous learning. Research has stated that pre-service teachers may face various challenges during their asynchronous courses, including self-paced learning and communication issues within a program (Carrillo & Flores, 2020; McGarr, 2020). Current residential teachers face challenges regarding procrastination, feedback received, instructor communication, and hidden information. This theme appeared 25 times across all three data sources for all participants, with some participants elaborating more than others on their challenges. I clustered the following codes within the first subtheme: meeting deadlines, time management, and feelings of being overwhelmed. Across all three data collection methods, all 10 participants commented on challenges associated with procrastination due to the self-paced nature of their program's

asynchronous learning. During her individual interview, Laura noted, "It was a work-at-your-own-pace environment. It was easy to put things off until the end." Sally also noted during her individual interview that it was easy to procrastinate during the program, stating, "It was easy to procrastinate until the end of a course when you have to set your timeline."

With all participants choosing an asynchronous educator certification program due to the ability to continue their family and work responsibilities, some participants struggled with meeting the deadlines for their assignments due to procrastination. During her individual interview, Penelope discussed not managing her tasks effectively: "Since I worked at my own pace, I procrastinated often. Next thing I knew, the deadline was just days away, but I had well over a week of work to do." In her individual interview, Sara discussed her trouble managing school and other responsibilities when asked about the challenges of gaining and sustaining her attention; she noted that it was easy to put things off but had to switch strategies: "I broke down all that I could so I would procrastinate less and not miss deadlines. I knew if I procrastinated too much, I would get behind and possibly fail."

During the focus group, Penelope noted that she regretted how often she procrastinated during her program, which affected the quality of her work: "At times I would wait until the last day, then something would come up, and I would scramble at the last minute to complete the assignment. I felt awful since I knew it was not my best work." Sally agreed with Penelope as she discussed gaining even more procrastination habits during her program: "Procrastination was by far my program's biggest challenge for me." Laura added insight into her experience with procrastination during her program, stating,

I really turned into an even worse procrastinator with this program since I knew

assignments weren't due until the end. There were many times I regretted procrastinating the way I did since something seemed to always come up the day I needed to buckle down and get my work done.

Laura discussed a time when her procrastination was costly: "One time, I missed the deadline on one of my final papers for this one course. Since it was at the end of the course, I received a zero [on the assessment] and failed the course, making me retake it." Nonetheless, Victor offered the last comment toward this discussion in the focus group, stating, "Having the idea that I would have to pay more because of procrastinating and missing a deadline motivated me to get myself in gear."

Relating to procrastination, participants also commented on time management 10 times across all three data collection sources. During the individual interview, Wendy discussed the difficulties of finding the time to complete all the assignments: "Time was a huge challenge because I did not have a large block of time to dedicate solely to completing assignments, making it difficult to get all the work done in time." Penelope discussed the need for self-motivation and time management during her program description letter; she stated, "A program with a self-learning style may cause excess procrastination without the right self-motivation and time management." During her individual interview, Penelope also commented on her challenges with finding time for studying: "Finding the time to do the assignments was the main challenge I had throughout the program since I was working and recently married." During the individual interview, Karen offered a similar experience of time management, stating, "Being able to find a chunk of time to focus on studies for hours at a time just wasn't feasible. I had to just do it in small chunks." Some participants discussed how mismanaging their time led to procrastination

on their assignments. During the focus group interview, Hannah discussed the challenge of procrastination during her program, stating, "My biggest challenge was procrastination. That stops someone from self-regulating their learning and managing their time." During his individual interview, Kent commented on procrastination during his program; he felt as if he had not improved his skills in time management and continued his procrastination habits: "I didn't feel like I gained much in time management. Deciding when to study and when to finish assignments led me to procrastinate until the deadlines. I passed, so I continued the habit throughout my program." During his individual interview, Victor elaborated on the work he had to do when he procrastinated during the week:

> I always had back-to-back courses. If I was behind in one course, it derailed me for the second one. On the weekdays, I didn't have time to work on my schoolwork. The work built up, so I was stuck working many weekends and holidays to make up for the assignments due to procrastinating and not using my time wisely.

During the focus group, Sally discussed how procrastination may easily cause students to struggle to manage their time; she stated,

> Procrastination was a huge challenge. The main reason I chose this program was the idea that I could get done with this degree faster. It was hard, though. I thought I had self-motivation, but when you are working and taking care of a two-year-old and a seven-month-old, it's a bit hard to balance everything.

> Four participants commented on feeling overwhelmed at one point, leading them to procrastinate. During her individual interview, Sara stated,

> There was just so much to do, and it was hard to manage everything at home, work, and

school. I didn't always understand what to do. I would begin to feel overwhelmed and want to quit. I would take more and more breaks until I realized I was simply procrastinating.

During her individual interview, Sam stated how easy it was to feel overwhelmed when she had to create and maintain her own school schedule: "The self-motivation and putting life things aside was hard and could get overwhelming. You must make and maintain your own schedule of assignments, work, and run a household." In Karen's program description letter, she stated, "I felt overwhelmed at times trying to keep up with everything." Karen went on to explain that she felt significant pressure to ensure that she did not procrastinate and met all deadlines to keep her scholarship. During the focus group interview, Hannah noted that she felt overwhelmed if she did not stay on top of all her studies: "If I lost focus and didn't plan ahead, I would easily feel overwhelmed and struggle to get everything done in time.

Theme 3: Program Competencies

The content of an asynchronous educator certification program can affect a learner's motivation and self-regulation (Peck et al., 2018). Nine participants commented on program competencies; this theme representing the elements of the asynchronous educator certification program appeared 35 times across all three data collection methods. Eight participants commented on elements of their program across all three data collection methods. Three subthemes emerged from the data: learning the program competency, competencies of student teaching, and classroom management competency. Most participants elaborated on the challenges they faced when dealing with the elements of their program, having difficulties mastering the content (such as math) and becoming competent in classroom management. In the

program description letter, Sally discussed the need for multiple classroom management courses, stating, "One class is not enough to gain the necessary knowledge and skills."

Student Teaching Competency

The first subtheme that emerged from the program competencies was student teaching competency, which was noted 10 times throughout all three data collection methods. Participants discussed their in-person student teaching experience while attending their asynchronous teacher certification. Although the programs were asynchronous, student teaching was conducted in person at a school; however, one participant had to do part of her student teaching virtually due to the pandemic. Participants were able to request various schools for their student teaching. When asked which other challenges he faced, Victor elaborated on his student teaching experience:

> I learned a great deal during my student teaching from my amazing cooperating teacher. My main issue was that I did not have anyone from my university grading my portfolio that was due during student teaching. I was assigned someone, but I could not get in contact with them. They never graded my material. After many phone calls and emails, someone else was finally assigned. The feedback I received was very vague, so I had to redo a lot. I almost did not pass student teaching.

> During her individual interview, Laura briefly discussed her opinion of student teaching, stating, "I didn't feel like I mastered much until I did my student teaching. I gained many strategies for time management and procedures during my student teaching experience." In the program description letter, Sally stated that student teaching helped "close the gap" and better prepare her to manage the classroom. Kent explained student teaching in his program description

letter and stated, "Out of my four years in my program, I feel I gained the most during my one semester of student teaching." Hannah also discussed the benefits of student teaching in her program description letter by stating,

> Student teaching was most helpful. I was able to see it in action and practice some of the strategies I learned. I loved having instant answers to my questions since I could have an actual conversation with the teacher. I did not have to wait days before I heard a response to a question. I learned how important procedures are and how to build relationships. I learned about strategies for dealing with situations, in addition to gaining the ability to de-escalate a terrible situation through experience.

During the focus group interview, Sara expounded on her student teaching experience, stating, "I was completely immersed in student teaching, so it kept my attention. I learned relevant material since I was teaching actual students. I was not just watching. I was doing." Penelope agreed with Sara and discussed the value of student teaching: "Student teaching was by far the most relevant thing I did during my program. It made most things I learned just click in place." Laura added to the focus group conversation by stating, "Student teaching was most beneficial to me since I was able to see everything in action." Hannah also agreed, stating that she still uses many of the strategies she learned from student teaching.

Classroom Management Competency

During the individual interviews, Karen, Kent, and Sally noted that their program's teaching of classroom management skills was inadequate. Kent elaborated on his opinion of classroom management by stating,

> It took me a few years of teaching in my own classroom to get a better grasp of classroom

management. I did not feel like that course should be taken online. I feel like if I had a

class to go to with an instructor and students discussing various strategies and

experiences, I would have gained a better grasp of classroom management during my

program.

Karen described developing her classroom management skills through experience with student

teaching and operating her classroom: "I received a good baseline during my program, but I

really didn't have a good grasp on classroom management until I was in an actual classroom."

When asked about developing classroom management skills during her program, Sally stated,

My courses were accelerated, so it was hard to even breathe, let alone really gain a grasp

of everything taught. I didn't hold on to any classroom management skills. I had to get

my classroom management skills through the experience of having an actual classroom. I

started to get an idea of successful strategies during student teaching. But even that

wasn't enough.

Sally went on to suggest, "These types of programs need multiple classes on classroom

management to help teachers comprehend how to successfully manage the behaviors of a

classroom."

During the focus group, Penelope, Laura, and Sally discussed feeling inadequately

prepared to enter the classroom with the classroom management skills they had gained from their

program. Laura stated,

I feel like I got a few decent strategies from my classroom management course, but my

program did not prepare me for dealing with an 11-year-old throwing his computer across

the room and flipping desks. My program did not prepare me for the amount of social-

emotional management I have to do on a daily basis.

Sally could not recall anything memorable about her classroom management course. Penelope discussed feeling that her classroom management course did not prepare her with adequate skills:

I did not feel like I was prepared with any sort of classroom management skills during the one classroom management course I took. I gained a lot of knowledge about procedures and routines during student teaching, but I still heavily struggled during my first year of teaching.

Learning the Program Competency

Assignments throughout the program were noted seven times over the three data collection methods. During the individual interview, Sara discussed her struggle with her math assignments: "I struggled with part of my math course. I had trouble with the math assignments. I needed someone to help me in person, but I didn't have that option since it [the program] was all online. I almost failed the course." In the program description letter, Sara also described her assignments, stating,

I feel like my classes tried to prepare me as best as they could to be an educator. There are a lot of things you need to learn in the field, though. I don't know how an online program can really adapt to teach students all the things' teachers need to learn to handle.

During the individual interview, Kent noted that he did not always understand his assignments, making him procrastinate more often than he should: "It was hard to keep my attention when I didn't understand something." In the program description letter, Karen discussed the need for more relevant assignments within the program to help pre-service teachers better understand what teaching is like in a residential classroom; she stated, "I think incorporating

assignments tailored to life experience into the program would be more helpful to gain a better sense of what we are going to experience as teachers."

Mastering the program's content was discussed nine times across all three data collection methods. During the individual interviews, Victor commented on occasionally needing to consult outside resources to better understand assignments: "When I didn't understand something, I had to teach myself. I would scour the internet and find YouTube videos until I found my answer." Hannah stated, "When I couldn't understand something, I would outsource until I found the right answer." During her individual interview, Laura discussed her challenges with mastering the content during some of her courses:

I passed all but one class: my elementary math course. I don't feel like I took anything from my program that applies to my classroom. I've had to write 12-page lesson plans for various lessons. I have never written anything near that in my teaching career. I feel like my classes never had assignments with real-life applications.

Later, during her individual interview, Laura also noted challenges with the content of her program, stating,

I didn't feel like I learned a lot online. I feel like I just read books and got most of my learning and understanding once I was in the classroom under a mentor teacher. I struggled with math. I failed the math portion of my praxis. I feel like there was a definite disconnect between the instruction and the praxis test.

During the focus group interview, Sally noted that she felt inadequately trained by her program:

I felt OK coming into the classroom. I always had a stronger grasp of reading, so I felt

decently prepared to enter the classroom and teach ELA. Trying to teach math can be challenging. That has always been my weakness. There are so many different strategies I must incorporate. I don't feel like I got a good grasp of teaching math through my program.

Karen discussed feeling insecure about entering the classroom in her program description letter, stating, "I didn't feel confident when entering my own classroom. This is my third year in the classroom, and I still feel like I have shaky legs." In his program description letter, Kent mentioned that he felt insecure about entering the classroom: "I lacked the confidence of teaching when I first entered my own classroom. I was scared." During the focus group, Sally mentioned feeling like her program prepared her well to teach reading, but she struggled to master the ability to teach math:

> There was no easy way to ask enough questions to really become an expert in the field. I don't feel like I was given enough training. I still occasionally struggle with knowing everything I need to be able to successfully pass on the correct information to my students.

Five participants commented on their program's lack of virtual teaching competency in their program description letter or focus group interview. During the focus group interview, Laura commented on not feeling like her program helped prepare her to teach virtually; she stated, "None of my classes helped prepare me for going virtual, which is ironic since I went to a virtual program." Sally agreed with Laura, saying, "I hope they bring more material toward virtual learning. That is something we are having to do more, and I think future teachers need help with that [virtual teaching]." In her program description letter, Sara also noted that programs

should better prepare pre-service teachers to teach virtually, stating, "More classes on virtual teaching would be helpful, since you never know when we might need to go virtual again. Some districts incorporate virtual days for school closures due to inclement weather." In her program description letter, Penelope discussed students' lack of confidence in teaching virtually:

> Some students might lack confidence in entering the virtual classroom. During their classes, they are trained to think of an in-person environment, not a virtual environment. There are completely different types of classroom management skills needed to tackle a virtual classroom with 25 second graders.

Theme 4: Technology Challenges

The fourth theme that emerged from the data was technology challenges. Six participants complained about the technology issues that they faced during their asynchronous educator certification program. During his individual interview, Victor commented on how difficult it could be to record themselves when taking an assessment:

> Sometimes, taking assessments could be challenging. I had to record myself taking assessments. Normally, I would use two computers to try to record myself. Internet could be problematic when I had a poor connection. Using both computers with poor internet connection made it incredibly difficult.

During her individual interview, Karen also noted the challenge of having a poor internet connection: "I was challenged while working with technology when the Internet was spotty. When the Internet went out, I couldn't work. [Because of] living in a rural area, the Internet connection could be terrible at times." In her program description letter, Sara commented on occasionally having issues with technology due to the Internet or school platform going down at

times, stating, "Occasionally I had issues with technology during my program. When I had issues with the Internet, I went somewhere else that provided Internet. The platform would occasionally go down, which could sometimes become a bit of a hassle." In his program description letter, Kent also discussed the need to drive elsewhere when the Internet went down at his location; he stated, "When the Internet went down, I would have to drive into town to find a hotspot at one of the local restaurants. That wasn't always feasible in bad weather."

Theme 5: Community of the Program

The fifth theme identified from the data was the community of the program. This theme appeared 28 times across all three data collection methods. A lack of community may cause challenges due to the isolation of the learning within the program (Oyarzun et al., 2021). The subtheme representing the community of an asynchronous educator certification program is program communication. Most participants commented on the lack of community within their program. Sara stated, "There was no sense of community. There was a sense of pride in getting it done, but I think I would have felt that regardless of the university." During her individual interview, Penelope stated, "I did not feel connected to the program or the university in the least. I see it simply as a steppingstone to get where I am."

Program Communication

During the individual interviews, Wendy noted her desire to have more in-depth feedback; she stated, "Getting the one-on-one feedback was hard. I never got that experience through this program. It would have been easier if I could have had an actual conversation with the instructor." Laura stated in her program description letter, "I had some difficulty understanding the feedback I received. There were some courses that were harder than others. I

heavily struggled with math and almost had to take the course twice." During the focus group, Penelope described her experience with receiving feedback:

> The feedback I got could be hard to decipher. It would be vague when assignments were kicked back [rejected]. I had to try to figure out what exactly I was doing wrong. It could be hard to catch exactly what was causing the problem. Usually, it was a minor issue that needed to be fixed. It would be so much better if the assignments were graded with specific feedback that gave me help on what to improve.

Sam agreed with Penelope and discussed an experience with receiving feedback when she had a large project rejected multiple times:

> I had one assignment that kept getting rejected. Even my mentor had trouble helping me. There was always one word that they were not accepting. It's hard because there was a different grader each time. I was presenting onset and time. They kept marking me off, saying that I spelled rime wrong, when in fact, it was the graders not understanding the correct rime. People were grading my material that were not experts in the field I was focusing on.

> During the individual interview, Kent discussed his perspective of instructor communication during his program:

> I either felt it was too late to ask a question in fear of the instructor knowing how bad of a procrastinator I was, or I asked the instructor and did not understand the response I got. I would respond, but it was either delayed, or I continued not to understand. It would have been much easier if I could have discussed a question in live time with the instructor.

During her individual interview, Laura commented on how difficult communication could be through email due to misunderstandings: "If the response did not quite answer the question, it could be too late to ask for more information." In her program description letter, Laura stated that an actual conversation would be more helpful than the potential disconnect caused by emails. Sally explained in her program description letter that she felt that instructors responded quickly to emails but that there was still the potential for a disconnect in communication; she noted, "Most instructors responded quickly but did not always understand what I was actually asking. Communicating strictly through email could be difficult to get the meaning across." Victor felt that he could quickly contact his instructors through email but had trouble scheduling appointments for more in-depth help. During the focus group, Wendy discussed avoiding asking her instructors questions; she stated, "Sometimes I would go back and forth in emails when I had questions. I tried not to ask questions. It could be too much of a hassle to get the instructor to understand what I was asking." During the focus group, Sally also stated that she had no luck getting clear answers through emails with her instructors: "Questions can be emailed back and forth without truly getting answered."

Five participants commented on their need for more connection with their program during the individual interviews; all five participants commented on not gaining a sense of community. When asked about her connection with the program, Laura stated,

    I didn't feel connected to my program at all. I felt very much like a lone man on an island. I don't think I ever had an actual conversation with one of my instructors. I emailed instructors, but I usually did not get the answer I was looking for. If I had a problem, I would them email them and they would email me back. Sometimes I needed

more than an email. If there was the option of a phone call, I think it would have been clearer.

Karen commented on not feeling connected with her program: "The university would send out mass communications through email and other things, but it was always impersonal or suited toward the people who stayed on campus." Hannah had similar feelings, stating,

They always pushed emails to all these cool events, but I couldn't attend since I was states away. I don't feel overly prideful toward my university. I don't want a sweatshirt. I feel like I didn't get the college experience. I never made any long-lasting relationship.

In her program description letter, Sally noted that her program was designed for independent learning; she stated, "The program was situated to learn on your own and did not offer much communication toward others."

Three participants commented on their experience with hidden information during their program. Wendy wrote in her description letter that her school's website was overloaded with various resources, making it "hard to find what you were looking for." During the focus group interview, two participants discussed their experiences with the challenge of hidden information. Penelope relayed a story of attempting an assessment for one of her classes before she was ready for the assessment:

I was taking this one class and was looking through everything I needed to do. I saw that you could take the big assessment early. I knew I wouldn't pass it, but I thought it would give me an idea of where I was and where I really put my focus. I failed it, of course, but I was assigned extra work because I failed it. I had to write a six-page document and do a 10-page study guide in addition to all the normal work. There should have been a

warning of the repercussions of failing the test. I searched everywhere for that

information and could not find it.

Sam commented that she did the same thing when taking one of her courses; she stated,

I did the same thing. However, I looked throughout the website and eventually found out

that you would be required to do all that if you fail a test. The website is one of my

biggest complaints. It is not easy to navigate. So much information is just buried. For one

course, I took the test too late. I procrastinated and didn't study as I should have. I took

the test less than two weeks before the end. I failed it and found out that you must wait at

least two weeks before retaking it. I had to retake that course since the two-week span

went past the deadline. I will take responsibility for not being on top of my studying

during that course, but I would have planned it better if the information regarding the

two-week minimum was more accessible.

Theme 6: Meaningless Peer Communication

The sixth theme that emerged from the data was meaningless peer communication. This

theme appeared 18 times throughout all three data collection methods. I clustered the following

codes within peer relationships: no peer connection, meaningless replies, and minimum-word

discussion posts. Nine participants commented on their peer communication throughout all three

data collections, with many participants mentioning the meaningless communication between

their peers during their program. In her program letter, Sara stated, "Most of my discussion board

responses were filled with meaningless words to stretch the post to meet the minimum word

requirements." Kent discussed his peer interaction through discussion boards: "Most feedback I

received from my peers was mainly repeating what was already said or just agreeing with me."

During the individual interviews, three participants commented on having no connections with their peers due to the program's asynchronous, self-paced environment. Although having no peers allowed her to stay on task, Sam noted that she missed the social aspect that peers could bring: "There was no peer interaction. I am a social person, so I did not enjoy that. I love going to school with others, so it was a struggle." Laura stated that she did not form any relationships with peers in the class, stating, "I did not expect much from them [peers] and did not give much in return." Nonetheless, Penelope enjoyed the fact that her program had no communication with peers; she stated, "There was no peer interaction in my program. I loved it. My university did not require peer interaction since everyone worked at their own pace."

When asked about the challenges that participants faced with their peers, some participants commented on using the minimum word amount for discussion posts during their program across the three data collection methods. Although Karen's program did not require peer communication, she stated, "In my opinion, utilizing discussion boards that follow a minimum word amount can lead to mundane discussion." During the focus group, Wendy stated, "I never felt connected or that I helped others. I would write a response [on the discussion board] that fits the requirement and squeeze in as many words as possible to hit the minimum word count." During his individual interview, Kent noted that the only interaction he completed with peers was the number of discussions posts required by each class; he disliked reading his posts and responding to the posts of his peers, stating, "I was nervous about what people would say about my post. I was afraid I misunderstood the assignment. I was also careful how I responded to ensure I did not offend someone."

During his individual interview, Kent discussed receiving generic feedback from his

peers, stating that they "mainly repeated what was said or simply agreed with me." During the interview, Laura commented on her peers' lack of relationships by stating, "I was not getting to know someone or form any sort of connection through the required replies." In her program description letter, Wendy discussed how tedious it was to respond or reply to her peers' posts during her program. During the focus group, Sara also commented on the meaningless replies, stating that she would "just pick a few peers to write what I was required to do."

Theme 7: External Factors for Self-Motivation

The seventh theme identified from the data was external factors for self-motivation, which appeared 30 times across all three data sources. Throughout this study, various participants elaborated on the factors that encouraged self-motivation during their program. I clustered the following codes for this theme: self-disciplined techniques, program cost, desire to become an educator, and program completion time. When asked during the individual interview how she maintained her motivation during her program, Sara discussed feeling motivated to continue when money was on the line: "During my program, I completed the tasks as quickly as possible. If I procrastinated too much, I ended up paying more money. I got close to paying more." Penelope stated that she was motivated to complete her program at an accelerated rate due to being able to pay per term rather than per class. In the program description letter, Karen shared a similar mindset about feeling motivated by paying by term, stating, "I could take more classes to finish the degree sooner and pay less." During the focus group interview, Penelope commented on how procrastination could cost money: "I didn't like the idea that if I didn't complete a class in time due to procrastination, I would have to pay more money." Victor agreed,

stating, "Having the idea that I would have to pay more because of procrastination motivated me to get myself back on task."

Five participants discussed choosing their program to gain a career as an educator. During her individual interview, Wendy stated, "The idea that I was on the path to a more stable career was a strong motivator to continue my program." In his program description letter, Kent commented on wanting a stable career; he stated, "The motivating factors to get me through the program included completing the degree to better my financial status by securing a stable career." In her program description letter, Hannah stated that she was motivated to complete her program by a strong desire to become a teacher, feeling like it was her "calling." Sara offered a similar motivation in her program description letter: "My motivation to finish my degree was my desire to be a teacher. I was motivated to finish so that I could have my classroom."

During her individual interview, Penelope commented on being motivated because of the time it took to complete the program:

> The program let me get my degree quicker than other programs. The university I went to allowed me to enroll in as many classes as possible to finish the degree as soon as possible. I had heard of that university being cheap since you don't pay per credit but per term. I was able to get a bachelor's in education in two years.

Sam noted that she chose her program for similar reasons during her individual interview, stating, "I chose this program since I could finish my degree much quicker. I got to choose how many classes I could fit. It was intense, but I got it done much faster." In her program description letter, Karen elaborated on her motivation by stating, "Losing my scholarship was one of my biggest motivators to continue my program at a fast pace." During the individual interviews,

three participants commented on the self-motivated strategies that they acquired through their asynchronous educator certification program. Sally discussed becoming more organized and efficient in time management; she stated, "I started to complete one task at a time for a course, making me feel like I was accomplishing things within my program. I also began creating lists to have a visual aid." Karen described her approach for when she felt like she did not have enough time for her studies: "I began rearranging my day to dedicate more time to my classes."

In her program description letter, Sally discussed the time management skills that she gained throughout her program: "I worked constantly toward motivating myself to become more self-disciplined and get my tasks done. I gained organizational skills as I became more self-disciplined with my studies." During the focus group, Penelope discussed becoming more self-directed by the end of her program, stating, "I had to force myself to become more self-disciplined by setting goals and putting aside things I wanted to do." Hannah felt that she gained effective skills during her program: "I felt like I got the right skills to begin teaching with enough confidence to service."

Theme 8: Mentorship

The findings of this study revealed mentorship as the final theme to emerge from this data. Some participants elaborated on their connection with various people in their program, including their mentors and instructors. Mentorship during the asynchronous educator certification program appeared 17 times across all three data sources. Seven participants commented on the mentorship that they established that helped motivate them throughout their program. I clustered the following codes for mentorship: mentor check-in and instructor communication. Sara commented on having a positive experience with her mentor: "My mentor

helped a lot by checking in and encouraging me to stay on track." Sam similarly discussed the

positive connection with her mentor, stating, "My mentor checked in often and offered additional

times to contact him when I needed it."

During his individual interview, Victor commented on his mentor contacting him bi-

weekly throughout most of the entire program, noting that the mentor pushed him to stay on top

of his assignments: "If I were getting behind on something, my mentor would remind me to stay

focused and get back on track." Karen also elaborated on her relationship with her mentor,

stating, "I did have a strong connection with my student mentor. She stayed with me throughout

my entire degree, checking in often." In her program description letter, Karen continued

elaborating on her positive connection with her mentor, stating, "I did not have any

communication with my instructor, but I communicated with my mentor often. He offered great

suggestions to keep me on pace with my school stuff." Victor offered information about

communication with his mentor, noting, "I would have weekly mentor phone calls where my

mentor would go over pacing and check in with me." During the focus group interview, Sally

and Sara discussed the connection that they established with their mentor. Sally stated, "Even

when my mentor did not have the answer I needed, she was there to help me talk through my

problem." Sara agreed and noted, "My mentor checked in every week. He made sure I would

reach the deadline. I don't know how successful I would have been if it hadn't been for him

keeping me in check."

Three participants commented on the mentorship with their instructor. During her individual

interview, Wendy commented on an instructor being supportive of her during the program,

helping even when she had finished her course: "I had an amazing advisor who was also an

instructor of a course I was in. She pushed me to continue to stick with the program. She was there to support me with many issues." In the program description letter, Hannah discussed the positive communication that she received from her instructors, stating, "I typically got pretty good feedback from my instructors for my assignments." Sara also commented on positive instructor communication in her program description letter: "When I asked questions, instructors replied with answers and made sure that I felt comfortable asking questions."

Outlier Data and Findings

Participants discussed their experiences with their asynchronous educator certification program during this study. The participants often noted peer communication as a challenge rather than a motivation. One outlier of this study was peer communication, which was seen as a positive attribute rather than a challenge for one participant (Hannah), who commented multiple times on her positive peer interactions during her program. Hannah noted that she liked "reading my peer discussion posts for assignments I did not understand or to see if I was on the right track with my answer." She elaborated on the replies that she received from her peers, stating that she often received "a boost of confidence with the positive words that were shared" about her discussion post. I interpreted all other comments toward peer interaction as negative or neutral, with some participants stating that they had no peer interaction. Another outlier of this study was the positive comment offered by Hannah regarding the feedback received during her program of study; Hannah was content with the feedback she received from her program, noting, "I was impressed with a particular instructor who offered feedback on additional strategies I could incorporate in my teaching toolbox on many of my assignments."

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Research Question Responses

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The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. Throughout this study, I explored the lived experiences of residential teachers when enrolled in their asynchronous educator certification program to identify the challenges associated with the program and motivations to continue the program. The findings resulted in seven themes that align with the research questions of this study.

Central Research Question

This study's central research question is the following: What were the lived experiences of current residential teachers during their asynchronous educator certification program? The themes that addressed the central research question are Theme 1 (lifestyle preference for asynchronous learning), Theme 3 (program competency), and Theme 6 (meaningless peer relationships). Some residential teachers in this study faced common experiences throughout their program, including the flexibility toward their schedule and location and their experiences with peers during the program. Participants discussed the lifestyle that they experienced while completing their asynchronous educator certification program, elaborating on the convenience of the flexible schedule and open location of the program. One participant (Sam) discussed the program's flexibility, stating, "The program was self-paced and offered ideal flexibility. I could rearrange my schooling to fit my work and life schedule." Another participant (Sally) noted how ideal her program was for her family: "The program allows me to gain teacher certification and still maintain the flexibility of going to work and taking care of my family." Many participants shared common experiences toward their success during student teaching; Hannah discussed the success of her student teaching experience, stating, "Student teaching was most helpful. I was

able to actually see it in action and practice the strategies I learned." Another participant (Penelope) discussed her positive experience with student teaching: "Student teaching was by far the most relevant thing I did. It made most things I learned just click in place." Participants also had common experiences with their peers during their asynchronous educator certification program. Some participants commented on having no contact with other peers due to the work-at-their-own-pace structure, while other participants complained about the meaningless communication between peers. Laura stated, "I was not getting to know someone or form any sort of connection through the required replies".

Sub-Question One

This study's sub-question one is the following: What were the challenges faced by current residential teachers during their asynchronous educator certification programs? The themes that addressed sub-question one are Theme 2 (procrastination during asynchronous learning), Theme 3 (program competencies), Theme 4 (technology challenges), and Theme 5 (community of the program). The challenges faced by current residential teachers include procrastination, feedback received, instructor communication, and hidden information. Participants of this study elaborated upon the various challenges faced during their program; some elaborated on the self-paced learning style causing higher levels of procrastination, while others expanded on the miscommunication of various program elements causing additional challenges to overcome. One participant stated, "It was so easy to procrastinate until the end of a course when you must set your timeline." Another participant elaborated on communication becoming easily disconnected with the instructor, stating, "Questions can be emailed back and forth without truly getting answered." Most participants did not feel connected with the

program's community, with one participant commenting, "I did not feel connected to my program. I felt very much like a lone man on an island."

Sub-Question Two

This study's sub-question two is the following: What motivating factors did graduates of asynchronous educator certification programs identify during their program? The themes that addressed sub-question two are Theme 7 (external factors for self-motivation) and Theme 8 (mentorship). The motivating factors include self-disciplined techniques acquired during the program, positive connections with advisors or instructors, quicker and cheaper completion of a program, and the desire to better oneself. Participants of this study elaborated upon the need for motivation to complete their program and gain certification. Some of the motivations noted by the participants included the idea of personal gain and positive connections. One participant (Penelope) elaborated on the motivation for becoming self-disciplined, stating, "I had to force myself to become more self-disciplined by setting goals and putting aside things I wanted to do." Multiple participants commented on their mentor connection, which helped motivate them to continue their program. Victor elaborated on his strong connection with his student mentor: "I had an excellent mentor who checked in with me once a week and encouraged me to stay focused."

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Summary

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This chapter has outlined the results from the individual interviews, the program description letters, and the focus group interview. Participants elaborated on their challenges and motivations regarding their experiences during their asynchronous educator certification program. The established themes resulting from this study include lifestyle preference for

asynchronous learning, procrastination during asynchronous learning, competency through student teaching, program competencies, community of the program, meaningless peer communication, external factors for self-motivation, and human connection. The findings of this study reveal various everyday experiences faced by residential teachers during their asynchronous educator program, such as challenges toward the self-paced learning style and communication with instructors. Residential teachers also experienced typical desires to have flexible schedules to balance school, work, and home life.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The experience participants describe offers some insight into the challenges pre-service teachers face within their asynchronous program and the motivation needed to succeed throughout their program. This chapter presents the summary of thematic findings and elaborates on the answer to the central research question, two sub-questions, and five subsections for discussion, including a summary of thematic findings, interpretation of the findings, implications for policy, implications for practice, theoretical and empirical implications, limitations and delimitations, and recommendations for future studies.

Discussion

This research study examined residential teachers' experiences throughout their asynchronous educator certification program. Data analysis of the individual interviews, focus groups, and program description letters revealed significant themes and subthemes used to answer the research question and sub-questions. The findings of this study revealed challenges pre-service teachers faced while enrolled in their asynchronous educator certification program, in addition to the motivations they used to continue their program and overcome the challenges.

Summary of Thematic Findings

The data collection methods used in this study included individual interviews and program description letters. Five participants participated in a focus group interview—questions utilized in the data collection methods to answer the central research question and sub-questions.

This study's central research question is the following: What were the lived experiences of current residential teachers during their asynchronous educator certification program? This study's sub-question one is the following: What were the challenges faced by current residential teachers during their asynchronous educator certification programs? This study's sub-question two is the following: What motivating factors did graduates of asynchronous educator certification programs identify during their program? The first theme that emerged was lifestyle preference for asynchronous learning, and the subtheme was schedule and location flexibility. The second theme that emerged included procrastination of asynchronous learning with no subthemes. The third theme that emerged was the program competencies, with three subthemes: classroom management competency, student teaching competency, and learning the program competency. The next theme that emerged was technology challenges. The fifth theme that emerged was community of the program, with program communication as the subtheme. The last three themes that emerged from the data were meaningless peer communication, external factors for self-motivation, and mentorship without subthemes. The themes and subthemes expound upon the lived experiences current residential teachers had while attending their asynchronous educator certification programs.

Interpretation of Findings

This section discusses the interpretation of the findings of this study. The experience participants described depended on the type of asynchronous program. This section elaborates on the differences between the two programs that the participants completed. Another interpretation of the study's findings is the benefit of real-life experiences within an asynchronous educator certification program. The last interpretation of the study's findings expands upon the

communication within asynchronous educator certification programs.

Type of Program Affects Experience

Most participants choose this style of education due to their current lifestyle of working full time and taking care of a family rather than the quality of education they gained. All participants graduated from competence-based learning or a traditional credit-based asynchronous program. The participants' experience depended on the type of program they completed. Competence-based learning programs allow participants to progress through a program by demonstrating their skills and competencies; then, they can proceed to the next skill once mastery occurs (Dodge et al., 2018). During a competence-based learning program, learners may progress as quickly as they desire to complete the skills needed. During a traditional credit-based asynchronous program, participants complete a set number of classes to complete a particular degree.

The participants of a traditional credit-based program had more involvement with instructors and peers but complained of meaningless peer interaction. Instructors were more involved with participants in traditional credit-based programs. Even with additional involvement from instructors and peers, participants in traditional credit-based programs felt a low sense of community within their program. Participants in a competence-based program had minimal instructors and no peer communication. A participant in a competence-based program elaborated on the minimal instructor contact, stating that someone other than their instructor graded their assignments. However, they had an advisor assigned to them for weekly or biweekly communication to help encourage the participants to stay on track with their assignments. Even with an advisor, participants in a competence-based program still felt a lack of connection to

their program. A lack of connection to a program affects the sense of community a learner feels toward their program. According to Berry (2019), a community within a program allows learners to feel connected within a class and feel more comfortable reaching out to others when needing help.

Participants who chose a competency-based program all have the commonality of the drive to reach their degree completion at a quicker pace. Participants who completed a traditional credit-based program did not feel the urgency of program competition in the same way, which may be due to the program's cost being the same regardless of time spent during the program. The assignment deadlines differed for participants depending on whether they completed acompetency-based or a traditional credit-based program. Participants in a competency-based program had until the end of a term to complete all assignments, forcing them to create their pacing guide. In contrast, participants in a traditional credit-based program had weekly deadlines throughout the course. Although all participants complained of procrastinating, the participants who completed a competency-based program seemed to procrastinate even more since they did not have weekly due dates. Learners deciding on an asynchronous educator certification program should know the different strengths and weaknesses of the type of program they wish to attend, depending on their learning style.

Need for Additional Real-Life Experiences

Participants complained that their program did not offer enough real-life experiences to simulate better teachers' experiences when operating their classrooms. Field experiences like student teaching allow pre-service teachers to gain real-life experience through in-person practice (Khoshnevisan & Rashtchi, 2021). All participants commented on the importance of

student teaching. Student teaching allows participants to see a model of the strategies used, get the opportunity to practice the strategies, and have a person to converse directly with regarding any questions they may have. Live interactions with their mentor can minimize the disconnect many participants face when interacting with their instructors online. Participants commented on the classroom management skills they acquired from their program, stating they did not understand classroom management until they began student teaching. It is evident that asynchronous educator certification programs need additional elements throughout their program to allow learners to practice real-life teaching situations and feel better prepared when entering the classroom before student teaching. Incorporating real-life experiences into the established courses may help better engage learners with relevant lessons. For example, having learners tasked with experiencing a live class during their classroom management course may allow them to see the strategies in action and discuss the process with a seasoned educator.

Communication

Participants often brought up communication as an issue during the study. Many participants complained about a lack or inflexibility of communication with the instructor or within the program. Inflexibility in communication occurs when participants have limited opportunities to communicate with their instructor (Wang & Wang, 2020). During the study, some participants noted that they missed the opportunity to ask various questions at certain times in their courses. For instance, when they waited too long, the answer arrived after the deadline. Incorporating optional synchronous sessions throughout a course will allow participants to gain the opportunity to converse with their instructors and ask questions for clarification. Optional synchronous sessions might also improve the learners' sense of community. Hosting optional

synchronous sessions in courses will maintain the flexibility of the location and schedule of an asynchronous program by giving pre-service teachers the choice of joining the synchronous session.

Implications for Practice

The findings of this study offer multiple practical implications. Administrators and instructional designers should evaluate the structure of asynchronous educator certification programs. While it is clear that asynchronous educator certification programs promote self-directed learning in a self-paced environment, it may also be beneficial for program directors to incorporate academic coaches or tutors within the program to help participants stay on track with their learning and pacing. Due to the amount of procrastination participants described in their program, programs may need to offer additional assistance to help keep pre-service teachers focused during their asynchronous educator certification program, such as better assessable pacing and course guidelines. Some participants commented on the difficulty of navigating the resources on the websites. Having better accessible resources on the program's website or the LMS provided by the program may help participants access helpful resources. In addition, pre-service teachers may benefit from additional hands-on training during asynchronous teacher certifications that simulate the training in-person student teaching may offer. Instructional designers should incorporate additional real-life assignments within the asynchronous educator certification programs, such as simulations of replicated classroom experiences with AI, or establish more agreements with local school districts' asynchronous pre-service teachers. In that case, pre-service teachers attending asynchronous educator certification programs with

simulations of replicated classroom experiences may gain additional competency toward the challenges discussed by the participants of this study.

Lastly, programs must incorporate additional online training to prepare pre-service teachers to convert their teaching to virtual teaching, such as the mandatory in-person school closure resulting from COVID-19. Some participants in the study elaborated on not feeling prepared to teach online. Three participants suggested incorporating more training during a teacher certification program on training teachers to teach virtually. One participant noted, "I hope they [program designers] bring more material toward virtual learning. That is something we are having to do more of, and I think future teachers need help with that." Pre-service teachers must gain strategies for managing their classes virtually and be better prepared to engage their students in an online learning environment.

Theoretical and Empirical Implications

This section addressed the theoretical and empirical implications of this study. The theoretical implications concur with John Keller's (2008) theory of motivation for aspects of this study. The empirical implications are addressed by explaining the lived experience of residential teachers during their asynchronous educator certification program.

Theoretical Implications

This study utilized Keller's (1983) theory of motivation as its theoretical framework to address the motivation required to gain and sustain pre-service teachers' attention throughout their asynchronous educator certification program. Keller's (1983) theory of motivation suggests that learners must reach various motivational levels to complete their desired tasks. In this study,

participants' motivation to continue their program affected the type of experiences they had and the challenges they faced.

      The student teaching field experience aligns with Keller's theory of motivation and emphasizes the Attention, Relevance, Confidence, and Satisfaction (ARCS) model. The ARCS model correlates with the learners' actions as they keep their attention, experience relevant real-time activities, build confidence toward teaching, and become satisfied with their degree. During their student teaching experience, participants partnered with a mentor teacher. At the same time, they actively engaged in the daily operation of a classroom. They correlated with the ARCS model, allowing participants to maintain their attention (attention), gain relevant activities that aligned with their goals (relevance), gain confidence in using the strategies they learned through their program (confidence), and feel satisfied that they acquired some knowledge to begin their career (satisfaction; Keller, 2008). Participants commented that they were attentive throughout their student teaching due to their ability to see the strategies targeted throughout their program in action. The relevance of student teaching helped participants maintain their motivation during their program. Many participants discussed the importance of student teaching by elaborating on the relevance of the experience, such as creating and conducting lessons with students in real-time. Being involved in the procedures of a classroom allowed participants to build their confidence toward classroom management for their classroom and become satisfied with their certification status once entering their classroom. The participants' motivations revealed in this study add additional literature on the underlying motivational needs of learners in asynchronous educator certification programs (Luo et al., 2021). This study shows the viability of Keller's theory of motivation (Luo et al., 2021). The findings from this study's student teaching

experiences concur with the findings of the studies examining blended learning or a flipped classroom approach following the theory of motivation (Aşıksoy & Özdamli, 2016; Durrani & Kamal, 2021; Ma & Lee, 2021).

Empirical Implications

Although studies have helped identify various challenges among asynchronous learning, including challenges toward self-paced learning, delayed feedback, a lack of community, and communication with peers and teachers, only minimum studies have focused on the experiences of asynchronous educational certification programs (Carrillo & Flores, 2020; McGarr, 2020; Wang & Wang, 2020). This study's findings on the challenges that impede motivation and promote procrastination align with those of Fırat et al. (2018), who identified factors hindering learning motivation, and Peck et al. (2018), who examined the impact of motivation and self-regulation in online courses. Several participants commented on the delayed feedback they received through emailing their instructors.

This study has empirical implications regarding the experiences pre-service teachers face during their asynchronous educator certification program. This study's findings concur with Barakat and Meler's (2022) and Xavier and Meneses's (2022) elaboration on study habits, such as procrastination, during self-paced learning in an asynchronous environment. The participants described procrastination and miscommunication as their primary challenges within their program and external motivations to help overcome the challenges they face to succeed through their program. The findings of this study concur with the existing literature regarding peer feedback offered throughout asynchronous educator certification programs (Oh et al., 2018; Terras et al., 2018; Wang & Wang, 2020). Participants expounded upon the meaningless peer

interaction during discussion board activities. Many participants stated that they focused on the minimum word amount for discussion posts, adding in as many extra words as they could to meet the minimum discussion post word amount rather than focusing on the content of the assignment. The present study adds to the existing literature regarding pre-service teachers' experiences and challenges during their asynchronous program. (Carrillo & Flores, 2020; Korucu- Kış, 2021; Mehrabi et al., 2022; Yang et al., 2021.

Limitations and Delimitations

While conducting this study, limitations and delimitations were discovered. The limitations of this study include the small sample size chosen and the lack of a complete representation of the grade level and subject taught. The limitations of the focus group were the technology issues and the netiquette of the virtual meeting. The delimitation of this study included the specific location of the participants chosen.

Limitation

A limitation includes the small sample size of the participants chosen. Only 10 participants were chosen from various grade levels within the public school district, including grades from the primary and secondary levels. While participants represented various grade levels, no teachers represented early childhood or special education teachers. The limitations of the focus group were the technical issues and the netiquette of the group. Some participants did not have as strong an internet connection, creating occasional platform glitches and offering occasional disruptions to the meeting. Some participants struggled with the netiquette of the virtual meeting by either leaving their mic unmuted when not speaking or not offering their full attention to the interview by performing various tasks on their computers when other group

members were speaking.

Delimitation

A delimitation of this study includes the purposeful recruitment location of the participant pool due to the approximate location of the large military base. Teachers constantly transfer in and out of the area as military spouses are assigned to new locations. Because of this, the area contains many educators with various educational backgrounds who were potential candidates for this study. In addition to choosing this transient district, I chose the district because the gatekeeper knows more potential candidates within the district. The gatekeeper directed me to people she knew who graduated from an asynchronous program. Keeping within the district allowed participants to offer other potential participants they knew. Another delimitation of this study was that participants had to graduate from an asynchronous educator certification and have taught for at least three years in a K–12 public education setting. A minimum of three years of teaching were required for participation in this study to ensure participants had enough experience in the classroom to reflect on their emotions during their first few years.

Recommendations for Future Research

In future research regarding asynchronous educator certification, educators should add literature on the experiences pre-service teachers face during their program. The first recommendation includes comparing comprehension-based asynchronous and traditional credit-based educator certification programs with more participants. Increasing the sample size of the population with an equal number of participants enrolled in each type of program will help achieve a more robust comparison of the two types of programs. Diving deeper into the differences may offer even more insight into the motivations for completing an asynchronous

program of either competency-based or traditional credit-based programs. Furthermore, residential teachers who graduated from asynchronous educator certification programs from other areas offer further information about the challenges learners face within their program and discern the motivating factors that help learners succeed.

Another recommendation for future research is to target learners who did not complete their asynchronous educator certification program to understand the challenges that stopped learners from completing their program. Exploring the challenges and hardships that forced learners to quit their program may help prevent pre-service teachers from withdrawing from their asynchronous educator certification program. A longitudinal study could determine whether graduates from asynchronous educator certification programs will progress into veteran teachers. Studying graduate teachers over time may offer a better understanding of this type of program's success and attrition rates. The last recommendation for this study is to target the use of AI in asynchronous educator programs to help learners with the various challenges they experience, such as classroom management preparation. AI is constantly improving and has the potential to adapt an asynchronous program to incorporate more simulated classroom experiences that better prepare pre-service teachers for the challenges they will face when entering the classroom.

Conclusion

The purpose of the phenomenological study was to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. The themes that emerged from this data include lifestyle preference for asynchronous learning, procrastination of asynchronous learning, program competencies, technology challenges, program community, meaningless peer communication, external factors for self-motivation, and

human connection.

The findings of this study indicate a high desire for asynchronous programs due to the flexibility of the schedule and location. All participants chose this program because they could complete a degree and maintain their obligations outside school, such as family care and work. In addition, the findings of this study have uncovered various implications, including the importance of communication and hands-on learning within an asynchronous educator certification program. Incorporating more communication between the learners and the instructors and embedding hands-on activities that replicate real-life experiences associated with the hardships of a classroom within the program may help build the competency learners gain when succeeding in their asynchronous educator certification program. Overall, this study indicates success for this type of program due to incorporating student teaching within their program. With the real-life field experience offered at the end of the program, the method of an asynchronous educator certification program may result in better-prepared asynchronous educator graduates entering the workforce. Future research is needed to expound on the classroom competence acquired by graduates of asynchronous educator certification programs.

References

Aaltonen, S., & Kivijärvi, A. (2018). Disrupting professional practices with research-driven intervention. Researcher–gatekeeper negotiations in the context of targeted youth services. *Qualitative Social Work : QSW : Research and Practice,* 18(4), 621-637. https://doi.org/10.1177/1473325018757080

Abbott, M. R., Nininger, J. M., & Shaw, P. (2018). Quality control versus academic freedom: Walk the line. *ELearn Magazine, 2018*(7) https://doi.org/10.1145/3240152.3240151

Ajayi, L. (2009). An exploration of pre-service teachers' perceptions of learning to teach while using asynchronous discussion board. *Educational Technology & Society, 12*(2), 86-100. https://www.jstor.org/stable/jeductechsoci.12.2.86

Alario-Hoyos, C., Estévez-Ayres, I., Pérez-Sanagustín, M., Delgado Kloos, C., & Fernández-Panadero, C. (2017). Understanding learners' motivation and learning strategies in MOOCs. *International Review of Research in Open and Distance Learning, 18*(3), 119-137. https://doi.org/10.19173/irrodl.v18i3.2996

Aldosari, A., Alramthi, S., & Eid, H. (2022). Improving social presence in online higher education: using live virtual classroom to confront learning challenges during COVID-19 pandemic. *Frontiers in Psychology.* https://doi.org/10.3389/fpsyg.2022.994403

Aldowah, H., Al-Samarraie, H., Alzahrani, A. I., & Alalwan, N. (2019). Factors affecting student dropout in MOOCs: A cause and effect decision-making model. *Journal of Computing in Higher Education, 32*(2), 429-454. https://doi.org/10.1007/s12528-019-09241-y

Alhazbi, S., & Hasan, M. A. (2021). The role of self-regulation in remote emergency learning:

Comparing synchronous and asynchronous online learning. *Sustainability*, *13*(19), 11070. https://doi.org/10.3390/su131911070

Ali, R., & Nath, S. (2023). Pre-service teachers' experiences of remote online learning: Reimagining teacher education post-pandemic. *Educational Research (Windsor), ahead-of-print(ahead-of-print)*, 1-20. https://doi.org/10.1080/00131881.2023.2223645

Ampofo, C. (2019). Relationship between pre-service teachers' mathematics self-efficacy and their mathematics achievement. *African Journal of Educational Studies in Mathematics and Sciences, 15*(1), 23-26. https://doi.org/10.4314/ajesms.v15i1.3

Armah, J. K. (2020). Digitizing distance learning materials: Measuring students' readiness and intended challenges. *Education and Information Technologies.*, *25*(4), 2987–3002. https://doi.org/10.1007/s10639-019-10060-y

Aşıksoy, G., & Özdamli, F. (2016). Flipped classroom adapted to the ARCS model of motivation and applied to a physics course. *Eurasia Journal of Mathematics, Science and Technology Education, 12*(6), 1589. https://doi.org/10.12973/eurasia.2016.1251a

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 40*(5), 518.

Atav, E., & Altunoğlu, B. D. (2013). The determination of the environmental attitudes of secondary education students. *University Journal of Education,* 28(2), 58-70. https://doi.org/10.1016/j.sbspro.2015.01.765

Attewell, J., & Savill-Smith, C. (2005). Mobile learning anytime everywhere: Learning and Skills Development Agency.

Badilla Quintana, M. G., Vera Sagredo, A., & Lytras, M. D. (2017). Pre-service teachers' skills

and perceptions about the use of virtual learning environments to improve teaching and

learning. *Behaviour & Information Technology, 36*(6), 575-588.

https://doi.org/10.1080/0144929X.2016.1266388

Bai, H. (2019). Preparing teacher education students to integrate mobile learning into

elementary education. *Techtrends, 63*(6), 723-733. https://doi.org/10.1007/s11528-019-00424-z

Bandura, A. (1986). Fearful expectations and avoidant actions as coeffects of perceived

self-efficacy. *The American Psychologist*, 41, 1389.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and

Human Decision Processes 50,* 248-287. https://doi.org/10.1016/0749-5978(91)90022-L

Barakat, E., & Meler, T. (2022). 'As long as I'm at home, I don't feel like studying or paying

attention in lectures": Difficulties and challenges of distance learning among palestinian-arab students in israel during COVID-19. *Diaspora, Indigenous and Minority Education,

ahead-of-print*(ahead-of-print), 1-15. https://doi.org/10.1080/15595692.2022.2161509

Barmaki, R., & Hughes, C. E. (2018). Embodiment analytics of practicing teachers in a virtual

immersive environment. *Journal of Computer Assisted Learning, 34*(4), 387-396.

https://doi.org/10.1111/jcal.12268

Barnes, R., Hall, R., Lowe, V., Pottinger, C., & Popham, A. (2020). Lessons from an online

teacher preparation program: Flexing work experience to meet student needs and

regulators' requirements in the united states. *Journal of Education for Teaching : JET,

46*(4), 528-535. https://doi.org/10.1080/02607476.2020.1802203

Barrot, J. S., Llenares, I. I., & del Rosario, L. S. (2021). Students' online learning challenges

during the pandemic and how they cope with them: The case of the philippines.

Education and Information Technologies, 26(6), 7321-7338.

https://doi.org/10.1007/s10639-021-10589-x

Başaran, B., Yalman, M., & Erkan, S. (2017). Evaluation of students' attitudes

towards e-exams and use of technology in theology distance undergraduate education

programs. *Hitit Üniversitesi İlahiyat Fakültesi Dergisi*, 16(31), 277–299.

https://doi.org/10.14395/hititilahiyat.333300

Batmang, B., Sultan, M., Azis, A., & Gunawan, F. (2021). Perceptions of pre-service teachers on

online learning during the COVID-19 pandemic. *International Journal of Education in*

Mathematics, Science, and Technology 9(30, 449-461.

https://doi.org/10.46328/ijemst.1595

Baydas, O., & Yilmaz, R. (2018). Pre-service teachers' intention to adopt mobile learning: A

motivation model. *British Journal of Educational Technology, (49)*1, 137-152.

https://doi.org/10.1111/bjet.12521

Beach, P., Henderson, G., & McConnel, J. (2020). Elementary teachers' cognitive processes and

metacognitive strategies during self-directed online learning. *Teachers and Teaching,*

Theory and Practice, 26(5-6), 395-413. https://doi.org/10.1080/13540602.2020.1863206

Beaunoyer, E., Dupéré, S., & Guitton, M. (2020). COVID-19 and digital

inequalities: reciprocal impacts and mitigation strategies. *Computers in Human Behavior*

111, https://doi.org/10.1016/j.chb.2020.106424

Bembenutty, H., White, M. C., & Vélez, M. R. (2015). *Developing self-regulation of learning*

and teaching skills among teacher candidates. Springer.

Berry, S. (2019). Teaching to connect: Community-building strategies for the virtual classroom. *Journal of Asynchronous Learning Networks JALN, 23*(1), 164. https://doi.org/10.24059/olj.v23i1.1425

Bjerke, A. H., & Solomon, Y. (2020). Developing self-efficacy in teaching mathematics: Pre-service teachers' perceptions of the role of subject knowledge. *Scandinavian Journal of Educational Research, 64*(5), 692-705. https://doi.org/10.1080/00313831.2019.1595720

Boltz, L. O., Yadav, A., Dillman, B., & Robertson, C. (2021). Transitioning to remote learning: Lessons from supporting K-12 teachers through a MOOC. *British Journal of Educational Technology, 52*(4), 1377-1393. https://doi.org/10.1111/bjet.13075

Brierton, S., Wilson, E., Kistler, M., Flowers, J., & Jones, D. (2016). A comparison of higher order thinking skills demonstrated in synchronous and asynchronous online college discussion posts. *NACTA Journal, 60*(1), 14-21.

Brown, A. L., Myers, J., & Collins, D. (2019). How pre-service teachers' sense of teaching efficacy and preparedness to teach impact performance during student teaching. *Educational Studies, 47*(1), 38-58. https://doi.org/10.1080/03055698.2019.1651696

Brown, J. P. (2017). Teachers' perspectives of changes in their practice during a technology in mathematics education research project. *Teaching and Teacher Education, 64,* 52-62 https://doi-org.ezproxy.liberty.edu/10.1016/j.tate.2017.01.022

Carney, M. C. (2021). Designed for the digital age: Teacher preparation at TEACH-NOW graduate school of education. *The New Educator, 17*(1), 21-38. https://doi.org/10.1080/1547688X.2020.1826072

Caroline, L., & Sandra, S. (2022). Virtual field trips in binational collaborative teacher training: Opportunities and challenges in the context of education for sustainable development. *Sustainability (Basel, Switzerland), 14(*19), 12933. https://doi.org/10.3390/su141912933

Carrillo, C., & Flores, M. A. (2020). COVID-19 and teacher education: A literature review of online teaching and learning practices. *European Journal of Teacher Education, 43*(4), 466-487. https://doi.org/10.1080/02619768.2020.1821184

Castro, M., & Tumibay, G. (2021). A literature review: efficacy of online learning courses for higher education institution using meta-analysis. *Education and Information Technologies 26*(2), 1367-1385. https://doi.org/10.1007/s10639-019-10027-z

Chan, S., Maneewan, S., & Koul, R. (2023). An examination of the relationship between the perceived instructional behaviours of teacher educators and pre-service teachers' learning motivation and teaching self-efficacy. *Educational Review (Birmingham), 75*(2), 264-286. https://doi.org/10.1080/00131911.2021.1916440

Chen, B., Fan, Y., Zhang, G., Liu, M., & Wang, Q. (2020). Teachers' networked professional learning with MOOCs. *PloS One, 15*(7), e0235170-e0235170. https://doi.org/10.1371/journal.pone.0235170

Cho, M. H., & Cho, Y. (2017). Self-regulation in three types of online interaction: A scale development. *Distance Education, 38*(1), 70–83. https://doi.org/10.1080/01587919.2017.1299563

Ciftci, S., & Aladag, S. (2017). An investigation of pre-service primary school teachers' attitudes

towards digital technology and digital citizenship levels in terms of some

variables. *International Education Studies, 11*(1),

111. https://doi.org/10.5539/ies.v11n1p111

Clark, R. C., Mayer, R. E., & Thalheimer, W. (2016). E-Learning and the science of instruction:

Proven guidelines for consumers and designers of multimedia learning. *Performance*

*Improvement 42(*5),41-43. https://doi.org/10.1002/pfi.4930420510

Costado Dios, M. T., & Piñero Charlo, J. C. (2021). Face-to-face vs. E-learning models in the

COVID-19 era: Survey research in a spanish university. *Education Sciences, 11*(6), 293.

https://doi.org/10.3390/educsci11060293

Creswell, J. W., & Creswell, D. J. (2009). *Research design: Qualitative, quantitative, and mixed*

methods approaches (3rd ed.). SAGE.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among*

five approaches (4th ed.). SAGE.

Dalinger, T., Thomas, K. B., Stansberry, S., & Xiu, Y. (2020). A mixed reality simulation offers

strategic practice for pre-service teachers. *Computers and Education, 144,*.

https://doi.org/10.1016/j.compedu.2019.103696

de Lima, D. P. R., Gerosa, M. A., Conte, T. U., & de M. Netto, J. F. (2019).

What to expect, and how to improve online discussion forums: the instructors'

perspective. *Journal of Internet Services and Applications, 10*(1),

https://doi.org/10.1186/s13174-019-0120-0

Demirkan, O. (2019). Pre-service teachers' views about digital teaching materials.

Educational Policy Analysis and Strategic Research, 14(1), 40-60.

Devi, A., & Ganguly, R. (2022). Pre-service teachers' and recent teacher graduates' perceptions of self-efficacy in teaching students with autism spectrum disorder - an exploratory case study. *International Journal of Inclusive Education, ahead-of-print*(ahead-of-print), 1-17. https://doi.org/10.1080/13603116.2022.2088869

Dodge, L., Bushway, D. J., & Long, C. S.(2018). A Leader's Guide to Competency-Base Education: From Inception to Implementation (1st ed.). Routledge. https://doi.org/10.4324/9781003442844

Dunn, M., & Rice, M. (2019). Community, towards dialogue: A self-study of online teacher preparation for special education. *Studying Teacher Education, 15*(2), 160-178. https://doi.org/10.1080/17425964.2019.1600493

Durrani, U. K., & Kamal, M. M. (2021). Application of ARCS model for a blended teaching methodologies: A study of students' motivation amid the COVID-19. *EAI Endorsed Transactions on e-Learning, 7*(21)https://doi.org/10.4108/eai.17-2-2021.168721

Ebrahimi, A., Faghih, E., & Dabir-Moghaddam, M. (2017). Student perceptions of effective discussion in online forums: A case study of pre-service teachers. *Innovations in Education and Teaching International, 54*(5), 467-475. https://doi.org/10.1080/14703297.2016.1143858

Enochsson, A.-B. (2018). Reflective discussions in teacher training: A comparison between online and offline discussions of course literature in a class of pre-service teachers. *Education and Information Technologies, 23*(1), 303-319. https://doi.org/10.1007/s10639-017-9602-5

Erdem-Aydin, İ. (2021). Investigation of higher education instructors' perspectives towards

emergency remote teaching. *Educational Media International, 58*(1), 78-98.

https://doi.org/10.1080/09523987.2021.1908501

Fabriz, S., Mendzheritskaya, J., & Stehle, S. (2021). Impact of synchronous and asynchronous settings of online teaching and learning in higher education on students' learning experience during COVID-19. *Frontiers in Psychology, 12*.

https://doi.org/10.3389/fpsyg.2021.733554

Fang, J. W., Chang, S. C., Hwang, G. J., & Yang, G. (2021). An online collaborative peer-assessment approach to strengthening pre-service teachers' digital content development competence and higher-order thinking tendency. *Educational Technology Research and Development, 69*(2), 1155-1181. https://doi.org/10.1007/s11423-021-09990-7

Farmer, T., & West, R. (2019). Exploring the concerns of online K-12 teachers. *Journal of Online Learning Research, 5(*1), 97-118. https://files.eric.ed.gov/fulltext/EJ1208818.pdf

Farros, J., Shawler, L., Gatzunis, K., & Weiss, M. (2022). The effect of synchronous discussion sessions in an asynchronous course. *J Behav Educ* 31, 718-730.

https://doi.org/10.1007/s10864-020-09421-2

Fidan, M., & Debbağ, M. (2018). The usage of video blog (vlog) in the "school experience" course: The opinions of the pre-service teachers. *Journal of Education and Future, 13,* 161-177. https://dergipark.org.tr/ en/pub/ jef/ issue/35229/390949

Fırat, M., Kılınç, H., & Yüzer, T. V. (2018). Level of intrinsic motivation of distance education students in e-learning environments. *Journal of Computer Assisted Learning, 34*(1), 63-70. https://doi.org/10.1111/jcal.12214

Flower, A., McKenna, J. W., & Haring, C. D. (2017). Behavior and classroom management: Are

teacher preparation programs really preparing our teachers? *Preventing School Failure: Alternative Education for Children and Youth, 61*(2), 163–169. https://doi.org/10.1080/1045988X.2016.1231109.

Flynn-Wilson, L., & Reynolds, K. (2021). Students responses to virtual synchronous, hybrid, and face-t0-face teaching/learning *International Journal of Technology in Education, 4*(1), 46-56. http://doi.org/10.46328/ijte.43

Foo, S. Y., & Quek, C. L. (2019). Developing students' critical thinking through asynchronous online discussions: A literature review *Malaysian Online Journal of Education Technology, 7(*2), 37-58. https://eric.ed.gov/?id=EJ1213977

Friesen, N. (2012). Report: Defining blended learning. Retrieved from Haand learningspaces.org/papers/Defining_Blended_Learning_NF.pdf

Fuchs, K., Pösse, L., Bedenlier, S., Gläser-Zikuda, M., Kammerl, R., Kopp, B., Ziegler, A., & Händel, M. (2022). Preservice teachers' online self-regulated learning: Does digital readiness matter? *Education Sciences, 12*(4), 272. https://doi.org.10.3390/educscil2040272

Galikyan, I., & Admiraal, W. (2019). Students' engagement in asynchronous online discussion: The relationship between cognitive presence, learner prominence, and academic performance. *The Internet and Higher Education, 43*, 100692. https://doi.org/10.1016/j.iheduc.2019.100692

Ghateolbahr, A., & Samimi, F. (2021). Classroom management strategies in online environment: A comparative study on novice and experienced teachers. *Turkish Journal of Computer and Mathematics Education, 12*(14), 510-516.

Ghazarian, P. G., Kormos, E., & Wisdom, K. (2023). Simulated field experiences and culturally responsive pedagogy among teacher candidates. *Intercultural Education (London, England), ahead-of-print*(ahead-of-print), 1-17.

https://doi.org/10.1080/14675986.2022.2144073

Gold, B., & Holodynski, M. (2017). Using digital video to measure the professional vision of elementary classroom management: Test validation and methodological challenges. *Computers and Education, 107*, 13-30. https://doi.org/10.1016/j.compedu.2016.12.012

Gómez-Galán, J., Lázaro-Pérez, C., Martínez-López, J. Á., & López-Meneses, E. (2020). Measurement of the MOOC phenomenon by pre-service teachers: A descriptive case study. *Education Sciences, 10*(9), 215. https://doi.org/10.3390/educsci10090215

Graham, C. R. (2013). Emerging practice and research in blended learning. In M. G. Moore (Ed.), Handbook of distance education, 3, 333-350.

https://doi.org/10.4324/9780203803738.ch21

Haagsman, M. E., Scager, K., Boonstra, J., & Koster, M. C. (2020). Pop-up questions within educational videos: Effects on students' learning. *Journal of Science Education and Technology*, *29*(6), 713–724. https://doi.org/10.1007/s10956-020-09847-3

Hamel, C., & Viau-Guay, A. (2019). Using video to support teachers' reflective practice : A literature review. *Cogent Education, 6*(1), 1673689.

https://doi.org/10.1080/2331186X.2019.1673689

Handal, B., Campbell, C., & Perkins, T. (2019). Learning about mobile learning: Pre-service teachers' perspectives. *Techtrends, 63*(6), 711-722. https://doi.org/10.1007/s11528-019-00430-1

Harasim, L. (2000). Shift happens: Online education as a new paradigm in learning. *The Internet and Higher Education, 3*(1-2), 41-61. https://doi.org/10.1016/s1096-7516(00)00032-4

Haythornthwaite, C., Andrews, R., Fransman, J., & Meyers, E. (2016). The Sage Handbook of E-learning Research. https://doi.org/10.4135/9781473955011

Hervas, G., Medina, J. L., & Sandín, M. P. (2020). Participants' views of the use of video in lesson study in higher education in Spain: An exploratory multiple case study. *Journal of Research on Technology in Education, 52*(4), 461-473. https://doi.org/10.1080/15391523.2020.1734509

Hills, M., & Peacock, K. (2022). Replacing power with flexible structure: Implementing flexible deadlines to improve student learning experiences. *Teaching and Learning Inquiry, 10.* https://doi.org/10.20343/teachlearninqu.10.26

Hogue, M. D. (2022). A quantitative data analysis of video-based instruction in an asynchronous online mathematics methods class for teacher certification. *E-Learning and Digital Media, 19*(4), 380-395. https://doi.org/10.1177/20427530221092866

Holley, K. A., & Harris, M. S. (2019). *The Qualitative Dissertation in Education: A Guide for Integrating Research and Practice.* (1st ed.). Routledge. https://doi.org/10.4324/9781351044837

Holt, B. J. (2020). Identifying and preventing threats to academic freedom. *International Journal for Infonomics, 13*(2), 2005–2012.

Hourigan, M., & Leavy, A. M. (2017). Rate your course! Student teachers' perceptions of a primary pre-service mathematics education programme. *Journal of Curriculum Studies, 49*(6), 802-829. https://doi.org/10.1080/00220272.2017.1284266

Hurlbut, A. R. (2018). Online vs. traditional learning in teacher education: a comparison of

    student progress. *American Journal of Distance Education, 32*(4), 248-266.

    https://doi.org/10.1080/08923647.2018.1509265

Huttunen, R., & Kakkori, L. (2020). Heidegger's critique of the technology and the educational

    ecological imperative. *Educational Philosophy and Theory, 54(*5), 630-642.

    https://doi.org/10.1080/00131857.2021.1903436

Ilias, A., Baidi, N., Ghani, E. K., & Razali, F. M. (2020). Issues on the use of online learning:

    An exploratory study among university students during the COVID-19 pandemic.

    Universal Journal of Educational Research, 8(11), 5092-5105.

    https://doi.org/10.13189/ujer.2020.081109

Islamoglu, H., Kabakci Yurdakul, I., & Ursavas, O. F. (2021). Pre-service teachers' acceptance

    of mobile-technology-supported learning activities. *Educational Technology Research*

    and Development, 69(2), 1025-1054. https://doi.org/10.1007/s11423-021-09973-8

Iyer, D. G., & Chapman, T. A. (2021). Overcoming technological inequity in synchronous online

    learning. *Communications of the Association for Information Systems, 48*(1), 205-210.

    https://doi.org/10.17705/1cais.04826

Jackson, B. L., & Jones, W. M. (2019). Where the rubber meets the road: Exploring the

    perceptions of in-service teachers in a virtual field experience. *Journal of Research on*

    Technology in Education, 51(1), 7-26. https://doi.org/10.1080/15391523.2018.1530622

Jannah, M., Prasojo, L. D., & Jerusalem, M. A. (2020). Elementary school teachers' perceptions

of digital technology based learning in the 21st century; promoting digital technology as the proponent learning tools. *Al Intida: Jurnal Pendidikan Guru MI., 7*(1) 1-18. https://doi.org/10.24235/al.ibtida.snj.v7i1.6088

Jin, M. (2023). Preservice teachers' online teaching experiences during COVID-19. *Early Childhood Education Journal*, 51(2), 371-381. https://doi.org/10.1007/s10643-022-01316-3

Joosten, T., & Cusatis, R. (2020). Online learning readiness. *American Journal of Distance Education 3*(34), 180-193. https://doi.org/10.1080/08923647.2020.1726167

Kara, M., Kukul, V., & Çakır, R. (2021). Self-regulation in three types of online interaction: How does it predict online pre-service teachers' perceived learning and satisfaction? *The Asia-Pacific Education Researcher, 30*(1) 1-10. https://doi.org/10.1007/s40299-020-00509-x

Kaya, S. (2023). Why do pre-service teachers prefer face to face, online or hybrid Education? *International Journal of Psychology and Educational Studies, 10*(2), 379-392. https://doi.org/10.52380/ijpes.2023.10.2.1024

Keller, J. M. (1983). Motivational design of instruction. In C. M. Reigeluth (Ed.), *Instructional design theories and models: An overview of their current status.* Hillsdale, NJ: Erlbaum.

Keller, J. M. (2008). First principles of motivation to learn and e3-learning. *Distance Education, 29*(2), 175-185. https://doi.org/10.1080/01587910802154970

Keller, J. M. (2010). Motivational Design for Learning and Performance. . https://doi.org/10.1007/978-1-4419-1250-3

Kempf-Leonard, K. (2005). *Encyclopedia of Social Measurement*. Elsevier

Kentnor, H. (2015). Distance education and the evolution of online learning in the United States. *Curriculum and Teaching Dialoge. 1*(17), 21-34

Khoshnevisan, B., & Rashtchi, M. (2021). The first field experience: Perceptions of ESOL pre-service teachers. *Advances in Language and Literary Studies, 12*(5), 15. https://doi.org/10.7575/aiac.alls.v.12n.5.p.15

Kim, D., Jo, I. H., Song, D., Zheng, H., Li, J., Zhu, J., Huang, X., Yan, W., & Xu, Z. (2021). Self-regulated learning strategies and student video engagement trajectory in a video-based asynchronous online course: a Bayesian latent growth modeling approach. *Asia Pacific Education Review, 22*(2), 305-317. https://doi.org/10.1007/s12564-021-09690-0

Kohnke, L., Zou, D., & Zhang, R. (2021). Pre-service teachers' perceptions of emotions and self-regulatory learning in emergency remote learning. *Sustainability 13*(13), 7111. https://doi.org/10.3390/su13137111

Konca, A. S., Ozel, E., & Zelyurt, H. (2016). Attitudes of preschool teachers toward using information and communication technologies (ICT). *International Journal of Research in Education and Science, 2*(1), 10. https://doi.org/10.2189/ijres.21816

Konuk, S. (2022). Effectiveness of student-made short videos in the education of Pre-service literacy teachers. *International Online Journal of Educational Sciences, 14*(1). https://iojes.net/?mod=makale_tr_ozet&makale_id=51945

Korucu-Kış, S. (2021). Preparing student teachers for real classrooms through virtual vicarious experiences of critical incidents during remote practicum: A meaningful-experiential learning perspective. *Education and Information Technologies, 26*(6), 6949-6971. https://doi.org/10.1007/s10639-021-10555-7

Kunin, M., Julliard, K. N., & Rodriguez, T. E. (2014). Comparing face-to-face, synchronous, and asynchronous learning: Postgraduate Dental Resident Preferences. *Journal of Dental Education, 78*(6), 856-866. https://doi.org/10.1002/j.0022-0337.2014.78.6.tb05739.x

Larson, K. E., Hirsch, S. E., McGraw, J. P., & Bradshaw, C. P. (2020). Preparing preservice teachers to manage behavior problems in the classroom: The feasibility and acceptability of using a mixed-reality simulator. *Journal of Special Education Technology, 35*(2), 63-75. https://doi.org/10.1177/0162643419836415

Lazarevic, B., Fuller, J., & Cain, J. (2023). Facilitating community of inquiry through video-enhanced online instruction: What are learners' impressions? *Techtrends*, https://doi.org/10.1007/s11528-023-00864-8

Ledger, S., & Fischetti, J. (2019). Micro-teaching 2.0: Technology as the classroom. *Austrailasian Journal of Educational Technoloy, 36*(1), 37-54. https://doi.org/10.14742/ajet.4561

Liberty University. (2023). Doctoral programs dissertation handbook 2022-2023. Lynchburg

Lin, X., & Sun, Q. (2022). Discussion activities in asynchronous online learning: Motivating adult learners' interactions. *The Journal of Continuing Higher Education, ahead-of-print(ahead-of-print)*, 1-20. https://doi.org/10.1080/07377363.2022.2119803

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. SAGE.

Littlejohn, A., Hood, N., Milligan, C., & Mustain, P. (2016). Learning in MOOCs: Motivations and self-regulated learning in MOOCs. *The Internet and Higher Education, 29*, 40-48. https://doi.org/10.1016/j.iheduc.2015.12.003

Liu, S. H. (2020). Effects of an online sharing and feedback programme on preservice teachers'

practical knowledge, learning preferences and satisfaction. *Technology, Pedagogy and Education, 29*(4), 463-475. https://doi.org/10.1080/1475939X.2020.1788980

Liu, S. H. (2021). Online mentoring of teacher education students by experienced recent graduates by using synchronous videoconferencing. *Innovations in Education and Teaching International*, *60*(2), 227-238.

Lohmann, M., & Boothe, K. (2022). Using asynchronous discussions to teach classroom management skills in online teacher preparation courses. *Journal of Special Education Preparation 2*(3), 48-58 https://doi.org/10.33043/JOSEP.3.1

Lohmann, M., White, B., & Johnson, K. (2019). Increasing the rural special education teacher pipeline through asynchronous online instruction: a program description of the Colorado christian university alternative certification program. *Rural Special Education Quarterly 38(*3), 151-161. https://doi.org/10.1177/8756870519860065

Lowenthal, P., Borup, J., West, R., & Archambault, L. (2020). Thinking beyond zoom: Using asynchronous video to maintain connection and engagement during the COVID-19 Pandemic. *Journal of Technology and Teacher Education 28*(2), 383-391

Luke, S. E., Ford, D. J., Vaughn, S. M., & Fulchini-Scruggs, A. (2021). An online field experience using mixed reality virtual simulation. *Journal of Research on Technology in Education*, ahead-of-print(ahead-of-print), 1-19. https://doi.org/10.1080/15391523.2021.1962452

Luo, Y., Lin, J., & Yang, Y. (2021). Students' motivation and continued intention with online self-regulated learning: A self-determination theory perspective. *Zeitschrift Für Erziehungswissenschaft, 24*(6), 1379-1399. https://doi.org/10.1007/s11618-021-01042-3

Ma, L., & Lee, C. S. (2021). Evaluating the effectiveness of blended learning using the ARCS model. *Journal of Computer Assisted Learning. 37*(5), 1397-1408. https://doi.org/10.1111/jcal.12579

Mabuan, R. A. (2018). Confessions of A MOOCER: An autoethnographic inquiry on online distance education. *Turkish Online Journal of Distance Education*, 198-213. https://doi.org/10.17718/tojde.471916

Maheady, L., Smith, C., & Jabot, M. (2014). Field experiences and instructional pedagogies in teacher education: What we know, don't know, and must learn soon. *Handbook of Research on Special Education Teacher Preparation.* *https://doi.org/10.4324/9780203817032.ch10*

Malik, M., Fatima, G., Hussain, C. A., & Sarwar, A. (2017). E-learning: Students' perspectives about asynchronous and synchronous resources at higher education level. *Bulletin of Education and Research, 39*(2), 183.

Mao, J., Ifenthaler, D., Fujimoto, T., Garavaglia, A., & Rossi, P. G. (2019). National policies and educational technology: A synopsis of trends and perspectives from five countries. *Techtrends, 63*(3), 284-293. https://doi.org/10.1007/s11528-019-00396-0

Martin, F., & Bolliger, D. U. (2018). Engagement matters: student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning, 22(*1). https://doi.org/10.24059/olj.v22i1.1092

Martin, F., & Borup, J. (2022). Online learner engagement: Conceptual definitions, research themes, and supportive practices. *Educational Psychologist, 57*(3), 162-177. https://doi.org/10.1080/00461520.2022.2089147

Martin, F., Polly, D., & Ritzhaupt, A. D. (2020). Bichronous online learning: Blending asynchronous and synchronous online learning. *Educause review.*

Mays, T., & Ross, S. (2022). Sense of community in synchronous and asynchronous online courses: Perceptions and experiences of nontraditional students. *Online Journal of Distance Learning Administration,* 25(1)

McAlvage, K., & Rice, M. (2018). Access and accessibility in online learning: issues in higher education and k-12 contexts. From "OLC Outlook: an environmental scan of the digital learning landscape". *Online Learning Consortium.* https://eric.ed.gov/?id=ED593920

McGarr, O. (2020). The use of virtual simulations in teacher education to develop pre-service teachers' behaviour and classroom management skills: Implications for reflective practice. *Journal of Education for Teaching : JET, 46*(2), 159-169. https://doi.org/10.1080/02607476.2020.1724654

Mehrabi, M., Safarpour, A. R., & Keshtkar, A. (2022). Massive open online courses (MOOCs) dropout rate in the world: A protocol for systematic review and meta-analysis. *Interdisciplinary Journal of Virtual Learning in Medical Sciences (Online), 13*(2), 85-92. https://doi.org/10.30476/ijvlms.2022.94572.1138

Merriam, S. B., & Grenier, R. S. (2019). *Qualitative research in practice: Examples for discussion and anaylsis.* (2nd ed.). WILEY

Missouri Department of Elementary & Secondary Education. (2022). Routes to certification from https://dese.mo.gov/educator-quality/certification/routes-certification

Mohamad Nasri, N., Husnin, H., Mahmud, S. N. D., & Halim, L. (2020). Mitigating the

COVID-19 pandemic: A snapshot from malaysia into the coping strategies for pre-

    service teachers' education. *Journal of Education for Teaching : JET, 46*(4), 546-553.

    https://doi.org/10.1080/02607476.2020.1802582

Mohebi, L., & Meda, L. (2021). Trainee teachers' perceptions of online teachers during field

    experience with young children. *Early Childhood Education Journal 49* 1189-1198.

    https://doi-org.ezproxy.liberty.edu/10.1007/s10643-021-01235-9

Moorhouse, B. L. (2020). Adaptations to a face-to-face initial teacher education course 'forced'

    online due to the COVID-19 pandemic. *Journal of Education for Teaching : JET, 46*(4),

    609-611. https://doi.org/10.1080/02607476.2020.1755205

Moustakas, C. (1990). *Heuristic research: Design, methodology, and applications*. SAGE.

    https://doi.org/10.4135/9781412995641

Mulvihill, T. M., & Martin, L. E. (2019). Are alternative certification programs necessary? *The

    Teacher Educator, 54*(1), 1-3. https://doi.org/10.1080/08878730.2018.1546759

Nami, F., Marandi, S. S., & Sotoudehnama, E. (2018). Interaction in a discussion list: An

    exploration of cognitive, social, and teaching presence in teachers' online collaborations.

    ReCALL (Cambridge, England), 30(3), 375-398.

    https://doi.org/10.1017/S0958344017000349

Nassaji, H. (2020). Good qualitative research. *Language Teaching Research 24*(4). 427-431.

    https://doi.org/10.1177/1362168820941288

National Center for Education Statistics. (2023). Undergraduate Enrollment. *Condition of

    Education.* U.S. Department of Education, Institute of Education Sciences. Retrieved

    August 16, 2023, from https://nces.ed.gov/programs/coe/indicator/cha

Noguera, I. F., Albó, L., & Beardsley, M. (2022). University students' preference for flexible teaching models that foster constructivist learning practices. *Australasian Journal of Educational Technology, 38*(4), 22-39. https://doi.org/10.14742/ajet.7968

Ogbonna, C., Ibezim, N., & Obi, A. (2019). Synchronous versus asynchronous e-learning in teaching word processing: an experimental approach. *South African Journal of Education 39*(2) https://hdl.handle.net/10520/EJC-168a98cd12

Ogodo, J. A., Simon, M., Morris, D., & Akubo, M. (2021). Examining K-12 teachers' digital competency and technology self-efficacy during COVID-19 pandemic. *Journal of Higher Education Theory and Practice, 21*(11), 13-27. https://doi.org/10.33423/jhetp.v21i11.4660

Oh, E. G., Huang, W. D., Hedayati Mehdiabadi, A., & Ju, B. (2018). Facilitating critical thinking in asynchronous online discussion: Comparison between peer- and instructor-redirection. *Journal of Computing in Higher Education, 30*(3), 489-509. https://doi.org/10.1007/s12528-018-9180-6

Oyarzun, B., Hancock, C., Salas, S., & Martin, F. (2021). Synchronous meetings, community of inquiry, COVID-19, and online graduate teacher education. *Journal of Digital Learning in Teacher Education, 37*(2), 111-127. https://doi.org/10.1080/21532974.2021.1890653

Panigrahi, R., Srivastava, P. R., & Sharma, D. (2018). Online learning: Adoption, continuance, and learning outcome—A review of literature. *International Journal of Information Management, 43*, 1-14. https://doi.org/10.1016/j.ijinfomgt.2018.05.005

Park, S. W. (2017). *Motivation theories and instructional design. Foundations of learning and instructional design technology.* EdTech Books.

Paul, J., & Jefferson, F. (2019). A comparative analysis of student performance in an online vs

face-to-face environment science course from 2009 to 2016. *Frontiers in Computer*

Science ,7(1), 1-9 https://doi.org/10.3389/fcomp.2019.00007

Peck, L., Stefaniak, J. E., & Shah, S. J. (2018). The correlation of self-regulation and motivation

with retention and attrition in distance education. *Quarterly Review of Distance*

Education, 19(3), 1-80.

Perveen, A. (2016). Synchronous and asynchronous e-language learning: A case study of

virtual university of pakistan. *Open Praxis, 8*(1), 21.

https://doi.org/10.5944/openpraxis.8.1.212

Phelps, A., & Vlachopoulos, D. (2019). Successful transition to synchronous learning

environments in distance education: A research on entry-level synchronous facilitator

competencies. *Education and Information Technologies, 25*(3), 1511-1527.

https://doi.org/10.1007/s10639-019-09989-x

Pulham, E., & Graham, C. R. (2018). Comparing K-12 online and blended teaching

competencies: a literature review. *Distance Education, 39*(3), 411-432.

https://doi.org/10.1080/01587919.2018.1476840

Quezada, R. L., Talbot, C., & Quezada-Parker, K. B. (2020). From bricks and mortar to remote

teaching: A teacher education program's response to COVID-19. *Journal of Education*

for Teaching, 46(4), 472-483. https://doi.org/10.1080/02607476.2020.1801330

Rapanta, C., Botturi, L., Goodyear, P., Guàrdia, L., & Koole, M. (2020). Online university

teaching during and after the Covid-19 crisis: refocusing teacher presence and learning

activity. *Postdigital Science and Education. 2*(3) 923–945.

https://doi.org/10.1007/s42438-020-00155-y

Reyes, R. (2019). Website Review: The Teaching Channel. *Journal of Latinos and*

Education, 1–2. https://doi.org/10.1080/15348431.2019.1700800

Rice, M. F., & Deschaine, M. E. (2020). Orienting toward teacher education for online

environments for all students. *The Educational Forum, 84*(2), 114-125.

https://doi.org/10.1080/00131725.2020.1702747

Rivas, J., Hale, K., & Burke, M. G. (2019). Seeking a sense of belonging: Social and cultural

integration of international students with american college students. *Journal of*

*International Students, 9(*2), 682-704. https://doi.org/10.32674/jis.v9i2.943

Romanowski, M. H., & Karkouti, I. M. (2022). United states accreditation in higher education:

Does it dilute academic freedom? *Quality in Higher Education, ahead-of-print*(ahead-of-

print), 1-15. https://doi.org/10.1080/13538322.2022.2127165

Roza, V. (2021). Incorporating both zoom and YouTube in micro teaching class during the

covid-19 pandemic: An effectiveness investigation. Journal of Physics. *Conference*

Series, 1779(1), 12033. https://doi.org/10.1088/1742-6596/1779/1/012033

Saldana, J. (2021). *The codng manual for qualitative researchers.* (4th ed.). SAGE.

Salmon, G., Gregory, J., Lokuge Dona, K., & Ross, B. (2015). Experiential online development

for educators: The example of the carpe diem MOOC. *British Journal of Educational*

Technology, 46(3), 542-556. https://doi.org/10.1111/bjet.12256

Schunk, D. H., & Greene, J. A. (2017). *Handbook of Self-Regulation of Learning and*

Performance (pp. 455-458). Routledge. https://doi.org/10.4324/9781315697048

Seago, N., & Knotts, A. (2021). Impact of the design of an asynchronous video-based learning

environment on teacher noticing and mathematical knowledge. *Journal of Higher*

Education Theory and Practice, 21(4), 190-206

.https://doi.org/10.33423/jhetp.v21i4.4218

Shelton, K., & Saltsman, G. (2005). *An administrator's guide to online education. The USDLA*

book series on distance learning: Information Age Publishing.

https://eric.ed.gov/?id=ED517747

Shepherd, C., & Bolliger, D. (2019). Online graduate student perceptions of program

community. *The Journal of Educators Online*, *16*

https://doi.org/10.9743/JEO.2019.16.2.10

Shi, Y., & Lin, X. (2021). Exploring the characteristics of adults' online learning activities: A

case study of EdX online institute. *Research in Learning Technology, 29*, 1-13.

https://doi.org/10.25304/rlt.v29.2622

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic

literature review of definitions of online learning (1988-2018). *The American Journal of*

Distance Education, 33(4), 289-306. https://doi.org/10.1080/08923647.2019.1663082

Smothers, M., Colson, T., & Keown, S. (2020). Does delivery model matter? the influence of

course delivery model on teacher candidates' self-efficacy beliefs towards inclusive

practices. *International Review of Research in Open and Distance Learning, 21*(3), 41-

59. https://doi.org/10.19173/irrodl.v21i3.4675

Smydra, R. V., Mysen, K., & Jostock, K. L. (2018). Educating educators: Implementing quality

online teaching certification programs. *Michigan Academician, 45*(2), 329-346.

https://doi.org/10.7245/0026-2005-45.2.329

Sriram, R., Cheatle, J., Weintraub, S. D., Haynes, C., Murray, J. L., & Marquart, C. P. (2020).

The influence of academic, social, and deeper life interactions on students' psychological

sense of community. *Journal of College Student Development, 61*(5), 593-608.

https://doi.org/10.1353/csd.2020.0057

Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using

trustworthiness in qualitative research. *Journal of Developmental Education, 44*(1), 26-

28.

Stevenson, N. A., VanLone, J., & Barber, B. R. (2020). A Commentary on the misalignment of

teacher education and the need for classroom behavior management skills. *Education and

Treatment of Children, 43*, 393–404, https://doi.org/10.1007/s43494-020-00031-1

Stiller, K. D., & Bachmaier, R. (2017). Dropout in an online training for trainee

teachers. European Journal of Open, *Distance and E-Learning, 20*(1), 80-

95. https://doi.org/10.1515/eurodl-2017-0005

Sun, Y. (2020). Reflection on MOOCs in the special period of anti-coronavirus. *Theory and

Practice in Language Studies, 1*0(11), 1494-1499. https://doi.org/10.17507/tpls.1011.23

Tan, S., Wiebrands, M., O'Halloran, K., & Wignell, P. (2020). Analyzing student engagement

with 360-degree videos through multimodal data analytics and user annotations.

Technology, Pedagogy and Education, 29(5), 593-61.

https://doi.org/10.1080/1475939X.2020.1835708

Tarchi, C., Brante, E., Jokar, M., & Manzari, E. (2022). Pre-service teachers' conception of

online learning in emergency distance education: how is it defined and what self-regulated learning skills are associated with it? *Teaching and Teacher Education 113* https://doi.org/10.1016/j.tate.2022.103669

Tareen, H., & Haand, M. T. (2020). A case study of UiTM post-graduate students' perceptions on online learning: benefits & challenges. *International Journal of Advanced Research and Publications, 4*(6), 86-94.

Terras, K., Mahar, P., Chiasson, K., Schroeder, S., & Baker, M. (2018). Graduate student perceptions and experiences with connectivity in an asynchronous, online distance degree program. *Journal of Higher Education Theory and Practice, 18*(4), 60-73. https://doi.org/10.33423/jhetp.v18i4.574

Tien, I. S., Imundo, M. N., & Bjork, E. L. (2023). Viewing oneself during synchronous online learning increases appearance anxiety and decreases memory for lecture content. *Applied Cognitive Psychology, 37*(2), 443-451. https://doi.org/10.1002/acp.4048

Valtonen, T., Leppänen, U., Hyypiä, M., Sointu, E., Smits, A., & Tondeur, J. (2020). Fresh perspectives on TPACK: Pre-service teachers' own appraisal of their challenging and confident TPACK areas. *Education and Information Technologies, 25*(4), 2823-2842. https://doi.org/10.1007/s10639-019-10092-4

van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. Routledge,

Vanslambrouck, S., Zhu, C., Pynoo, B., Lombaerts, K., Tondeur, J., & Scherer, R. (2019). A

latent profile analysis of adult students' online self-regulation in blended learning environments. *Computers in Human Behavior,* 99, 126–136. https://doi-org.ezproxy.liberty.edu/10.1016/j.chb.2019.05.021

VanZandt, V. L. (2017). The assessment mandates in the ABA accreditation standards and their impact on individual academic freedom rights. *University of Detroit Mercy Law Review, 95*(2), 253.

Vásquez-Colina, M. D., Russo, M. R., Lieberman, M., & Morris, J. D. (2017). A case study of using peer feedback in face-to-face and distance learning classes among pre-service teachers. *Journal of further and Higher Education, 41*(4), 504-515. https://doi.org/10.1080/0309877X.2015.1135884

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C., & Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. Elsevier BV. https://doi.org/10.1016/S2352-4642(20)30095-X

Vu, P., & Fisher, C. E. (2021). Does virtual field experience deliver?: An examination into virtual field experience during the pandemic and its implications for teacher education programs. *Open Praxis, 13*(1), 117-125. https://doi.org/10.5944/openpraxis.13.1.1191

Wang, J., & Sneed, S. (2019). Exploring the design of scaffolding pedagogical instruction for elementary preservice teacher education. *Journal of Science Teacher Education, 30*(5), 483-506. https://doi.org/10.1080/1046560X.2019.1583035

Wang, J., & Wang, Y. (2020). Compare synchronous and asynchronous online instruction

for science teacher preparation. *Journal of Science Teacher Education, 32*(3), 265-285.

https://doi.org/10.1080/1046560X.2020.1817652

Weber, K. E., Gold, B., Prilop, C. N., & Kleinknecht, M. (2018). Promoting pre-service

teachers' professional vision of classroom management during practical school training:

Effects of a structured online- and video-based self-reflection and feedback intervention.

Teaching and Teacher Education, 76, 39-49. https://doi.org/10.1016/j.tate.2018.08.008

Whitham, S., Sterling, L., Lin, C. E., & Wood, J. J. (2013). *Social cognitive learning theory*.

Springer https://doi.org/10.1007/978-1-4419-1698-3_484

Willems, P. P., Gonzalez-DeHass, A. R., Powers, J. R., & Musgrove, A. (2021). The role of

authentic teaching cases and mastery approach goals in online pre-service teachers' self-

regulated learning. *Educational Technology Research and Development, 69*(2), 1003-

1023. https://doi.org/10.1007/s11423-021-09972-9

Xavier, M., & Meneses, J. (2022). Persistence and time challenges in an open online university:

A case study of the experiences of first-year learners. International Journal of Educational

Technology in Higher Education, 19(1), 1-17. https://doi.org/10.1186/s41239-022-00338-

6

Xie, H., Liu, W., Bhairma, J., & Shim, E. (2018). Analysis of synchronous and asynchronous

E-learning environments. *Atlantis Highlights in Engineering, 3*

https://doi.org/10.2991/jimec-18.2018.58

Yang, M., Mak, P., & Yuan, R. (2021). Feedback experience of online learning during the

COVID-19 pandemic: Voices from pre-service english language teachers. *The Asia-Pacific Education Researcher, 30*(6), 611-620. https://doi.org/10.1007/s40299-021-00618-1

Yildirim, B. (2022). MOOCs in STEM education: Teacher preparation and views. *Technology, Knowledge and Learning, 27*(3), 663-688. https://doi.org/10.1007/s10758-020-09481-3

Yoon, M., Lee, J., & Jo, I. (2021). Video learning analytics: Investigating behavioral patterns and learner clusters in video-based online learning. *The Internet and Higher Education, 50*, 100806. https://doi.org/10.1016/j.iheduc.2021.100806

Zeng, H., & Luo, J. (2023). Effectiveness of synchronous and asynchronous online learning: A meta-analysis. *Interactive Learning Environments, ahead-of-print*(ahead-of-print), 1-17. https://doi.org/10.1080/10494820.2023.2197953

Zha, S., Jin, Y., Moore, P., & Gaston, J. (2020). Hopscotch into coding: Introducing pre-service teachers computational thinking. *Techtrends, 64*(1), 17-28. https://doi.org/10.1007/s11528-019-00423-0

Zolfaghari, M., Austin, C. K., Kosko, K. W., & Ferdig, R. E. (2020). Creating asynchronous virtual field experiences with 360 video. *Jl. of Technology and Teacher Education 28*(2), 315-320. https://par.nsf.gov/servlets/purl/10274531

Zygouris-Coe, V. I. (2019). Benefits and challenges of collaborative learning in online teacher education. *Advances in Early Childhood and K-12 Education,* 33-56. https://doi.org/10.4018/978-1-5225-8009-6.ch002

Appendix A

IRB Approval Letter

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

October 20, 2023

Sara Allen
Susan Quindag

Re: IRB Exemption - IRB-FY23-24-493 Exploration of the Experiences of Asynchronous Educator Certification Programs: A Phenomenological Study

Dear Sara Allen, Susan Quindag,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation; or

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents can also be found on the same page under the Attachments tab.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix B

Approval letter from L. Brown School District

Dear Sara Allen

I have reviewed the proposed study entitled, "Challenges of Asynchronous Teacher Certification Program". I understand that the principal investigator is Sara Allen, a doctoral learner who will operate under supervision of Liberty University faculty chair member, Dr. Susan Quindad. I understand that the purpose of the study is to explore the challenges associated with asynchronous teacher certification programs and gain feedback toward overcoming challenges. Targeted participants will include teacher graduates of asynchronous teacher certification programs who teach at ███ ████████████████████████████

I have granted permission for the following research activities to be conducted at the ███████████School District to engage in the following research activities to:

- Conduct individual interviews with teachers of the district that have graduated from an asynchronous teacher certification program
- Conduct one virtual focus group interview with seven participants
- Request a written letter from ten participants regarding the various aspects of their asynchronous teacher certificate

I confirm that I have the authority to grant such permission on behalf of ███████████

I understand that this research will begin once Sara Allen has acquired approval from Liberty University's Institutional Review Board (IRB). The IRB will review the security and confidentiality procedure that will take place during the study and will ensure a plan in place is adequately protecting the participants.

I understand that Sara Allen is responsible for ensuring the project maintains confidentiality and will remove all identifiers toward participants throughout the project to ensure the research participants maintain their privacy.

If there are concerns about the site permission, please contact me at the phone number or email address listed below.

Sincerely,

Name: Dr. ████████████
Title: Asst. Supt. for Instructional Services
Phone: ████████████
Email: ████████████████████

Appendix C

Information Sheet

Title of the project: Exploring the Loved Experiences of Teachers when Enrolled in an Asynchronous Certification Program: A Phenomenological Study.
Principal Investigator: Sara Allen, Doctoral Student, School of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a teacher holding a Missouri Teacher certification in either early childhood, elementary, secondary, or special certification, graduated from an asynchronous teacher certification program, taught in the classroom for at least two years and currently teach in a public brick and mortar classroom for at least two years. Taking part in this research project is voluntary.
Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the phenomenological study is to explore the lived experiences of teachers when enrolled in an asynchronous pre-service teacher certification program.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following tasks:
1. Participate in an in-person, audio-recorded interview that will not take more than 45 minutes.
2. Review a transcription of the interview for member checking. Member checking is when participants of a study look over the interview recording documents to check for accuracy.
3. Write a short letter, no longer than two pages, explaining the parts of your program that was useful or that needed additional improvements (10-30 minutes)
4. Participate in a virtual focus group interview with four other teachers that will not take more than 45 minutes.

*I may ask you only to complete the in-person interview and write a letter if I have obtained enough participants to complete the focus group interview.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include better understanding of the challenges associated with asynchronous pre-service challenges.

What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Published reports will not include any information that will make it possible to identify a subject. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.]
- Interviews will be conducted in a location where others will not easily overhear the conversation.].
- Confidentiality cannot be guaranteed in focus group settings. While discouraged, other members of the focus group may share what was discussed with persons outside of the group.]
- Data collected from you may be used in future research studies and/or shared with other researchers. If data collected from you is reused or shared, any information that could identify you, if applicable, will be removed beforehand.
- Data will be stored on a password-locked computer. After three years, all electronic records will be deleted and/or all hardcopy records will be shredded.
- Recordings will be stored [on a password locked computer/etc. for three years and then deleted. The researcher and members of her doctoral committee will have access to these recordings.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you apart from focus group data,] will be destroyed immediately and will not be included in this study. Focus group data will not be destroyed, but your contributions to the focus group will not be included in the study if you choose to withdraw.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Sara Allen. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at ▓▓▓▓▓▓▓▓ or sallen@liberty.edu. You may also contact the researcher's faculty sponsor, Dr. ▓▓▓▓▓▓ at sallen@liberty.edu.

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.
Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Appendix D

Gatekeeper Letter with Instructions

Dear ████████,

Thank you for accepting the position of gatekeeper. I need a minimum of 10 teachers who have graduated from asynchronous educator certification programs and are current teachers within the district. The teachers will participate in individual interviews with me, discussing the challenges of their asynchronous educator certification program. I would like you to the email a list of names with their emails of potential participants for this study. If you think of any additional potential participants after you have sent me the list, please do not hesitate to send additional names.

Thank you for all your help.

Sara Allen

Appendix E

Request of Participation Email

Greetings BLANK,

My name is Sara Allen, and I am a graduate student from Liberty University. I have been informed that you graduated from an asynchronous program. During an asynchronous educator certification program, learners do not meet individually; instead, they complete their assignments and tasks on their own time through a learning platform such as Blackboard or Canvas.

The purpose of the phenomenological study is to explore the lived experiences of teachers when enrolled in an asynchronous pre-service educator certification program. My study will involve:

- a virtual or in-person individual interview

- a focus group with four other teachers, and

- a letter discussing the advantages and disadvantages of your program.

You will have the ability to drop the study at any time.

If you agree to participate in my study, please email me back with an answer to the following question:

During your educator certification program, did you attend scheduled virtual meetings with your instructors and peers in which you interacted in real time?

Thank you for your consideration of my study.

Sara Allen

Appendix F

Individual Interview Questions

1. Tell me why you decided to become a teacher. CRQ

2. Why did you choose an online program over a traditional residency program to obtain your certification? CRQ

3. Please explain challenges toward gaining and sustaining your attention throughout your program. SQ2

4. What helped you maintain your motivation throughout the asynchronous courses of your program? SQ3

5. What challenges did you face regarding peer interaction during your asynchronous program? CRQ

6. How did you overcome these challenges regarding peer interaction? SQ1

7. Elaborate on your sense of connectivity toward the community of your asynchronous educator certification program. SQ1

8. What challenges did you face while mastering various content through your program?

9. How did you overcome these challenges regarding mastering content? SQ1

10. What challenges did you face in your certification program classes regarding time management? SQ1

11. How did you overcome these challenges regarding time management? SQ1

12. What other challenges did you face that you felt were difficult to overcome? CRQ

13. How did you overcome these other challenges? SQ1

Appendix G

Note Taking

Appendix H

Focus Group Interview Procedure

Dear Participants,

Thank you for agreeing to participate in the Focus Group interview. During this interview, we will meet virtually. I will send a link the morning of (January 5th, 2024) to ensure everyone has the link to meet at 11:00 a.m. Here are some guidelines to follow during our interview.

- Please join the meeting with your camera and microphone off.

- You will keep your camera offer for the duration of the interview.

- When you want to respond to a question, turn your microphone on and respond.

- Please be mindful of others speaking to ensure everyone has a chance to participate in the discussion when they would like to

- Feel free to add to anyone's responses once the person has finished speaking.

Please respond to this email with any questions regarding the focus group interview process.

Appendix I

Focus Group Interview Questions

1. What challenges did you face regarding communicating with the instructor and your peers? CRQ

2. What was the most effective feedback you received and why? SQ1

3. What could be done differently with an asynchronous course to increase your motivation? SQ2

4. What challenges did you face toward self-regulated learning throughout your program? SQ1

5. Describe your competency toward classroom management coming into the classroom after completing your asynchronous program. SQ2

6. Describe your competency with content knowledge into the classroom after completing your asynchronous program. SQ2

7. What type of relevant lessons were used throughout your program of study? CRQ

Appendix J

Program Description Letter Prompt

Dear Participants,

Thank you for agreeing to complete the program description letter. Please answer the following prompt about your program. You may be as descriptive as you would like. Please write the letter in a document using double-spaced 12 font. Please limit the letter to two pages or less.

Write a letter addressing program directors to discuss aspects of your program that were useful or needed additional improvements. Please discuss the following points in relation to your asynchronous program: communication between instructors and peers, technology requirements and challenges, relevance of assignments, motivational factors, and confidence toward entering the classroom.

Please complete the letter within four weeks of receiving the prompt. If I have not received the letter at the end of three weeks, I will email you a reminder to complete this letter. Once you have completed the letter, please email it to me at sallen@liberty.edu