WHAT DID THEY FORGET? LEARNING LOSS OF RURAL SECONDARY STUDENTS POST-COVID: A PHENOMENOLOGICAL STUDY

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Abstract

This phenomenological study describes the lived experiences of rural, secondary teachers in a southwestern Virginia school district. The central research question was “What are the lived experiences of rural, secondary teachers with student learning loss post-COVID?” Therefore, the focus of this study was to understand the experiences of teachers with student learning loss post-COVID and what innovative strategies they used to mitigate that loss. The guiding theory was Piaget's constructivist theory of learning as teachers utilize best practices through educational technology, and other innovative instruction techniques, to support students with learning loss post-COVID. Through qualitative methodology and phenomenological research design, the researcher collected the lived experiences of 12 secondary teachers from a rural school district. Data was collected through interviews, a journal prompt, and focus groups. The analysis of data involved coding and the use of pseudonyms to help maintain ethical integrity. The results of the research included discussions about students’ lost skills and overall readiness to learn. The research findings revealed themes including student readiness, reteaching, innovative instructional strategies, and external factors that negatively affect students’ recovery from learning loss. Study participants shared their experiences with student apathy, poor socialization skills, and missing fundamental and prerequisite skills in math, reading, writing, and science. To mitigate these forgotten skills, participants shared their use of innovative instructional strategies and educational technology to recoup lost learning despite continuing issues with student apathy, social skills, connectivity, attendance, and parental support.

Keywords: learning loss, post-COVID, educational technology, digital inequities

Copyright Page

Dedication

For Daddy

&

In memory of my sweet mother. I miss you.

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CHAPTER ONE: INTRODUCTION

Overview

The virtual learning format became a necessity during the 2020-2021 COVID-19 pandemic when most schools in the nation closed, and teachers scrambled to create suitable online instruction within an abbreviated time. For most teachers, this change meant dramatically altering their curricula to a sustainable online format. Yet, problems with connectivity (Bacher-Hicks et al., 2021), motivation (Faridah et al., 2020), and parental support (Gustiani, 2020) left many rural students, specifically, with inconsistent learning opportunities (Afacan et al., 2021), including learning loss. Current studies suggest that learning loss was a widespread phenomenon during this time that may have been prevented through professional development (Kuhfeld et al., 2023) and innovative practices (Farrag et al., 2023). Learning loss is an interruption of educational progress (Pier et al., 2021), resulting in a loss of skills, including reading, math, and reasoning (Molnár & Hermann, 2023). This study sought to describe the phenomenon of learning loss through the lived experiences of rural, secondary teachers in a Southwest Virginia school district and address the gap in current literature by describing this phenomenon from a rural perspective where access to necessary resources was limited during the COVID-19 pandemic.

Background

The lockdown resulting from the global COVID-19 outbreak was predicted to negatively impact the educational system. The abruptness of the transition from in-person instruction to virtual instruction did not allow time to train teachers or students (Talidong & Toquero, 2020). Many teachers were unsure of their technological competencies and often struggled with successful online lessons (Winter et al., 2021). Consequently, the innovative practices necessary to sustain a virtual learning environment were sorely lacking in many school districts and may

negatively affect today's youth for years after the end of the pandemic (Collins et al., 2022). Furthermore, student motivation (Chansaengsee, 2023) and teacher frustration (Li et al., 2022) played a part in the failure of many online formats. Although there is sparse data available about the long-term academic effects on rural American students, some researchers surmised that rural communities were more vulnerable than their urban counterparts and may not be as resilient (Mueller et al., 2021). Overall, the long-lasting effects of the suspension of in-person learning have permeated educational institutions internationally and may slow students' progress and academic abilities (Walters et al., 2022).

Researchers have analyzed the learning loss of students as a direct result of the weak response of educational institutions that were both ill-equipped and unprepared for this global emergency (Engzell et al., 2021). Learning loss occurs when there is an inability to execute learning processes within a school setting (Muhsin et al., 2023). Many educational scholars have predicted that students of all ages may have suffered from some level of learning loss following the suspension of in-person learning (Morris et al., 2022). Current studies have suggested post-COVID education must include innovative practice and constructivist formats that include technology, knowledge-building, social interaction, and higher order of thinking (Charania et al., 2021) to combat potential gaps in skills and learning loss (Banihashem et al., 2021). Some constructivist theorists posit that the forced utilization of technology during the COVID-19 lockdown served to jumpstart a technological revolution and alter the roles of teachers toward a permanent change in classroom dynamics (Kim & Asbury, 2020).

In this chapter, the Historical Context highlights the transition to virtual learning during COVID-19 and the challenges of rural students during virtual lessons. The Social Context reveals the effect that virtual instruction during the pandemic had on rural students, teachers, and

the community. The Theoretical Context section reviews previous and current research on post-COVID learning loss and constructivist learning strategies for mitigating lost learning.

Historical Context

Many rural areas in America are thriving with rising graduation rates and growing communities (Tieken & Montgomery, 2021). However, the challenges and disparities that exist in many rural communities intensified during the COVID-19 pandemic (Tieken & Montgomery, 2021). Any reforms to the rural educational system must be formed with an understanding and respect for the surrounding community and culture (Campbell-Halfaker & Gregor, 2021). Historically, rural communities have been close-knit and supportive of their youth (Curren, 2023). Yet, rural isolation, digital inequities (Ashta et al., 2023), fewer resources (Ndhlovu & Ndhlovu, 2023), and high teacher turnover (Ingersoll & Tran, 2023) have created non-inclusive educational environments in many rural school districts (Curren, 2023).

During the COVID-19 pandemic, specifically, students struggled with online learning that often failed to support students intellectually and socially (Afacan et al., 2021). Some research has been conducted to document instances where students lacked motivation during the suspension of in-person learning. Many researchers found that teachers' failure to formulate lessons that stimulated students or inspired enthusiasm was at fault (Anwer, 2019). Other researchers blamed the lack of motivation on insufficient ambition (Gustiani, 2020), parental involvement (Statti & Torres, 2020), teacher efficacy (Korpershoek et al., 2020), or technological competency (Nikolopoulou, 2020).

Furthermore, many researchers found that online formats failed to address inequities as many students lacked the tools, connectivity, and parental support to consistently participate in

lessons (McChesney, 2022). These challenges were of particular concern to rural students who were excluded from online lessons through no fault of their own (Stenman & Pettersson, 2020).

Before the COVID-19 pandemic, online learning was a barrier for many rural communities (Shen & Hannum, 2023). Rural students faced challenges in online learning that lowered achievement and increased learning loss (Johnson et al., 2021). Additionally, traditional instruction was favored over technology education (Clark et al., 2021). Even after the COVID-19 pandemic, many rural teachers are still resistant to the use of digital learning (Joshi et al., 2023).

The transition to online instruction because of the COVID-19 pandemic was a jolting shock to many educational institutions. This was particularly true for educators with little experience with virtual instruction (Sandvik et al., 2023). Many researchers have pointed out that teacher professional development lacked the depth needed to support teachers during the emergency suspension of in-person learning (Udeogalanya, 2022). This lack of competency caused many teachers to experience stress and anxiety (Beames et al., 2021; Sokal et al., 2020).

Social Context

During the COVID-19 pandemic, in rural communities, digital inequity revealed its impact as families struggled to download work for students with patchy or inferior internet connections and had to drive to often unreliable hotspots placed throughout the country (Miller et al., 2021). This technological inequity made populations of rural students more susceptible to learning loss (Graves et al., 2021). Added to this dilemma, some communities' historically lax attitude towards education and its importance, or relevance, to their children's future (McClure & Pilgrim, 2021) became apparent to teachers and administrators. These phenomena have been researched and found to be common in many rural environments (Whalley & Barbour, 2020). However, Bordalba and Bochaca (2019) purported that parents and communities can become

more supportive of technological platforms through school-supported promotions and training. Regardless, the support of parents and the community is necessary to address learning loss in rural school districts.

The professional development and attitudes of teachers have been widely studied as they relate to the integration of technology education and innovative teaching strategies like project-based learning and collaborative learning (Silver et al., 2019). Teachers' attitudes, along with both the school's culture and the surrounding community, can affect innovative education initiatives (Vongkulluksn et al., 2018). Constructivist theorists suggest that the reversal of learning loss begins with a strong implementation of innovative practices that encourage students' ability to construct their own knowledge (Ellis et al., 2020). Student-centered instruction is encouraged for the 21st-century learner, who will need to be more technologically savvy and able to work collaboratively on projects to compete successfully in today's market (Veneri & Zdanis, 2018). There have been many recent studies that are more optimistic about the outcome of COVID-19. Researchers have predicted that the dependency on virtual instruction sparked a revolution in technology education and online learning (Al-Freih, 2022). However, the implementation of educational technology curricula is not always supported. Teachers' training, belief systems (Khokhotva & Elexpuru Albizuri, 2020), comfort zones, and school culture can determine the lack of consistent use of innovative teaching practices (Tosuntaş et al., 2019).

There have also been studies that look at the performance of students who participated in online interactive content as opposed to in-person instruction. Many research studies delve into the level of student learning during the pandemic (Beames et al., 2021) and consider what teachers will need to do to overcome the stress of returning to school (Talidong & Toquero, 2020) and constructing plans to support some students who had gone years without consistent

instruction (Hurlbut, 2018). Yet few studies have highlighted the continuing struggle of rural teachers and the possible difficulties of finding ways to support technological education post-COVID-19 (Bacher-Hicks et al., 2021) as well as ways to recoup lost skills and knowledge (Betebenner & Wenning, 2021). The pressure is to successfully elevate students' knowledgebase because, without a plan of action, students may never catch up but fall further behind (Angrist et al., 2021).

Theoretical Context

Many researchers have considered the impact of the COVID-19 pandemic on education. Most agree there are negative consequences, such as students experiencing education disruptions, having unreliable access, and exhibiting poor technological skills (Onyema et al., 2020). However, there are some who concede that although there has been learning loss on a broad scale, the transition to virtual instruction and the rise of technology usage can be celebrated. Conto et al. (2021) lamented the loss of learning and the disruptive nature of the sudden transition to virtual learning while celebrating that "remote learning is here to stay…" (p.8). Other studies allude to the need for educators to incorporate virtual instruction into their regular classroom instruction to strengthen students' online skills (Madi et al., 2023) and reverse learning loss (Onyema et al., 2020).

There has been much research done about learning loss. However not all researchers agree that either learning loss truly exists or that learning loss is not anything new. The concept of learning loss has long existed as educators considered how much learning loss occurs over summer vacation or if any loss occurs at all (Von Hippel, 2019). Year-round schools were conceived to try to combat summer learning loss. However, the length of time that some students subsisted without any or little learning during the COVID-19 mandatory shutdown of in-person

learning was unprecedented. Consequently, researchers now consider that not only knowledge and skills have been lost, but some people's positive attitudes toward education have decreased (Zhao, 2022).

Constructivist learning theorists have long claimed that quality teacher-student interaction can be supported and improved by technology. Scholars have found that through technology education, constructivist learning design can help teachers identify student progress (Banihashem et al., 2021) and their construction of knowledge (Chuang, 2021). Several studies have further suggested that learning loss can be identified and mitigated through constructivist-based teaching (Gallardo-Alba et al., 2021).

Although much research has been done on the concept of learning loss, specifically post-COVID, this study fills the current gap in available literature by considering the learning loss of students in a specified region of Virginia where rural, secondary teachers shared their unique experiences with not only learning loss but technological disparages of the surrounding farm community.

Problem Statement

The problem is that teachers must contend with rural, secondary students' learning loss post-COVID-19. In the post-COVID era, teachers are still striving to recoup lost time and lost students' content-knowledge (Hanushek & Woessmann, 2021) and foundational skills (Kuhfeld et al., 2023). Following the loss of a traditional learning environment for two entire school years, many students, specifically low-achieving students (Clark et al., 2021), failed to keep up with the curriculum and simply went without any type of learning (Brindley & Hartford Courant, 2021). Much research has documented the impact of COVID-19 on the American education system, and much consideration has been given to the unsatisfactory level of learning that occurred as

teachers made the emergency switch to exclusive online learning. Yet, the research on the effect of COVID-19 years later has only begun to be documented.

Researchers have observed student progress during both COVID-19 and the post-COVID era. Many factors have contributed to students' apparent lack of progress with online learning, including the lack of technological resources (Bacher-Hicks et al., 2021), parental support (Sahlan et al., 2022), and motivation (Gope et al., 2021). Other researchers have focused their studies on the digital inequities that were most apparent in poorer communities where virtual instruction proved more detrimental than helpful (Daimary, 2020). Currently, students have had three years back in the classroom, and many still suffer from various levels of learning loss (Madi et al., 2023). The challenges to remediate and scaffold students through educational gaps caused by the suspension of face-to-face learning remain of vital importance (Engzell et al., 2021).

Leaning loss is defined as a gap in students' educational development where information and skills are forgotten due to disuse (McChesney, 2022). The concept of learning loss is not new, as educational researchers have for years argued that students lose key academic abilities over summer break. Years ago, proponents of year-round schools claimed that having shorter breaks and school throughout the year prevents learning loss (Worthen & Zsiray, 1994). Currently, many researchers agree that the onset and duration of COVID-19 have resulted in learning loss, yet few studies have discovered the degree of loss—particularly in rural Southwest Virginia. This gap in literature represented an opportunity to add to the body of knowledge. Participants in this study expressed the unique concerns of rural, secondary teachers who recognize learning loss and are responsible for implementing strategies to identify and address the problem.

Purpose Statement

The purpose of this phenomenological study was to understand the lived experiences of rural, secondary teachers in Southwest Virginia during post-COVID who are still charged with following educational guidelines and demands with students who have suffered learning loss. At this stage in research, learning loss is defined as a loss of students' knowledge or skills (Sahlan et al., 2022). The theory guiding this study was the constructivist learning theory. For this study, teachers' reactions to learning losses of their rural, secondary students can inform researchers and policymakers of the needs of the students and what may be done to assist these learners in the future (Donnelly & Patrinos, 2021).

Significance of the Study

This study corroborated with constructivist theory as the research uncovered teachers' attempts to comply with technological demands of instruction (Miller et al., 2017) while dealing with learning losses resulting from the suspension of in-person learning. In-person, traditional instructional techniques that support a teacher-centered learning environment are touted to be inferior to innovative, technology-rich dynamics (Jones et al., 2020). Researchers have claimed that anything less than student-centered lessons fails to provide students with the skills needed to compete globally (Masullo, 2017). During post-COVID, researchers are considering whether the failure to satisfy the academic needs of students during the mandatory lockdown may have resulted in learning losses. This study investigated the ability of teachers in a rural, Southwest Virginia community to overcome learning losses while keeping up with global, technological demands.

Theoretical

Teachers and educational administrators across the globe faced the unknown as schools returned to in-person learning during the 2021-2022 school year. Throughout the year, COVID-19 protocols were still in place, including contact tracing, mask mandates, and mandatory quarantines. However, in Virginia, many students still opted for virtual learning through the state's Virtual Virginia program (Virtual Virginia, 2022) years after the initial return to in-person instruction. No matter the modality, the task for instructors was to re-establish a learning environment where students constructed knowledge using innovative practices and tools, which aligns with the constructivist theory (Powell & Kalina, 2009). The constructivist theory in this study was applied to evaluate strategies teachers used to establish students returning to school as active learners (Gallardo-Alba et al., 2021) and innovative critical thinkers (Powell & Kalina, 2009).

A research gap on this topic considers what obstacles teachers overcome to maintain virtual instruction. The following factors were considered:

1. The time to create a new, virtual curriculum is short.
2. Alternative instructional strategies may seem simpler and easier to formulate.
3. The rural community has large percentages of students who have poor internet access or none. Even with proper technological tools, such as school-issued Chromebooks and phones, most students were dependent on hotspots distributed throughout rural communities (Statti & Torres, 2020)
4. The feasibility of the use of virtual instruction in rural communities is based on cultural belief systems and student objectives (Stenman & Pettersson, 2020).
5. Data supporting student learning gaps evident post-COVID-19.

An investigation of the experiences of secondary teachers through teacher interviews and questionnaires (DiCicco-Bloom & Crabtree, 2006) could provide data on the success or failure of virtual instruction (Winter et al., 2021) and the formulation of a successful curriculum in rural environments (McClure & Pilgrim, 2021) to combat learning losses.

Empirical

Empirical research on the appearance of learning loss post-COVID-19 has been documented as previous studies predicted the development of educational gaps because of the suspension of in- person learning. Many studies cautioned that although educational scholars have long considered technological education to be advantageous to students, online education during COVID-19 had many flaws and limitations. These limitations, which vary from poor connectivity (Clark et al., 2021) to motivation (Collins et al., 2022), challenged student resilience (Squire, 2022) as well as teachers' abilities (Kraft et al., 2021), as contended with the sudden, mandatory implementation of virtual instruction.

Although the use of technology was forced on both the competent and novice alike, the true benefits of technological education and innovative teaching strategies have been studied expansively. Both have been found through multiple studies to be not just preferable for the 21st century and digitally savvy learners but necessary for their future competences and the ability to compete globally (Veneri & Zdanis, 2018). Although the concerns and reservations of teachers about integrating technology education have been noted in studies, many researchers insist that innovative technological education is the sole way toward acceptable academic achievement (Silver et al., 2019). Consequently, more recent studies have claimed that the use of virtual instruction during the pandemic jump-started a universal integration of technological innovations (Daimary, 2020).

Practical

This study would seek to understand the lived experience of secondary teachers in a rural school district as they attempt to construct learning environments conducive to constructivist technology usage (Charania et al., 2021) and establish a social learning paradigm (Hung et al., 2006) where group projects may be done with students recovering from COVID-19 social distancing restrictions (Gallardo-Alba et al., 2021). There are practical implications on how rural, secondary teachers recoup losses and reconstruct a viable, innovative learning environment.

Research Questions

The research questions sought to understand the phenomenon of learning losses as described by rural, secondary teachers. During the pandemic, inconsistent delivery of lessons due to COVID-19 protocols and restrictions created potential learning gaps. Rural teachers have the task of restructuring, re-evaluating, and realigning teaching strategies to overcome student learning losses in the post-COVID-19 era (Buffie et al., 2023).

Central Research Question

What are the lived experiences of rural, secondary teachers and post-COVID-19 learning loss?

Sub-Question One

What are the lived experiences of rural, secondary teachers with student progress during post-COVID-19?

Sub-Question Two

What are the lived experiences of rural, secondary teachers using innovative methods to overcome learning loss?

Sub-Question Three

What are the lived experiences of rural, secondary teachers with internal and external support to help overcome learning loss?

Definitions

1. *Constructivist Learning* - Students gain knowledge through relation to their prior knowledge to become problem solvers and critical thinkers (Neutzling et al., 2019).
2. *Constructivist Learning Theory* - "developing technology tools that foster essential skills" (Feyzi Behnagh &Yasrebia, 2020, p. 6).
3. *COVID*-19 *Pandemic* - "In 2020, the rapid onset of a pandemic related to the disease known as COVID-19 resulted in a widespread lockdown of societies across the globe" (Kyne & Thompson, 2020).
4. *Digital Inequities* - "students with varying digital access and efficacy" (Williams et al., 2021).
5. *In-person Instruction* - face-to-face instruction in a physical classroom (Ellis et al., 2020).
6. *Learning Loss* - "a setback in academic progress caused by a gap or discontinuity in educational progress" (Sahlan et al., 2022, p.1139).
7. *Motivation* - "how people are treated and how they feel about the work they do" (Sivrikaya, 2019, p. 310).
8. *Post*-COVID - post-pandemic era of COVID-19 (Li & Rutab, 2023).
9. *Technology Integration* - Commonly refers to the mere frequency of technology use during teaching (Backfisch et al., 2021).
10. *Transformation Learning* - a change in learning paradigms due to certain conditions so that learning continues to run effectively and efficiently in accordance with the learning objectives to be achieved (Hatip, 2020, p. 26).

Summary

During the COVID-19 pandemic, teachers hurried to create lessons that both satisfied innovative demands and translated well to a virtual format (Afacan et al., 2021). The problem of how teachers combat learning loss despite the complications and barriers caused by COVID-19 included a need to regress to tech-free structures that were reliable and consistent for rural students who suffered digital inequities within the district. This study's purpose was to understand the lived experiences of rural, secondary teachers during post-COVID who were still charged with following educational guidelines and demands with students who have suffered academic losses. Previous research has demonstrated the impediments teachers faced during the COVID-19 pandemic have had long-term effects on students post-COVID. However, little research focuses on the lived experience of rural teachers post-COVID.

This research study highlights the struggles, concerns, and successes of rural, secondary teachers in Southwest Virginia as they continue to implement innovative instruction and restructure classrooms to accommodate students with learning losses. The data collected brought attention to the needs within rural education and highlighted the difficulties rural teachers face in combating learning loss post-COVID.

CHAPTER TWO: LITERATURE REVIEW

Overview

A systematic review of the literature was conducted to explore the lived experiences of rural, secondary teachers as they combat the learning loss of students post-COVID. This chapter reviews the current literature related to the topic of study. The first section is the theory relevant to instruction toward overcoming learning loss, post-COVID difficulties, teachers' beliefs, responsibilities, and transition strategies. The following section is a synthesis of recent literature regarding constructivist learning theory, the phenomenon of learning loss, technology integration, virtual and in-person instruction, teacher beliefs and attitudes, teacher professional development, and recovery strategies. Lastly, the literature surrounding the challenges of rural instruction, including digital inequities and student motivation, along with post-COVID academic recovery is addressed. In the end, a gap in the literature is identified, presenting a viable need for the current study.

Theoretical Framework

The constructivist learning theory framework was used for this study to examine the phenomenon of teachers' reconstructing a viable learning environment as the innovative demands and strictures of instruction have not changed following COVID-19 (Martin & Dismuke, 2018) and through the constructivist paradigm, examined how teachers' beliefs, training, and responsibilities can be used to explain "various components regarding different aspects of teaching" (Karimi & Nazari, 2021, p. 83). The constructivist learning theory was used to shape the study as teachers restructure innovative learning environments where students use technology to overcome learning loss.

The social constructivist theory was influenced by Vygotsky (1978). Vygotsky argued that learning in a group is more effective than individualized learning because learning is a social activity (Overall, 2007). Today, many educational researchers consider that social constructivist learning can still be established in an online environment (Deulen, 2013). Deulen (2013) stated that teachers may establish a constructivist learning environment in an online format through the establishment of various strategies. The strategy determines its effectiveness. Powell and Kalina (2009) shared that educators might consider either individual (Piaget, 1953) or social (Vygotsky, 1978) constructivist theories.

Constructivist principles expect learners to be self-motivated, able to work collaboratively, and be self-directed (Tam, 2000). Tam (2000) stressed that in a technological learning environment, learning is done both personally and socially. Individual learners who were completing lessons alone during the COVID-19 pandemic may benefit from social learning implemented through various media and networks. The learner in a constructivist learning environment should direct the methods, strategies, and goals to make the learner responsible for their learning (Tam, 2000). The constructivist learners then must construct their own meanings (Woo & Reeves, 2007).

Although the constructivist learning theory was developed many decades ago, the modern development of globalization and the rapid and continuous changes within the technological age have increased competition and rapid change in organizations. Chuang (2021) argued that these changes have made it essential that students construct their own learning to process new and rapidly changing information. According to Feyzi Behnagh and Yasrebi (2020), technologically savvy constructivist learners are desired in today's organizations. Students must, therefore, establish themselves as lifelong learners who are able to continuously improve their competence

and skills to match the changes in technology and globalization (Mohammed & Kinyo, 2020). Feyzi Behnagh and Yasrebi (2020) also suggested that to shape flexible, life-long learners fit for technological advances and rapidly changing working environments, there needs to be a transformation of the roles of teachers, students, and the surrounding communities. Professional development can help teachers adapt to and become competent in technologies and strategies related to constructive teaching practices (Charania et al., 2021).

Part of a constructivist teaching philosophy is to find strategies to overcome digital gaps and reach underprivileged students. According to Feyzi Behnagh and Yasrebi (2020), "A significant purported outcome of the utilization of constructivist educational technologies is reducing the inequalities of access" (p. 2). The constructivist learning environment is argued by many researchers to be the most effective in enhancing student learning (Neutzling et al., 2019) and "constructing their own meaning" (Rob & Rob, 2018, p. 275). Pruitt (2017) stated that student inquiry allows them to engage "in the learning process in a way that reflects constructivist principles at work" (p. 6). Upon returning to in-person instruction, researchers stress that technology integration is an "irreversible trend and brought about a revolutionary progress" (Huang & Teo, 2021, p. 441) and that technology will always play "an important role in today's education whether we are involved in online or face-to-face classrooms" (Rob & Rob, 2018, p. 282).

Gallardo-Alba et al. (2021) described the COVID-19 pandemic as a "turning point for the global educational system" (p. 7). The disruption to teaching and learning was unprecedented (Miller et al., 2021). Additionally, the cohesiveness and structure of educational environments were dismantled (Malkawi et al., 2021). Yet, the expectation of the integration of innovative learning strategies and technological integrations remained intact. The debate over virtual versus

traditional in-person instruction (Asadi et al., 2019), teacher beliefs and attitudes (Joram et al., 2020), teacher training (Maher & Prescott, 2017), and the disparities suffered by rural school districts during the COVID-19 pandemic (Chemi, 2021) affected the success and failures of teaching and learning (Miller et al., 2021). This study furthers this theory as constructivist teaching and learning styles are utilized in a rural, secondary school setting to overcome learning gaps and learning loss post-COVID-19.

Related Literature

This study's significance was derived from the current and ongoing research to determine what effects COVID-19 has had on the learning loss of rural, secondary students. Prior studies have predicted what educational repercussions will surface after the two-year suspension of in-person instruction (Gee et al., 2023). Researchers have examined outcomes conceding there would be learning loss due to the insufficient quality of instruction (Khan & Ahmed, 2021). The most recent research suggests that there is evidence of learning loss, suggesting that students have lost reading and math skills during the mandatory quarantine (Lestari et al., 2023), as well as negative attitudes toward learning (Zhao, 2022). In this section, there is related literature that traces the problems faced by rural students during the COVID-19 pandemic and post-COVID-19, including digital inequities and learning loss.

Learning Loss

Learning loss is when the learning process has been interrupted resulting in the development of gaps in learning (Tate & Warschauer, 2022). Donnelly and Patrinos (2021) found that following COVID-19, learning loss may have occurred in various grade levels, academic disciplines, and geographic areas. However, learning loss is not a new concept. For decades, scholars have argued what level of learning loss students suffer as they enjoy a summer

break (Harmey & Moss, 2023; Kuhfield & Tarasawa, 2020). Von Hippel (2019) expressed that summer learning loss could claim up to a third of the learning gained during the school year. Von Hippel (2019) added that achievement gaps can also widen rapidly during summer break. Although Von Hippel (2019) suggested that not all students suffer any level of learning loss, there remains a chance of learning loss during the summer months.

As we linger in the post-COVID-19 era, the concept of learning loss has been thoroughly discussed. However, many questions and gaps in the literature remain. Many scholars have come to understand that even as learning loss is recognized, a solution to overcome learning loss has not been determined as more research is needed (Lestari et al., 2023; Shen & Hannum, 2023). This research and solutions that may come from these studies must consider the geographical region (Donnelly & Patrinos, 2021; Graves et al., 2021) and the availability of technology resources to determine which solution is most appropriate for a given region. There will be no generalized solution to learning loss (Betebenner & Wenning, 2021; Carlana et al., 2023; Kertih et al., 2023).

Learning Loss and COVID-19

Various researchers have different definitions and descriptions of post-COVID learning loss (Conto et al., 2021; McChesney, 2022). Moscoviz and Evans (2022) described learning loss as a combination of forgotten and foregone learning. According to Moscoviz and Evans (2022), learning that is forgotten is lost after school closes, and foregone is learning that is never gained due to an interruption of learning. In the study, Moscoviz and Evans (2022) estimated that learning loss during the COVID-19 pandemic was extensive, particularly for low-income students, and there will be a need for remediation to recoup lost learning. Students with families who experienced financial hardships during the pandemic impacted students' motivation to learn

as they had other concerns (Sahlan et al., 2022). Sahlan et al. (2022) called learning loss a "setback in the academic process caused by a gap or discontinuity in the educational process" (p. 1139). Muhsin et al. (2023) defined learning loss "as the inability to maximally conduct the learning process at school" (p. 45). Muhsin et al. (2023) also found that the mitigation of post-COVID-19 learning loss is best done through the development of students' confidence and the influence of social support. Muhsin et al. (2023) suggested that the integration of counseling protocols encourages student confidence and counsel psychological reactions to learning loss.

Whether learning loss exists at all has been debated in educational research for decades. However, for researchers who agreed that learning loss is a real phenomenon (Muhsin et al., 2023; Schult et al., 2022), the question remained whether COVID-19 would cause or cause learning loss (Conto et al., 2021; McChesney, 2022), or did this pandemic bring attention to, or worsen, pre-existing achievement gaps (Khan & Ahmed, 2021; Robbins & Cipollone, 2023; Tang, 2023)? There are also studies that consider the effects of the transformation in learning, or moving from in-person to virtual instruction was a positive one that strengthened technological initiatives (Onyema et al., 2020). According to Farrag et al. (2023), virtual learning platforms during the COVID-19 pandemic were, in fact, effective in strengthening student learning and helping students to become digitally competent. Farrag et al. (2023) reported that the study indicated that many technological advancements occurred during the pandemic, yet more traditional teaching methodologies are still used above technology (Veneri & Zdanis, 2018). The solution to learning loss may, therefore, be achieved through a combination of traditional and innovative teaching methods (Farrag et al., 2023).

Many researchers have agreed that the COVID-19 pandemic has been detrimental to learning and foresee effects of the pandemic will be evident for years to come and will cause a

"domino effect" (Sahlan et al., 2022, p. 1140) on the development of learning that can only be ended through a well-supported solution (Zimmerman & Benjamin, 2023). Schult et al. (2022) agreed with this assertion stating the more vulnerable students will suffer "a learning backlog" (p. 544) that will need to be attended to swiftly. Schult et al. (2022), however, touched on the realization that the suspension of standardized tests and grade-level retention increased learning gaps and low achievement. Like many researchers, Schult et al. (2022) claimed that the available data indicated that the lack of technologically competent instruction, strong parental support, and student motivation may have negatively affected student achievement. To mitigate learning loss, teachers and students must become competent in innovative and technological learning formats that encourage interest (Onyema et al., 2020), participation (Madi et al., 2023), and social interaction (Zhao, 2022).

Learning Loss Predictions

There have been numerous studies that postulated that the COVID-19 pandemic would negatively impact education institutions worldwide (Angrist et al., 2021; Engzell et al., 2021). Some researchers have predicted that students will inevitably suffer some levels of learning loss when the learning process is interrupted, resulting in the development of gaps in learning (Hanushek & Woessmann, 2021; Tate & Warschauer, 2022). Learning loss occurs at various grade levels, academic abilities, and economic resources. Donnelly and Patrinos (2021) found that learning loss may have occurred in various grade levels, academic disciplines, and geographic areas. Most of the participants in the Donnelly and Patrinos (2021) study demonstrated some level of learning loss. Donnelly and Patrinos (2021) suggested that future studies should be done in various geographical regions where different variables may allow for more specified results.

For the past few years, educational scholars have predicted that the level of learning loss may be revealed during the post-COVID-19 era (Almarzooq et al., 2020; Engzell et al., 2021). Most agreed on two main concepts: 1. Student learning loss is likely to result from the disruption of instruction (Conto et al., 2021), and 2. Learning loss will disproportionately impact poorer and low-achieving students (Angrist et al., 2021). Betebenner and Wenning (2021) surmised, like many researchers, that learning loss is inevitable and that the effect of the pandemic will be "uneven" (p. 3). However, Betebenner and Wenning (2021) stressed that the disproportionate impact will mean that solutions to learning loss cannot be the same for all regions, additionally, all interventions will not be appropriate for all students. Additionally, Betebenner and Wenning (2021) cautioned that whatever the solution toward recovery, there must be some type of intervention to avoid an "academic downward spiral" (p.11) of student achievement. Interventions will need to include strategies that not only repair learning loss but encourage the level of learning that would allow students to develop a well-constructed knowledgebase (Charania et al., 2021).

Although many researchers agree that the COVID-19 pandemic will affect student learning, not all have agreed on the outcome (Khan & Ahmed, 2021; Luctkar-Flude & Tyerman, 2021). Angrist et al. (2021) predicted that the level of learning loss would be severe. However, Angrist et al. (2021) also suggested that this inevitable learning loss will present scholars with the opportunity to develop strategies and practices to overcome learning loss—strategies that were needed well before the COVID-19 pandemic. Like many researchers, Angrist et al. (2021) stressed that the pandemic worsened academic and technological challenges that were already apparent in the field of education. Therefore, COVID-19 only necessitated educational reform and renewed innovative learning strategies (Conto et al., 2021). Conto et al. (2021) suggested

that post-COVID educational reforms will need to revamp online learning and in-person teaching innovative practices that will be used to address learning loss and equalize learning opportunities.

Long-term, post-COVID-19 learning loss has been predicted and observed. Harmey and Moss (2023) structured a study to anticipate the effects of COVID-19's suspension of in-person learning and to consider mitigating tactics to reverse long-term learning losses. Harmey and Moss (2023) found that school administrations must shape emergency plans based on the challenges revealed in the post-COVID era. Harmey and Moss (2023) further found that the post-COVID-19 curriculum must accommodate both the academic and psychological deficiencies developed during the pandemic and school closures. Khan and Ahmed (2021) remarked that the adverse responses to COVID-19 school closures affected the learning and attendance of students. Khan and Ahmed (2021) also predicted that COVID-19 would impact learning loss as well as the rate of student dropouts. Khan and Ahmed (2021) added that many of the challenges faced post-COVID existed before the pandemic. This includes pre-existing learning disparities only made worse during school closures (Khan & Ahmed, 2021).

Mitigating Learning Loss Post-COVID

Now, more than two years into the post-COVID era, many scholars have found that education has been impacted by the pandemic (Kertih et al., 2023; Robbins & Cipollone, 2023; Schult et al., 2022). In one of the earliest studies to find evidence of the negative impact on education, Onyema et al. (2020) found that the pandemic resulted in unprecedented disruptions in learning through barriers, including poor connectivity as well as loss of learning and loss of interest in learning. In the post-COVID era, many researchers have studied what precisely has been lost within learning loss. Kuhfeld et al. (2023) found that thorough testing and screening

must be given to assess the level of learning loss regularly and accurately and to determine where the gaps in learning have occurred. Within the study, Kuhfeld et al. (2023) found that students with less parental support or in high-poverty school districts were more likely to suffer fundamental learning loss or loss in skills related to reading and math.

Mandatory school closure may have only served to compound existing inequities, but solutions may be at hand. Carlana et al. (2023) agreed that the closing of schools compounded pre-existing inequities. The post-COVID-19 era has produced learning loss that worsened inequities suffered by disadvantaged students (Carlana et al., 2023). Carlana et al. (2023) found that learning losses may be mitigated through interventions focusing on students who demonstrate learning loss and educational gaps to avoid long-term academic insufficiencies. Frank (2023) suggested that the primary focus of schools is the mitigation of learning loss. Frank (2023) cautioned that the academic and mental effects of COVID-19 will not dissipate until there is an acceptance of the change in technological structures and how success is measured. Robbins and Cipollone (2023) cautioned against the overuse of standardized assessment to measure and mitigate learning loss. Robbins and Cipollone (2023) also suggested that educators focus more on what students have gained and avoid focusing so much on “test scores and scripted curricula” (186).

Tang (2023) found that the educational disruptions resulting from COVID-19 revealed many educational shortcomings and worsened educational inequities in technological innovations and learning ability. Tang (2023) suggested that post-COVID-19 learning models must include stronger support for innovative curricula in individual and online learning, and authentic learning environments. Furthermore, Tang (2023) found that the restructured educational model must be prepared for future educational disparities and be flexible enough to

adjust to changes still to come in the post-COVID-19 era. Zimmerman & Benjamin (2023) agreed that preparedness is essential to prevent problems brought on by the pandemic, such as learning loss. Zimmerman & Benjamin (2023) allowed that the whole effect of the pandemic will not be evident for several years. Yet, what has been learned needs to be applied in anticipation of future pandemics through a prepared system that includes a collaboration between schools and healthcare systems (Zimmerman & Benjamin, 2023).

In an earlier study, McChesney (2022) found that many low-income students suffered learning loss in math and reading. That learning loss must be identified through standardized assessments (McChesney, 2022). Kuhfeld et al. (2023) suggested that diagnostic tests, teacher professional development, as well as the identification and grouping of students in need of additional support will help resolve learning losses. Lestari et al. (2023) agreed that assessments are needed to measure and identify learning loss. Lestari et al. (2023) also found that some pre-requisite information taught during COVID-19 lockdowns was not effective. This resulted in learning gaps and loss (Lestari et al., 2023). Lestari et al. (2023) claimed that the lowest-achieving school districts have higher levels of students with learning loss. Students' gaps in learning can be determined through benchmark testing (Lestari et al., 2023). Lestari et al. (2023) stated that based on the diagnostic tests, teachers may then construct curricula to address the lost knowledge. Zhao (2022) agreed that standardized testing is necessary to determine the existence and the level of learning losses but cautioned that the use of standardized testing can be detrimental to students. Zhao (2022) dubbed this the "learning loss trap" (p. 557), as too much testing can place undue pressure on students and "lead post-pandemic in the wrong direction" (p. 558) and extended the long-term effects of learning loss.

Teachers returning for yet another year of post-COVID instruction are charged with both recognizing and resolving learning loss. Molnár and Hermann (2023) found that students will need additional support to combat both short-term and long-term learning loss. To do this, Molnár and Hermann (2023) suggested the use of extensive planning and training will be necessary. Madi et al. (2023) agreed that teacher training will help teachers increase the efficacy of students and their own self-efficacy. Trained teachers can best utilize and integrate technology into in-person instruction, consequently increasing student participation, interest, and learning. Teachers would learn best practices to achieve these goals. Nadeem and Van Meter (2023) found that although the impact of COVID-19 on students' learning is significant, the identification and implementation of "evidence-informed practices" (p. 276) is necessary to repair and resume learning processes. The recuperation of learning is possible through training and support of teachers, students, and families (Nadeem & Van Meter, 2023).

Rural School Districts

Years before the pandemic, scholars observed that rural communities can come together to minimize educational disparities. Schafft (2016) found that "strong and healthy communities beget strong and healthy schools, and vice versa" (p. 145). Bouck (2004) suggested decades ago that rural schools face challenges "by the nature of being rural" (p. 4). Currently, rural districts often lack funding and sometimes communities can support the local school to overcome disparities (Stewart & Matthews, 2018). Rural districts often suffer challenges that can result in gaps in knowledge. The quality of educators, as well as financial and community support, can impact the students' experience. Statti and Torres (2020) agreed that the technology gap in rural school districts poses a challenge that results in educational disparities and poor community support. Yet, Stenman and Pettersson (2020) contended that in a rural school district, both

teachers and students found virtual technology more helpful than a hindrance despite digital and technological gaps. Through community support, rural students can become more motivated (Ralejoe, 2021), develop technology competencies (Bordalba & Bochaca, 2019), and close achievement gaps (Iyengar, 2021).

Many recent educational research studies have investigated the barriers rural districts face that are not often problematic in urban areas (Ashta et al., 2023; Graves et al., 2021; Tate & Warschauer, 2022). Among the barriers most often researched is the digital disparity in many rural educational environments (Statti & Torres, 2020). This became glaringly apparent as COVID-19 made in-person learning impossible and virtual learning essential (McClure & Pilgrim, 2021). McClure and Pilgrim (2021) observed that teachers were "required to have assignments for students with Wi-Fi and a separate assignment for students with no home access" (p.13). All students are entitled to "inclusive education in rural areas" (Stenman & Pettersson, 2020, p. 87). This includes rural students who have historically suffered inequities that were exacerbated by the COVID-19 pandemic (Tieken & Montgomery, 2021).

Rural School Districts and Learning Loss

Learning loss has been recognized in schools throughout the world for years after the COVID-19 pandemic (Harmey & Moss, 2023). Residual effects of the COVID-19 lockdown still plague students who endured online learning or no learning at all during the mandatory suspension of in-person learning (Frank, 2023; Kertih et al., 2023). Recent literature suggests rural students may have disproportionately suffered from the effects of the COVID-19 lockdown, evident in rural educators post-COVID (Clark et al., 2023; Curren, 2023). During the pandemic, technology was depended upon to deliver lessons and maintain a form of educational consistency (Joshi et al., 2023). Yet, digital inequities in rural areas worsen challenges existing pre-COVID-

19 (Ndhlovu & Ndhlovu, 2023). Daimary (2020) argued that although the pandemic advanced technological innovations, rural students faced challenges and had the opposite effect as technology served to put rural students further behind as many students struggled with digital gaps that made the use of technology a disadvantage rather than an innovative advantage.

Kuhfeld et al. (2020) predicted this same outcome, finding that learning loss would result in a need for additional support for students identified as academically behind. Kuhfeld et al. (2020) recommended that teachers be responsible for identifying learning loss and responding effectively. Mueller et al. (2021) agreed that there would be an impact on learning post-COVID but stressed that the rural population was more vulnerable and not as resilient to the residual effect of COVID-19 mandatory online instruction. Mueller et al. (2021) sought to discover the full impact on rural students' learning but allowed that more studies need to be conducted to access the "much-needed body of work on the impacts of the COVID-19 pandemic in the rural United States" (p. 1).

Shin et al. (2023) found that the temporary loss of in-person learning had a negative effect on rural and disadvantaged students. Shin et al. (2023) cautioned that drastic steps must be taken by educators to prevent the worsening of learning deficiencies. Kertih et al. (2023) concurred with other researchers who claim that the phenomenon of learning loss during the post-COVID-19 era exists yet stresses that there are higher levels of learning loss in rural areas. Kertih et al. (2023) found that the existence of learning loss in rural areas can be attributed to student readiness, which in turn affects their level of learning and mastery. Kertih et al. (2023) concluded that coping with learning loss must involve educators, parents, and the community to improve student readiness for learning processes.

Digital Inequities and Challenges in Rural School Districts

As a result of the inability to consistently utilize technological tools, many rural students were at a disadvantage during the COVID-19 pandemic, which led to "structural and systemic inequities" (Delahunty & Hellwig, 2022, p. 16). In one study, Engzell et al. (2021) found that many disadvantaged students suffered from learning loss because they learned less during the COVID-19 lockdown. The school closures severed to widen "economic gaps" and reveal "consequences for students' learning" (Engzell et al., 2021, p. 1). Along with the economic gaps, Bacher-Hicks et al. (2021) found that the inequity in technological access has widened the achievement gap as learning loss becomes a "fundamental feature of the post-COVID landscape" (p. 2). Bacher-Hicks et al. (2021) found that gaps in academic achievement will be more evident in the following school years, and rural students will require additional interventions to recover from education gaps resulting from COVID-19.

Rural school districts experienced other challenges. Li et al. (2022) found that effects on rural communities included rural teachers' morale. According to Li et al. (2022), disadvantages that were often "less developed" (p. 3) made them and their students less resilient to the challenges of the pandemic. Padilla Rodriguez et al. (2021) found that the main challenge for rural students and teachers was the digital divide. In the study, Padilla Rodriguez et al. (2021) found that rural teachers believed that the abrupt and mandatory shift to online learning negatively affected the academic progress of students. Disadvantaged students became further behind and "widened the learning gaps among students" (Padilla Rodriguez et al., 2021, p. 264) as many students had to suspend their participation in lessons due to poor connectivity, inferior devices, or lack of quality online instruction (Padilla Rodriguez et al., 2021). Squire (2022) postulated that the learning gaps were not only widened, but the COVID-19 pandemic essentially

"laid bare the thin veneer masking existing educational inequities" (p. 56). Students who already struggled academically were pushed further behind following the pandemic.

Studies have found that the COVID-19 pandemic served to reveal both the innovative advantages and the limitations of online education. Lee et al. (2023) found that many students had the capabilities and the resources to prevent learning loss as parents sought outside educational agencies to supplement the online lessons provided. Lee et al. (2023) suggested that supplemental lessons and tutoring may be a way to overcome learning loss resulting from COVID-19. However, McClure and Pilgrim (2021) cautioned that technology-driven programs, especially in rural districts, may suffer as connectivity continues to be a challenge for many students post-COVID. This means to combat learning loss with supplemental programs, students without access to the internet will require alternative assignments delivered in more assessable formats, such as paper copies of assignments and supportive documents.

Statti and Torres (2020) did a study on the Appalachian community in rural United States, where access to the internet can be problematic. Statti and Torres (2020) found that the solution to technological inequalities in rural school districts is to involve families and seek methods to increase access to technology since the lack of accessibility led to educational challenges and limited learning opportunities for Appalachian students. Tate and Warschauer (2022) determined that digital inequities lead not only to learning loss but to higher dropout rates as well. According to Tate and Warschauer (2022), the learning loss experienced by Appalachian students is a result of poorly structured online lessons and limited access to upgraded devices and prerequisite online training. These inequalities, disadvantages, and challenges caused achievement gaps to worsen (Tate & Warschauer, 2022). Dow-Fleisner et al.'s (2022) findings

also supported the idea that digital inequality in rural school districts exacerbates challenges already faced in rural communities.

In another research study, Graves et al. (2021) highlighted the challenges of rural students and their surrounding communities, finding that digital inequities presented a "critical barrier" (p. 257) to online learning. Graves et al. (2021) stressed that even cellular service may be patchy in many rural areas and, in the post-COVID era, remains a concern as students scramble to keep up with technological demands. Patrick et al. (2021) claimed, in a study of students in rural Tennessee, that disparities of many rural students constitute an "extreme denial of learning opportunities" (p.1) that will only serve to worsen pre-COVID inequities. Patrick et al. (2021) pointed out that teachers encouraged and relied upon educational technology before COVID-19 where the inadequacy of accessibility then existed. Following the study's completion, Patrick et al. (2021) recognized that more research is needed to examine the online learning experiences of rural students and the outcome of inequities and challenges experienced.

Rural Students Persistence Beyond COVID-19

Long before the COVID-19 pandemic, educational scholars concerned themselves with the inequities suffered by rural students (Shen & Hannum, 2023; Tieken & Montgomery, 2021) and the challenges faced by rural teachers (Imbugwa & Gilb, 2023; Khong et al., 2023). Zhao et al. (2022) found that the result of the problems students faced during the mandatory suspension of in-person instruction will be evident long into the post-COVID era. Zhao et al. (2022) suggested that future studies must continue to compare digital inequities post-COVID to remedy educational inequities between urban and rural students. Wilcox (2022) found in a case study that focused on a rural school's mission to "navigate pandemic-related disruptions" (p. 111) and developed ideas to improve professional development programs and address the resultant gaps.

Educational scholars have always sought solutions to dysfunctions and deficiencies in rural education. Stewart and Matthews (2018) stressed the need for professional development for rural educators who often have fewer resources and networking opportunities. Wang et al. (2021) found that the ability to network and share knowledge motivates rural teachers to use technology and increase self-efficacy. In another study, Khlaif (2018) agreed that consistent training and support lead teachers to more positive attitudes. Stenman and Pettersson (2020) found in a study designed to highlight inclusive strategies for online learning in rural schools that providing equal access to online instruction despite the students' geographical location may be achieved through support and the use of appropriate technology where students "benefit from the digital technologies rather than hinder them" (p. 96). This would call for teachers to plan how their instruction will be conducted to benefit students equitably.

The COVID-19 pandemic devastated academia as in-person learning was suddenly suspended, and educators scrambled to create comparable lessons (Chemi, 2021). Several studies have claimed that there were problems with connectivity (Dow-Fleisner et al., 2022; Gee et al., 2023). Many students struggled to join online classes regularly, consequently falling behind. Kraft et al. (2021) claimed that this digital divide was particularly present in high-poverty school districts. Connectivity and a lack of technological resources served to widen the achievement gaps and impact teachers' overall morale (Kraft et al., 2021). Students were hurriedly assigned work on virtual formats and school districts sought access to hotspots for students with poor internet service—or no internet at all. However, the standards of instruction had not altered.

Teachers were still expected to integrate technology and invent lessons that supported innovative strategies such as collaboration and project-based learning (Luctkar-Flude & Tyerman, 2021). Tarkar (2020) suggested that the change in instructional methodology posed a

problem for teachers, students as well as parents. Tarkar (2020) postulated that the closing of the schools during the COVID-19 pandemic affected the fabric of learning through the introduction of recent problems, including getting teachers, students, and parents to understand the novel teaching methodology. Spiker et al. (2023) investigated teacher training during COVID-19 and found that teachers spent much of their time acclimating themselves to the innovative technology that suddenly had to be mastered. This left less time for building direct connections with students who were, in turn, given independent work that required little engagement (Spiker et al., 2023). Spiker et al. (2023) stated that because of this passive engagement, many students did not achieve learning.

Teachers soon found that a substantial number of students lacked the digital capabilities to join virtual schools despite the efforts of school administrators to provide hotspots, which were often not dependable (Afacan et al., 2021). Professional development training was not offered for many educators who were not always familiar with virtual formats such as *Zoom* and *Google Classroom*, so much of the instruction was done as trial-and-error as best practices were considered and debated (Malkawi et al., 2021). Break-out rooms and small groups used for collaboration were available on both virtual formats, but not all students and teachers were competent enough to utilize these tools (Beason-Abmayr et al., 2021) or willing to "embrace this technology" (Almarzooq et al., 2020, p. 2637). Baral (2023) discussed that the old educational structure had many disparities, including difficulties in connectivity and accessibility during the pandemic. Therefore, Baral (2023) suggested that due to these challenges, educators should accept that change in educational structures and work on building educational systems that stress efficiency, resilience, and inclusion. Also, Baral (2023) stated that there must be lessons learned from the COVID-19 pandemic school closures for a permanent educational structure change.

Presently, teachers are still assessing the damage done academically to student learning. Garcia (2020) predicted that the residual effects of the pandemic on our "society, communities, relationships and minds" (p. 339) are still unknown. Bacher-Hicks et al. (2021) predicted that achievement gaps will widen, and rural communities will require more support to both recover from any loss of learning and strengthen online accessibility. Additionally, Ashta et al. (2023) examined the effects of the COVID-19 pandemic on secondary students. Ashta et al. (2023) found that most student participants in the study reported some trouble with virtual learning, but the rural students dealt with accessibility issues. Ashta et al. (2023) also claimed that this limited internet access blocked access to virtual classes, making them unable to complete required assignments. The lack of internet access placed rural students at greater risk of having learning loss (Ashta et al., 2023). Curren (2023) argued that lessons that rural students received during COVID-19 were not inclusive. Curren (2023) found that barriers faced by rural students caused a "rural-urban divide" (p. 50) that must be addressed in this country. This divide affects the equalization of opportunities (Curren, 2023). The lived experiences of teachers returning to schools may be shared, analyzed, and documented. Repetition of lessons and scaffolding may be needed to reset students toward academic success after so long without consistent learning (Kyne & Thompson, 2020).

Challenges of Teachers During COVID-`19

The challenges of teaching during COVID-19 continued well after the initial onset of the pandemic (Baxter et al., 2023). The problem began as teachers sought to determine how to instruct students who were not in person (Yanuar et al., 2023). As students returned to school, new challenges, including student apathy, learning gaps, and availability, became evident (Junaidi & Liza, 2023). Teachers were challenged with retraining students and reacclimating

them to in-person learning environments (Ponce et al., 2023). Students who became lax on following schedules and completing assignments had to relearn scholarly habits in a structured learning environment (Cavaco et al., 2023). During virtual and hybrid learning, many students missed key components in their learning due to missed lessons, non-participation in virtual lessons, and incomplete assigned work (Sandvik et al., 2023). Teachers were simply unable to consistently communicate with many students, making lessons inconsistent and ineffective (Oprea et al., 2023).

Before the COVID-19 pandemic, teachers often received some level of training involving technological innovations (Ratten, 2023). However, the time on lockdown proved to be technologically challenging for many instructors who may not have received the necessary training to navigate full virtual instruction (Brindley & Hartford Courant, 2021). Educational researchers have learned through numerous studies that professional development is an essential component of teacher and, therefore, student success (Zhao et al., 2019). Li et al. (2019) analyzed four variables that may affect teacher success with innovative practices: teachers' backgrounds, pedagogical beliefs, beliefs towards technology, and effectiveness of professional development training. Li et al. (2019) found that teachers' pedagogical and technological readiness are equally important to the successful transition to innovative practices.

In the post-COVID era, teachers are still in need of guidance (Beason-Abmayr et al., 2021). Professional development training to assist with hybrid, blended, or fully in-person classroom dynamics would help smooth the transition from lockdown virtual learning to a more flexible learning environment (Afacan et al., 2021). Ben-Peretz et al. (2018) suggested peer coaching to help support teacher training. Ben-Peretz et al. (2018) stressed that "Sharing experiences among teachers is an important part of professional development" (p. 304). The

more recent Halvorsen et al. (2021) study supports the findings of Ben-Peretz et al. (2018), stating that coaching and teacher-formed committees improved the school culture through collaboration and practice. Hickey and Harris (2018) also supported this teacher-driven training, emphasizing that this dynamic is even more crucial in rural districts where access to funds and personnel for professional development may not always be available. Hickey and Harris (2018) stated, “Clearly, the use of teachers as leaders in professional development has provided benefits for this rural district in the utilization of human and financial resources (p. 4).

Many researchers have studied the possible link between teacher beliefs and attitudes to instructional compliance (Joram et al., 2020). Huang and Teo (2020) found that there is a greater chance for teachers to experience success with technology use if “they share the values of technology-related school policies” (p. 1551). Satilmis et al. (2018) postulated that organizational cynicism could affect “teachers’ emotional deprivation and social companionship levels” (p. 9) that help shape teacher satisfaction and professional commitment. Teachers' beliefs can affect the integration of technology (Vongkulluksn et al., 2018). Vongkulluksn et al. (2018) stressed that access to technological tools does not ensure integration. Teacher training, values, beliefs, and attitudes are factors that can determine the level of technology usage (Alqurashi, 2016). Teachers in rural districts often lack opportunities for professional development (Maher & Prescott, 2017). Maher and Prescott (2017) suggested that rural instructors participate in video conferences to gain the “necessary skills and knowledge to support their students” (p. 523). Teachers’ understanding and competence are essential to the integration of innovative practice. Silver et al. (2019) and suggestions as to what is to be done during the post-lockdown 2021-2022 school year (Brindley & Hartford Courant, 2021). The sharing of experiences and knowledge is the key to a successful transition (Wang et al., 2021).

Many educational researchers have come to equate the negative attitudes of teachers with the stress experienced by teachers. Atiles et al. (2017) admitted that teachers have stressful jobs as they struggle with duties ranging from taking attendance and teaching to collaborating with other teachers and communicating with parents. During the COVID-19 pandemic, teachers' mental health may have been affected while trying to provide for students while worrying about their own safety and that of their family members (Talidong & Toquero, 2020). Teachers also worried about vulnerable students (Kim & Asbury, 2020), who lacked the resources and support to thrive in a virtual learning environment. The speed at which teachers had to respond to the COVID-19 pandemic also caused stress and may impact teachers' mental health (Winter et al., 2021). Chemi (2021) described the sudden switch to virtual instruction that caused a "creative obstruction" (p. 854). Chemi stated that the necessary development of digitalized teaching methodologies interfered with the plans and teaching philosophies of educators.

To reduce stress, teachers can take part in the decision-making and help determine how needed transitions and implementations may be achieved (Joram et al., 2020). As teachers continue to teach in-person post-COVID, it is essential that teachers feel appreciated and not "taken for granted" (Khokhotva & Elexpuru Albizuri, 2020, p. 318). Khokhotva and Elexpuru Albizuri (2020) said that teachers' academic beliefs affect everything within a school and that their beliefs are often a reflection of the school's culture. Perrotta (2017) came to a similar conclusion three years earlier, finding that "beliefs, emotions and cultural discourses that shape choices and behaviors" (p.790) of teachers. Therefore, if teachers' educational beliefs can determine the quality of the learning environment and be affected by the school's culture, both teacher beliefs and school culture may be considered barriers to innovative learning (Tondeur et al., 2017). Zahed-Babelan et al. (2019) stated that such barriers are eliminated: "By assisting

teachers in collaboration, instilling collective leadership, and communicating a shared vision, the principals can contribute to developing a positive and participatory school culture" (p. 138). Kim et al. (2021) expressed similar findings, claiming that teachers need to feel competent and autonomous. To accomplish this, policies must be created involving the inclusion of teachers in decision-making regarding technology education. Teacher training can help educators develop routines to reintegrate students into an in-person learning environment (Ponce et al., 2023) and ideas to motivate student learning.

Student Motivation and Learning Outcomes

Many studies have found that technology education, including online learning, can assist in students' academic success and support the retention of learning (Simamora, 2020). Researchers have studied the idea that motivation and interest lead to academic accomplishment (Sivrikaya, 2019). During COVID-19 online learning, students combated boredom (Pawlak et al., 2020), procrastination (Dautov, 2020), and a lack of focus (Chansaengsee, 2023). Pawlak et al. (2020) stated that bored students' disinterest or "under-arousal experience" (p. 498) leads to student frustration and signals a need for teachers to pursue alternative methods of instruction. New strategies can shape a more positive learning environment that better supports the retention of learning (Jackson et al., 2021), thus avoiding learning loss and improving student interest (Sloan et al., 2020).

Further, during online instruction, students who were able to connect regularly to lessons still struggled to learn. Virtual lessons, hurriedly prepared by teachers who did not always receive extensive training (Nadeem & Van Meter, 2023), were not always received by students with the proper enthusiasm to allow for the level of engagement necessary for learning (Ratten, 2023). Chansaengsee (2023) claimed that online students during COVID-19 were simply bored.

Chansaengsee (2023) found that students who experienced this boredom phenomenon suffered a lack of focus and interest, which often resulted in a negative attitude toward learning. Many distractions during virtual lessons, made possible through technology such as online games or movies, were the result of bored online students (Chansaengsee, 2023). These students missed learning opportunities while struggling with boredom and easily accessible distractions (Pawlak et al., 2020).

When considering the future of virtual education following the failure to glean needed learning during COVID-19, many scholars have found that technology education is still the answer. Li and Rutab (2023) found that despite the negative effects of COVID-19 on the mentality of students and learning, technology and innovative practices-- based on the combination of online and in-person learning—will continue to be best practices for instruction in the post-COVID era. Many researchers suggest that COVID-19 led to an emergence in technology and innovative practices (Sadjadi, 2023). Sadjadi (2023) cautioned that the use of technological innovations in learning will continue post-COVID with strong lessons and access to required information and technological tools. The planning of these lessons is dependent upon teacher and student training (Madi et al., 2023). Professional development is necessary to create and implement programs that inspire learning (Yue et al., 2023).

Many educational scholars agree that motivated students can learn no matter the learning format. According to Madi et al. (2023), some students during COVID-19 understood the need to follow lessons and improve online capabilities but lacked motivation due to distractions and the format of instruction. Students are motivated by lessons that interest them. Following COVID-19, many studies have found that students' motivation and attitudes towards online lessons led to limited learning and academic achievement (Tokan & Imakulata, 2019). The style of instruction

affected students' interest, motivation, and learning (Anwer, 2019), and during virtual instruction, students who were unmotivated did not learn as well (Gustiani, 2020). Faridah et al. (2020) found that online learning can produce positive learning outcomes for students, but motivation is needed to inspire enthusiasm towards learning. During COVID, online lessons that did not motivate students to participate did not adequately support student learning (Sandvik et al., 2023).

The successful use of technological tools was, and remains, a critical part of securing learning from students. Yet, many scholars have agreed that teacher professional development and support are key to achieving student success (Admiraal et al., 2021; Wang et al., 2021). Although most teachers received some assistance with the technical aspects of the delivery of online learning, they often lacked guidance (Sandvik et al., 2023). Teachers' attitudes toward receiving training negatively affected the achievement of students in poorer school districts (Wickham & Mullen, 2020) and rural districts (Wang et al., 2021). Teacher frustration can be alleviated through training and influence their ability to plan effectively (Nikolopoulou, 2020). Nikolopoulou (2020) found that beneficial learning outcomes result from teachers' well-trained in technological tools. Other benefits include classroom management—which includes student focus and interest in lessons and following classroom expectations (Nikolopoulou, 2020). Students' involvement and interest in teacher lessons strengthen students' motivation as well as their engagement and commitment to their education (Korpershoek et al., 2020).

Technology Education and Innovative Learning Practices

Technology integration is purported by educational scholars to be an essential innovation in education used to strengthen the process of teaching and learning (Backfisch et al., 2021). Within both online and in-person instructions are innovative teaching strategies. Strategies such

as collaborative learning and project-based learning may be used to improve classroom structure and dynamics (Chen et al., 2018). However, Chen et al. (2018) cautioned that although a more innovative methodology is preferred, integrating novel strategies in an online format may prove challenging. They stated, "Technology tools or strategies can be used to improve the effects of computer-supported collaborative learning by dealing with various challenges" (Chen et al., 2018, p. 853). Some of these challenges include low levels of sharing of ideas, guidance, feedback, peer contribution, and social interaction (Chen et al., 2018).

Virtual instruction and in-person technology education have consequently had a weak impact on instructional learning and have failed to demonstrate a true reform of educational instruction (Leahy et al., 2019). Leahy et al. (2019) studied numerous reviews of technology integration and innovative instruction, only to find that consistent integration has been unsuccessful. Despite claims of the ambiguous success of technology integrations, educational researchers insist that technology integration is the best choice for the 21st-century learner (Cheng et al., 2021). Jaiswal (2020) proclaimed that

> Implementing educational technologies in classroom teaching could offer solutions to this situation, as the free, blended learning platform provides a number of advantages for both students and educators and caters to all types of learning styles and different cognitive levels. (p.145)

For technology integration to be successful, Masullo (2017) claimed that school leaders need to set clear expectations and vision as teachers "look to an instructional leader to guide them in the implementation of these programs" (p. 57). Yet, even with strong, supportive leadership, implementation may be challenging. Powers et al. (2020) stressed that as technology is integrated into daily classroom activities, "quality internet access, computers, and related

technologies" (p. 61) are not always available to every student to complete assignments—especially in rural communities (Watson et al., 2017). Technology integration barriers are not limited to accessibility. Many educational researchers have investigated teachers' values, beliefs, and competencies as key causes of failed implementation. However, Tosuntaş et al. (2019) cautioned that technology implementation is a process with no true definition: "Due to the ever-changing nature of technology and different perspectives, it can be said that it is a process that contributes to students' learning" (p. 441).

COVID-19 and Innovative Learning Practices

The benefits of online instruction have been touted in numerous educational research studies (Almarzooq et al., 2020; Beason-Abmayr et al., 2021). The effectiveness of an online learning environment has been proven to challenge students towards better learning and provide students with a more comfortable format than traditional, teacher-centered classes (Asadi et al., 2019). Asadi et al. (2019) suggested that online learning environments afford students the opportunity to drive instruction and ask questions. Other studies have suggested that online learning, though essential to the advancement of modern student learning, is dependent upon teacher "pedagogical readiness" (Li et al., 2019, p. 501) or teacher beliefs and values. Li et al. (2019) cautioned that although online instruction may only increase in popularity because of its effectiveness and convenience, the availability of technology has not yet revealed trends in teaching practices but continues to be a subject of contention for schools throughout the U.S. Yet, in rural environments, (Whalley & Barbour, 2020) contended that new strategies to better organize online instruction are still sorely needed along with solutions to unanswered questions concerning motivation, expectations, and learning.

There are also studies that debate the pros and cons of both online and in-person instruction (Madi et al., 2023). Although in-person and online instruction have each been proven in myriad studies to be more beneficial than the other, both are still widely used in schools globally (Miller et al., 2018). Traditional in-person instruction is teacher-centered instruction that may lead to higher scores and greater knowledge (Hurlbut, 2018). Yet, online instruction has been shown to be most beneficial in numerous studies (Callister & Love, 2016). In one study, Asadi et al. (2019) found that virtual study participants outperformed their peers in traditional class settings. They stated, "Since the effect of interaction between the students and teacher on better performance and learning was shown in this study, other teachers can take into consideration the importance of interaction as well as technology for better teaching-learning process" (Asadi et al., 2019, p.135).

Within online and in-person instruction, innovative teaching strategies such as collaborative learning and project-based learning may be used to improve classroom structure and dynamics (Chen et al., 2018). However, Chen et al. (2018) cautioned that although a more innovative methodology is preferred, integrating novel strategies in an online format may prove challenging. Chen et al. (2018) stated, "Technology tools or strategies can be used to improve the effects of computer-supported collaborative learning by dealing with various challenges" (p. 853). Some of these challenges include low levels of sharing of ideas, guidance, feedback, peer contribution, and social interaction (Chen et al., 2018). Online instruction and in-person technology education have consequently had a weak impact on instructional learning and have failed to demonstrate a true reform of educational instruction (Leahy et al., 2019). Leahy et al. (2019) studied numerous reviews of technology integration and innovative instruction, only to find that consistent integration has been unsuccessful. Some researchers have consequently

suggested the technology be simply used as a supplement to traditional instruction (Veneri & Zdanis, 2018).

More recent research conducted claimed that online learning during COVID-19 has demonstrated a need to expand the use of educational technology and professional development for teachers (Chiu et al., 2021). Chiu et al. (2021) found that the shift from the traditional classroom to virtual learning forced teachers to expand their expertise. The transition to online was difficult as teachers lacked the required knowledge and experience (Santamaría et al., 2021). Gustiani (2020) found that some teachers were not "computer savvy" (p. 28) making them feel incompetent. Madi et al. (2023) said that when teachers are trained in virtual learning, students' efficacy increases.

Summary

The purpose of this phenomenological study was to understand the lived experiences of rural, secondary teachers in Southwest Virginia during post-COVID-19. Currently, teachers all over the world are trying to mitigate learning loss suffered by many students because of the mandatory suspension of in-person learning. The focus of the study related to the methods teachers used to identify learning loss or gaps in learning; and determine the best strategies to recoup lost learning.

The theoretical framework guiding this study was the constructivist learning theory. The constructivist learning theory supports the concept that learning is an individualized process where the students make sense of their learning based on their own experiences (Feyzi Behnagh & Yasrebi, 2020). Papert (1993) theorized that students use tools and manipulatives to assist in their learning. These tools may include materials for student-centered projects and computer operating systems that encourage self-directed learning (Feyzi Behnagh & Yasrebi, 2020). A

constructivist learning environment requires teachers to reshape their curriculum, yet again to accommodate various learning environments while being sensitive to the learning style and interpretation of individual learners (Sharkey & Gash, 2020). As teachers seek to overcome learning losses, the constructivist learning environment may assist in re-establishing learning and motivation (Banihashem et al., 2021; Ma et al., 2023; Martín-Cuadrado et al., 2021).

Much research has been done concerning post-COVID learning loss. The most recent studies on learning loss have sought to answer many questions, including causes of learning loss (Kertih et al., 2023; Khan & Ahmed, 2021; Shen & Hannum, 2023; Vasquez et al., 2023) and how to mitigate post-COVID learning loss (Conto et al., 2021; Junaidi & Liza, 2023; Sahlan et al., 2022). The gap in this literature concerned the perspective of rural, secondary teachers experiencing post-COVID learning loss. There was a need to research the lived experiences of rural, secondary teachers in Southwest Virginia as they found best practices to retrieve lost learning while maintaining innovative instructional practices and overcoming education inequities in a small, rural setting. The result of this study contributes to the recognition of learning loss in rural, secondary students and the identification of methods to repair learning loss.

CHAPTER THREE: METHODS

Overview

The purpose of the study was to investigate the lived experiences of rural, secondary teachers during the post-COVID era, as they restructure innovative and effective teaching practices while overcoming lingering learning loss. Using a phenomenological research design, I interviewed teachers and collected data to understand what factors teachers report as relevant to their experiences. Data was collected through individual interviews, focus groups, and a journal prompt. Chapter three includes the following: research design, research questions, site and participants, research positionality, procedures, data collection plan, trustworthiness, and summary.

Research Design

For this study, a qualitative method was selected to best examine and understand the problem teachers face while restructuring innovative education methodologies post-COVID. A qualitative method allowed me to explore subjectively and develop bonds with participants (Alase, 2017). During the COVID-19 pandemic, teachers were forced to design curricula to fit an online format following the suspension of in-person learning. These lessons were to incorporate innovative, educational technologies (Martin-Cuadrado et al., 2021). Despite this, many educators found that alternative instruction (i.e., paper copies) was necessary to circumvent technical barriers to maintain minimal educational consistency with students (Kyne & Thompson, 2020).

Post-COVID educators are tasked with the recovery of educational standards and the mitigation of learning loss. To gain the trust of teachers who have endured such difficulty, the research design chosen for this study was phenomenological. A phenomenological approach

gave me the opportunity and the time to closely examine the lived experiences of teachers (De Felice & Janesick, 2015). Additionally, a phenomenological research design allowed for the close examination of this phenomenon and allowed for the researcher's opinion to be a relevant part of the study's data interpretation (Kafle, 2013) and "interpret the 'texts' of life" (Creswell & Poth, 2018).

Specifically, transcendental phenomenology is "focused on the subjective experience of individuals and groups" (Kafle, 2013). German philosopher Edmund Husserl (1859-1938) is credited with the development of transcendental phenomenology where the researcher reveals details of the lived experiences of participants to gain meaning and understanding of the studied phenomenon (Laverty, 2003). Husserl (2012) explained that phenomenology is relative to nature and, therefore, must be free of assumptions.

The phenomenological design was an appropriate way for me to approach participating teachers with whom I work. I conducted in-depth interviews and attempted to grasp "the meanings that life experiences hold for the interviewees" (DiCiocco-Bloom & Crabtree, 2006, p. 316) as I bracketed my own experiences to transcend my own understanding (Valentine et al., 2018). As in any phenomenological study, the interview is critical. Friesen et al. (2012) described a phenomenological interview as "ultimately an attentive, unchained wandering into the soul of the question" (p. 13), where participants should feel unfettered by time restraints or formalities.

Research Questions

Central Research Question

What are the lived experiences of rural, secondary teachers and post-COVID-19 learning loss?

Sub-Question One

What are the lived experiences of rural, secondary teachers with student progress during post-COVID-19?

Sub-Question Two

What are the lived experiences of rural, secondary teachers using innovative methods to overcome learning loss?

Sub-Question Three

What are the lived experiences of rural, secondary teachers with internal and external support to help overcome learning loss?

Setting and Participants

The study focused on a rural school district in Southwest Virginia. In this setting, students are encouraged to consider alternatives to future occupations most prevalent in this rural setting. Participants for this study were recruited from the teaching staff within this school district through an email to gauge interest in speaking about their experiences with virtual instruction and the return to in-person instruction post-COVID. This setting was selected for its historical difficulties with digital gaps and educational passivity from students and the surrounding community.

Setting

The setting of this study was in Southwest Virginia. This area of Southwest Virginia includes a total population of 9, 811, and specifically, 49.3% white, 39.4% Black, and 4% Hispanic. 14% of the county population have college degrees, and 73% have high school diplomas. The median household income is $9,286.

Specifically, the Witherspoon County School District (pseudonym) in Southwest Virginia was the focal setting of the study. The Whitherspoon County School District is a rural district with one primary, middle, and high school. Each school has a principal and assistant principal. All curricular decisions are determined by the curriculum director, superintendent, and assistant superintendent. Each department within the schools has a department head responsible for meeting with building principals and disseminating information to classroom teachers. Additionally, 27% of students have no internet access, 60% of students are proficient in math, 73% are proficient in reading, and 65.3% of students receive free or reduced lunch. Lastly, there are 1, 366 students in the district with a 14 to 1 teacher/student ratio.

This site was selected for its unique central location to larger rural schools that have the advantage of industry and housing to support local inhabitants. The site in this study is classified as a "village" in that it lacks any major industry—outside of farmland and its productions—and has limited housing. Consequently, many students are often forced to relocate as parents seek housing and job opportunities during the school year. As a result, student enrollment fluctuates throughout the school year.

Recruitment Plan

The sample pool for this study was from the secondary -level faculty of the study's school district (Hatch, 2023). The sample size for this study was 12 teachers (Hennink & Kaiser, 2022). Teachers were recruited through their experiences with the phenomenon. Participants were selected through convenience and purposive sampling. Giving the nature of the study, convenience and purposive samples were appropriate (Obilor, 2023). The pool of teachers were my co-workers who qualified for this phenomenological study by having taught through COVID-19 school closures and post-COVID. Teachers who agreed to participate received

consent forms and interview guides which detailed the process and informed them of the use of pseudonyms and procedures used throughout the study to maintain the security of the data.

Participants

Participants selected for this study had between five-25 years of teaching experience at this specific location. Each participant experienced the phenomenon of using a virtual format for instruction during the 2020-2021 school year and for continuing instruction as students returned to in-person instruction. Twelve male and female teachers between the ages of 25-60 participated. The sample included both general and special education instructors and English, math, science, history, and foreign language teachers. Teacher races included Black and White.

Researcher's Positionality

The motivation for conducting this study stemmed from a need to better understand the experiences of teachers who transformed their curricula to virtual during the COVID-19 pandemic and their lived experiences with combating learning loss post-COVID. My observations of students' struggle to adapt to on-level curriculum demands upon returning to in-person instruction motivated an interest in exploring the experiences of educators and learning loss in a small, rural community. I am from this community in Southwest Virginia and wanted to better understand the process of assisting students in the school district and others through this study's findings. I admit to certain biases concerning rural students and my fellow educators. Yet, these biases were managed through bracketing constructs that helped ensure objectivity (Thomas & Sohn, 2023) while simultaneously revealing the subjectivity that, once identified, was set aside (Dörfler & Stierand, 2021).

Through the constructivist research paradigm, I examined the complexity of relationships and beliefs and their effects on students' achievement—as well as teachers' interest

in altering their behaviors to satisfy the needs of students and the demands of the administration. The goal of the study then was to reveal and understand the lived experiences of participants and how their training, interactions, interpretations, beliefs, and experiences relate to students' interests and achievements. The philosophical assumptions ontological, epistemological, and axiological guided this study by examining the multiple experiences, beliefs, and values of participants that relate to this phenomenon.

Interpretive Framework

This study was conducted in a constructivist framework. A constructivist lens enabled me to guide the study towards examining how post-COVID instructors intended to re-establish innovative, technology-rich learning environments following the inconsistency of virtual learning constructs utilized during the pandemic.

Philosophical Assumptions

The philosophical assumptions in my study included to better portraying my philosophy as related to the education and innovative progression of students of small, rural schools like the school district in this study. My philosophical assumptions were therefore shared to clarify my own views along with the varied realities and experiences of participants revealed through the sharing of their personal and professional perspectives. I saw my position in this study as a phenomenological researcher able to achieve introspection and self-reflection (Pool, 2018) to capture the experiences (Frechette et al., 2020) that participants shared.

Ontological Assumption

The ontological assumption involved my belief that there is a singular reality. I have always believed that honest communication is the key in understanding the perspective of others and sharing one's personal recognition of a singular reality. With this understanding comes the

ability to bring others together under one true reality. Understanding my role as a human observer of the world and being able to reflect on what is shared (Bouzanis, 2017) is crucial to my ability to navigate aspects of a world that may be structured contrary to my beliefs. In education, the confusion with and separations of educational philosophies in this small community may be reconciled through the understanding of both teacher experiences and the plights often inherent in small, poor communities. The constructivist approach that was used in this study sought to understand rural teachers' interactions as they worked with students, parents, and administrators to reconstruct and improve upon innovative practices established before the COVID-19 pandemic.

Epistemological Assumption

Although I am an educator, an unbiased perspective was plausible as the objective of this study was to relate and understand the experiences of teachers within this specific school district. The teacher participants each had experienced instructing during COVID-19 and post-COVID. My goal was to establish truth as seen by each participant and to ascertain their understanding of the phenomenon. Constructivism and phenomenology revealed subjective experiences (Wilkinson & Hanna, 2016) through in-depth conversations with study participants about their current post-COVID reality and how it effects to the community as well as the internal and external workings of this rural school district and its teachers.

Axiological Assumption

The axiological assumption described here must include my own values and how those of my participants may be similar. However, any similarities did not dictate my findings but served as a contribution in the synthesis of my work (Kelly et al., 2018). I do believe that students in any community—be it the urban school districts or the poorer, rural schools—should have access

to the most innovative tools available. I am a veteran teacher from a similar rural community and possess knowledge, perspectives, and insights teachers not raised in this type of community would find unfamiliar or unsupportable. I am a product of an extensive line of rural educators and have come to understand both the importance of a good education to the poorest of rural students and the need for a strong belief system made up of faith, hard work, and prayer. Consequently, I had definite ideas about the subject of this study and the challenges of teaching in a rural school district post-COVID. The goal, however, was to reveal these varied perspectives and reactions to similar experiences.

Researcher's Role

My role as a researcher throughout this phenomenological study was as the collector of stories from participants who have experienced mandatory virtual instruction during the COVID-19 pandemic in a rural, secondary school. Through this study, I was a human instrument to research the findings through interviews (Peredaryeko & Krauss, 2015). As the interviewer, I was a tool within my own research (Thomas, 2021) and am a member of the population that was studied. As an educator, the participants were my peers and saw me as a fellow teacher, not as just an observer. Therefore, I identified any biases and implemented a bracketing methodological device to further validate this phenomenological study (Chan et al., 2013). The phenomenological interviews allowed participants to share their experiences with no lead-ins or encouragement aside from the original interview questions to achieve novel understanding (Frechette et al., 2020). Data was collected from these interactions and analyzed solely based on individual participants' responses. From the responses, I developed specific themes that helped shape a commonality within the participants' experiences.

Procedures

Prior to collecting any data and initiating contact with potential participants, I received approval from the Institutional Review Board (IRB) at Liberty University. Before data collection, it was necessary to secure site permission from the school district (See Appendix B). Following IRB and school district approval, I consulted with the schools' principals. I then disseminated the recruitment email to potential participants (See Appendix C) and consent forms (See Appendix D).

Interview questions (See Appendix F), focus group questions (See Appendix G), and a journal prompt (See Appendix H) were reviewed and approved by my dissertation chair and committee member. After the participants consented, interview times were scheduled (See Appendix H). Participants were sent an interview guide (See Appendix E) prior to their scheduled interview time. The interviews were recorded using Google Meet or applications on my iPhone, such as Voice Recorder and Transcribe. All collected data were stored in a password-protected external USB drive. After all interviews, all transcripts were downloaded and saved to the same external USB drive. Transcripts were sent to participants via email so that they could edit and revise their experiences with the study's phenomenon. Once participants reviewed their transcripts, the data was analyzed using horizontalized information to develop themes into "textural descriptions of the experience" (Moustakas, 1994, p. 118).

Data Collection Plan

Established qualitative researchers have conceded that the findings in qualitative research can be in doubt despite rigorous data collection (Patton, 1999). To strengthen the validity of this study, participants were given the opportunity to share their experiences in three ways. First was the individual interview. Once the participants were selected, they were contacted via email, then

individual interviews were scheduled. Interviews took place in-person. Following the development of themes through the analysis of the data, a focus group was formed with additional questions prompting teachers to share in this forum. The focus groups were held digitally through *Google Meet*. Finally, journal prompt data was applied as participants were given a writing prompt. The prompt was designed to give participants a third opportunity to share their experiences with learning loss.

Individual Interviews

Individual semi-structured interviews have been described as informative conversations between two parties or a forum where the interviewees are invited to "open up and talk" (Creswell & Poth, 2018, p. 164). In this study, data were collected from participants in face-to-face or virtual interviews. Face-to-face interviews were held in the teacher's classroom or teacher's lounge. Face-to-face interviews were recorded audibly using the *Voice Recorder* app. Interviews were scheduled based on participants' availability. Initial questions were designed to build a rapport and put participants at ease.

Table 1

Individual Interview Questions

1. Please tell me about yourself and how you got into teaching. CRQ
2. How would you describe your teaching style? CRQ
3. What was your experience with teaching online during COVID-19 school closures? CRQ
4. What did you experience once students transitioned back to in-person learning? CRQ
5. What did you notice in your students' learning post-COVID, as opposed to pre-Covid? SQ1
6. What are some key changes in teaching practices that you have made post-COVID? SQ1

7. What instructional methodologies do you utilize in your classroom? SQ2
8. What strategies have met with the most success? SQ2
9. What educational strategies were used for in-person classroom instruction? SQ2
10. What types of educational technology are used daily within your lessons? SQ2
11. What types of technological professional development training have you recently received that was beneficial to your instruction? SQ3
12. What are some of the challenges that rural teachers encounter with learning loss? CRQ
13. Please describe how the lack of internet access affects your students. CRQ, SQ3
14. What methods of instruction are used for students without internet access? SQ2
15. What gaps and loss of knowledge have been evident since the return to in-person learning? CRQ
16. How have you altered your curriculum to support students' loss of learning? SQ2
17. What alternative instructional techniques work best with students who have demonstrated learning loss? What successes were you able to document? CRQ
18. How have you dealt with student motivation in your classroom? SQ2
19. What experiences have you had with parental support of students with learning loss or lack of motivation? SQ3
20. What innovative lessons have you found to motivate your students most, and why were they successful? SQ1, SQ2

Qualitative interviews are designed to help the researcher understand a specific human behavior and offer meaning based on participant responses (Rossetto, 2014). The interview questions were based on the central question and sub-questions of this study. These questions were designed to expand the concept quarried in research questions and allowed for a broader

array of responses as experiences that have enough in common to develop into themes after all data sources are completed. Questions 1 and 2 gave participants the opportunity to introduce themselves and share personal information, professional teaching history, and philosophies. Questions 3 through 5 asked participants about their experience with online and in-person learning. Questions 6 through 9 asked about instructional strategies, while questions 10 and 11 asked about technology education. Questions 12-14 asked participants about their experiences with teaching in a rural school district. Questions 15, 16, and 17 directly asked about learning loss, while 18-20 inquired about student motivation.

Individual Interview Data Analysis

I followed Moustakas' (1994) method of phenomenological reduction to analyze data from individual interviews. The first step in the phenomenological data analysis is the achievement of epoché (Moustakas, 1994). This means that my biases and opinions present before the study were disregarded. Epoché was achieved through reflection and introspection that allowed me to become aware of my preconceptions and then empty them from my mind to my satisfaction (Moustakas, 1994). Epoché was engaged during individual interviews to separate my experiences from those of my study participants. Interviews were conducted face-to-face.

The data analysis plan for the individual interviews began with the review of interview transcripts. The transcriptions were done automatically through applications such as *Voice Recorder* or *Transcribe*. I uploaded transcripts and reviewed each individual response for accuracy, ensuring that the recordings were transcribed verbatim. Interview transcripts were emailed to participants to ensure accuracy through member checking. The transcripts were then horizontalized to identify relevant statements. Significant statements were then reduced to eliminate irrelevant statements that were not germane to the research. This statement of meaning

was then clustered into common themes. The commonality of these themes strengthened the validity of the study and produced reliable research results. The analytic processes, including categorizing and detecting patterns (Wicks, 2017) and coding the terminology to recognize themes and patterns, were utilized. Coding is one of the ways to analyze qualitative data (Saldaña, 2015). Coding in a phenomenological study may include significant statements and structural and textual descriptions (Creswell & Poth, 2018). I read the interview transcripts several times to familiarize myself with the data. From there, I identified codes. The codes were then developed into themes that revealed the essence of this phenomenon.

Focus Groups

The focus groups provided the opportunity to discuss key questions and themes formed from the analysis of documents provided by the teachers (Colucci, 2007). The interactions between participants were held on *Google Meet*. Two focus groups met based on availability. The focus groups were formed based on similarities in themes derived from individual interviews. In the focus groups, teachers shared experiences, elaborated on developed themes, and provided a more complex meaning to data formed from individual interviews and documents (Bevan, 2014). Through interviews, focus groups, and a journal prompt, common themes were identified throughout the data collection process. From these themes, a structural description of the shared phenomenon was developed. Focus group discussions began with open-ended questions (Appendix G) for a reflective and comparative analysis (Colucci, 2007).

Table 2

Focus Group Questions

1. What aspects of learning loss have become evident during this school year? CRQ
2. What techniques were used to communicate lessons and expectations to students? SQ2
3. What methods worked best with students post-COVID? What methods were not as successful? Why? CRQ, SQ1
4. How did some of the more innovative strategies fail? How were they successful? SQ2
5. How were parents involved in the success of students' virtual lessons? In current in-person lessons? SQ2, SQ3
6. What knowledge have you gained from virtual instruction, and what would you suggest for future virtual usages? CRQ, SQ2

Focus group questions can "help focus the group's attention on the core study topic and also make subsequent comparative analysis more straightforward" (Colucci, 2007, p. 1422). The questions for the focus group were developed from the documents shared by participating teachers. Each question was intended to encourage a fluid conversation between participants. The focus group questions were designed to give the opportunity to expand on their experiences and share more detailed responses. Question 1 asked directly about the phenomenon of learning loss and was used to give participants the chance to express various observations that were sparked by the experiences of others in the focus group. Questions 2 and 3 asked about what teaching strategies were increasingly successful. These questions gave participants the opportunity to reflect on what strategies worked best to mitigate learning loss. Questions 4 and 6 gathered information on the usage of educational technology. Question 5 concerned the level of

parental involvement.

Focus Group Data Analysis

Epoché is an "unfettered state" (Moustakas, 1994, p. 85) that requires that researchers allow a phenomenon to be realized and it is revealed (Moustakas, 1994). Following epoché, I conducted focus group interviews. Focus group questions were intended for all participants and not just individuals. Each focus group had multiple participants and was held through *Google Meet.* Following the focus group interviews, I listened to the recordings to compare them with the transcripts. The focus group interview transcripts were organized through horizontalizing. Relevant statements were reduced and then clustered into common themes (Moustakas, 1994). Next, I described the textual language by analyzing the data and then repeated the process to see the data from varied angles (Moustakas, 1994).

Information was triangulated with the themes derived from individual interviews, focus groups, and journal prompt. Triangulation is "a process by which the researcher can guard against the accusation that a study's findings are simply an artifact of a single method, a single source, or a single investigator's biases" (Patton, 1999, p.1189). More recent research contended that triangulation of data could "reveal a social phenomenon's complexity by providing a "fuller picture" (Jentoft & Olsen, 2019, p. 180).

Journal Prompt

Journal prompts are used in phenomenological research to inspire participants by encouraging them to elaborate on their experiences. Journaling in a phenomenological study can "record participants' experiences in their natural contexts" (Hayman et al., 2012). Participants had time to format and edit their responses. The prompt was designed to be more direct to facilitate a natural flow of information (Collado-Boira et al., 2020) and encourage responses that

were more specific. The first part of the question was about online instruction and technology education. The last part of the prompt concerned the transition back to in-person learning and post-COVID learning in a rural setting.

The journal prompt was as follows: *Share your opinion about your technology preparedness for online learning during COVID-19 and challenges with technology education, student motivation, and learning loss in a rural school district post-COVID-19. CRQ, SQ2.* The prompt gave participants the opportunity to clarify their interview and focus group responses. The prompt also provided a deeper description of the phenomenon.

Journal Prompt Data Analysis

The journal prompt was designed to verify the data from the individual and focus group interviews and was emailed to participants. For this study, a journal prompt was provided to participants following the individual interviews to deepen the understanding of themes revealed during the initial interviews. The prompt was answered privately by individual participants. Participants submitted responses via email within a two-week period. Once the journal responses were returned, the reflections of the participants were read and compiled with data from the individual interviews and focus groups. Following Moustakas' (1994) phenomenological reduction, I achieved epoché and reviewed the prompt responses from an objective perspective. The journal responses were analyzed, and horizontalizing was used to remove statements that were irrelevant, repetitive, or vague (Moustakas, 1994). The statements were reduced and clustered into themes that were used to develop textual descriptions that revealed each participant's experience with the phenomenon.

Data Analysis

The three sources of evidence were analyzed for common themes. All three sets of data were synthesized to develop themes common to all three sources of evidence. The commonality of these themes strengthened the validity of the study and produced reliable research results. Themes and patterns were recognized through the analytic processes, including categorizing and detecting patterns (Wicks, 2017) and coding the terminology. Coding is one of the ways to analyze qualitative data (Saldaña, 2015). Specifically, coding in a phenomenological study included significant statements and structural and textual descriptions (Creswell & Poth, 2018). Saldaña (2015) explained that "a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (p. 3). Researchers must analyze the data to link the specific wording or phrases to a specified meaning.

Trustworthiness

Remaining consistent with the phenomenological method, particularly throughout the interviewing processes, can increase trustworthiness (Bevan, 2014). Trustworthiness means that the information in this study is both credible and confirmable. Similar studies have used individual interviews and documents to support the existence of the experienced phenomenon, although phenomenological studies have been accused of producing unreliable and subjective data results that lack rigor (Marques & McCall, 2005). This study utilized horizontalizing to support and validate findings to make transferability possible.

Credibility

Researchers strengthen their credibility by describing their research experience and verifying their findings with participants (Cope, 2014). The feasibility and consistent themes

throughout add to, but do not completely establish, credibility. Credibility is established as the researcher allows the participant to share their experiences with the phenomenon naturally, not manipulated to establish an indisputable truth. I ensured credibility through triangulation and member checking. Member checking requires the participants to be privy to the data and its analysis and interpretation to maintain validity (Creswell & Miller, 2000). Additionally, credibility is achieved with open-ended questions that offer the participants the opportunity to share information without restrictions. Interviews in this study were recorded and kept securely and privately. Transcripts from interviews were shared with participants who validated the transcription's accuracy. The three data sources were used and triangulated to arrive at a main set of themes to strengthen credibility.

Transferability

Transferability was achieved through the accurate description and accurately interpreted through thick description (Ponterotto, 2006). The conditions for transferability were established in this study by describing the processes and methods thoroughly. The transferability is subjective and dependent on those who read this study. However, I established transferability through thick descriptions of the interview processes and the participants' experiences so that this study may be recreated in another rural school district.

Dependability

Dependability in a qualitative study allows other researchers to follow the research process. Studies that lack dependability may be rejected (Boucerredj & Debbache, 2018). Dependability is accomplished through an inquiry audit, which at Liberty University occurs with a thorough review of the process and the products of the research by the dissertation committee and the Qualitative Director. The methods in this study can be duplicated. The three data sources

are replicable in that the interviews and focus groups can be done in another study. However, the circumstances which the study investigates may be unique to poorer, rural school districts. For this study, dependability was established by ensuring the accuracy of the data through extensive notetaking and record-keeping of interactions with participants. This is how my data was triangulated, as well as how I arrived at the primary themes that describe the study's phenomenon.

Confirmability

Confirmability is the degree to which a researcher demonstrates that findings are reflective of the participants' thoughts and experiences and not a biased interpretation (Lincoln & Guba, 1982). I ensured confirmability by conducting confirmability audits and triangulation. This means that I described each step of data analysis and portrayed participants' responses accurately. Additionally, confirmability in this study was achieved through briefing after the data was collected and analyzed, along with peer review, to combat bias and strengthen the study's development and later confirmability (Morse, 2015). The various data collection methods used in this study allowed for triangulation. All materials used to collect the data, including transcripts, audio recordings, and prompt responses, confirmed the validity of the findings.

Ethical Considerations

Prior to collecting data, permission from the school district was obtained. After obtaining permission, the school principal was given the details of the study. After participants expressed interest in participating in the study, informed consent was sent via email along with an interview overview sheet. Other ethical considerations were given towards the protection of participants' identities through pseudonyms. Electronic transcriptions were stored on a USB drive protected by a password. Any paper documents collected were secured in a locked cabinet. Potential

conflicts of interest were controlled through limited sharing of my own experiences to minimize my personal influence on data results. Both negative and positive findings were used as part of this study.

Permissions

After determining the feasibility of the study site, I submitted the IRB application. Upon approval, the IRB approval letter (See Appendix A) was referenced in this section along with site permission (see Appendix B). Once the permission and approval were given, the data collection began.

Other Participant Protections

Participants were informed that participation in this study was completely voluntary. Those who chose to take part in this study were notified that they could withdraw from the study at any time. Confidentiality of the study site and participants was ensured through pseudonyms. Any data collected was stored in a password-protected electronic file throughout the study and will be stored for three years following the end of this study. Any risks in this study were minimized through the confidentiality and electronic storage of data. However, the benefits included an understanding of the shared phenomenon.

Summary

Chapter three includes the procedures and research design of this qualitative phenomenological study. The phenomenological approach allowed for an in-depth description of the study's phenomenon. Data were collected through interviews, focus groups, and a journal prompt. Interviews and all data collected were confidential, and ethical consideration was observed. The data collection methods offered detailed descriptions of participants' experiences

with this phenomenon. Transcripts from interviews, focus groups, and journal prompt responses were analyzed to find common themes triangulated to accurately describe the phenomenon.

CHAPTER FOUR: FINDINGS

Overview

This phenomenological study's purpose was to understand the lived experiences of rural secondary teachers experiencing student post-COVID learning losses. This study was examined through the constructivist learning theory (Papert, 1993). Richly detailed narratives and tables were used to best describe participants and explain learning loss. Through phenomenological reduction, data was organized into themes and subthemes. Tables throughout this chapter outline the contributions of participants of this study. The conclusion of chapter four answers the central research question and sub-questions of this study.

Participants

Participants were chosen for both their convenience and experience with instruction during post-COVID and post-COVID eras. Teacher participation was voluntary. All 12 participants were recruited via email. All participants taught within the same rural school district and had at least eight years of teaching experience. Seven of the teachers taught exclusively within the school district. Three participants had taught in other rural school districts. Three had taught in at least one private school at some point in their teaching careers. One participant had both administrative and classroom instruction duties. Ten participants tutored in their regular or varied content areas after-school. Only two of the participants lived in the county of the study's school district. See details of the teachers in Table 3 below:

Table 3

Teacher Participants

Teacher Participants	Years Taught	Race	Highest Degree Earned	Content Area	Grade Level
Jeanine	16	White	Master's	English	12
DeAundra	13	Black	Doctorate	SPED	9-11
Heather	15	White	Master's	English	9
Brian	18	White	Bachelor's	English	10
Joshua	26	White	Master's	Math	10-12
Melvin	12	White	Bachelor's	Foreign Language	10-12
Chris	8	White	Master's	Science	10
Veronica	19	Black	Master's	Language Arts	6
Carla	20	Black	Doctorate	SPED	9-12
Michael	17	White	Bachelor's	History	10-12
Gregory	25	White	Doctorate	English	7
Cindy	17	White	Bachelor's	Science	6

Jeanine

Jeanine currently works as a full-time English teacher. She teaches both regular and dual enrollment (DE) classes (a partnership program with a local community college for college credit). Jeanine has a bachelor's degree in English and a master's in English with a creative writing concentration. She is certified in English education 6-12. Jeanine is married with two children and is from another rural county in Virginia. Jeanine's husband (Brian) serves as the English department chair. She has taught in both private and public schools. Her teaching style is based on providing one-on-one instruction and feedback daily. She stated, "In my classroom, I

make it a point to talk to everybody." Jeanine's post-COVID experiences included learning losses that stemmed from the digital disparities that lead students to feel "isolated." According to Jeanine, this sense of isolation affected both the students' confidence and socialization. She said, "I think that they are timid-er in asking questions and almost aloof about how they feel about school."

DeAundra

DeAundra is currently the inclusion co-teacher for English classes. She also works as an adjunct professor at a local university instructing master's-level coursework. DeAundra is a 13-year teacher with a BA in Special Education, an MA in Teaching Special Education, and an Ed. D in Educational Leadership. DeAundra's teaching license is in special education. She is married with three children and lives in a neighboring county where her children attend school. According to DeAundra, her teaching style is to appeal to students' interests to build rapport. DeAundra believed that her students work best in collaboration through "discussions, games, and blended learning." She discussed that the strongest evidence of learning loss is evident through gaps in reading and writing. DeAundra stressed that this learning loss is generation and culture that was compounded by the COVID pandemic. She said, "It's an ongoing cycle."

Heather

Heather is a 16-year teacher who instructs ninth-grade English during the regular school day and after school three days a week. She has a BA in English and an MA in English, Education, and Writing. Heather is married with one child and lives in a neighboring county. She originates from a rural county in Virginia, where she attended private school. Heather began her teaching career at the middle-school level but prefers working with high school students. She admitted that she "loves connecting with students." She commented, "I try to find something that

connects us to help them know I'm not just a teacher, but a person trying to help them get through." Heather shared that forging a connection is a key component of her overall teaching philosophy. Post-COVID, Heather said that she has noticed that reading and writing are "very low." She said, "We're having to start with basic sentences–capital letters and punctuation marks."

Brian

Brian has been teaching for 18 years. Currently, he teaches 10th grade English. Brian's responsibilities include the English Department head, where he collects testing data for all English classes and reports to the School Leadership Team committee. Brian has a BA in English with a minor in communication. He is married with two children who both attend school in this school district. Brian's wife (Jeanine) also works in the high school's English Department. Brian hails from a neighboring rural county where he attended high school and the local university. He revealed that he has wanted to teach since the eighth grade and described himself as a "total facilitator" in the classroom. Brian commented, "I like to give the kids all the tools that they need and go through stuff with them." According to Brian, learning loss has always existed for his students. He said, "There's always gaps in knowledge that kids have. COVID did seem to exacerbate, making it so that kids who were missing things were missing more."

Joshua

Joshua is a native of Whitherspoon County, attended a private school in the neighboring county, and concluded his education at a local university. He began his post-secondary studies in business, but his "favorite professor of all times" inspired Joshua to change his major to mathematics. Joshua has a BS in mathematics and an MS in Educational Leadership. Joshua is divorced with two adult daughters who both graduated from this school system. He has been

teaching in this same school district for the past 25 years. Joshua said that his teaching style is "a mixture between old school and new school." He explained that he uses a "skill and drill" technique that incorporates lectures, technology, and group work. Joshua said that his post-COVID students lack motivation. He expressed, 'They're just totally different kids, and the motivation for them to do work just definitely has not gotten back to where it was before COVID." He added that students "lack prerequisite skills" for the more advanced math classes.

Melvin

Melvin teaches foreign languages and has been teaching in this county for 12 years. Melvin is from a rural county in West Virginia and said that he originally wanted to be an art teacher, but after taking a high school German class, he changed his career trajectory. He lives in a neighboring rural county and is single. Melvin considers himself a "fairly laid-back" teacher. He said, "I'm not pushy about certain things, but I have high expectations for the students." He describes his post-COVID students as "needy" and disinterested in learning. Melvin said that it is not a question of learning loss but an unwillingness to try. He commented, "I don't think it's that they don't know how to do it; it's that they don't want to try to do it."

Chris

Chris has been teaching science at the secondary level for eight years. He said that when he was a child, he would always play school with his little brother and "make him do work." Years later, Chris did his student teaching at this rural school and was hired soon after his graduation from a local university, where he earned both a BA and an MS in Biology. He revealed, "When all my other friends were scrambling to have interviews and find places to teach, I already had a job secured, and I've been here ever since." Chris is single and lives in the suburbs of a major city west of the school district. Currently, Chris teaches 10th-grade science

and is a biology adjunct at a community college. Chris described his teaching style as a mix between teacher and student-centered. He said, “I think that it’s important to make sure that students are shown how to do different things and that they have notes and information, but then they’re able to turn around and kind of do it on their own.” Chris said that in his post-COVID science classroom, students are missing foundational skills needed for high school sciences. He stated, “I think some of the prior knowledge or prior content that we usually were used to students having when they came up is missing.”

Veronica

Veronica is a native of a neighboring rural county and has been teaching in this school district for 19 years. She has taught at both the primary and secondary levels. Veronica has a BS in Liberal Studies and two master’s degrees–one in Curriculum and Instruction and the other in Administration and Supervision. She said that she was inspired to teach by her mother, who was denied education due to the closure of the county's public schools during integration. She expressed, ‘My desire to teach was to help students learn because she could not.” Currently, Veronica teaches sixth-grade English and considers her teaching style to be “flexible, not traditional.” Veronica revealed, “I move based on my students’ needs, do I tend to adapt.” Veronica is engaged and has one child who attends the district’s elementary school. She lives in a neighboring rural county. Post-COVID, Veronica has noticed “a severe lack of students wanting to work independently” and that they lack basic writing skills. She said, “We’re seeing kids come from fifth grade not having those skills, so they are expected to learn sixth-grade material, but they’re missing very foundational skills.”

Carla

Carla has been a special education teacher for 20 years. Prior to being an educator, Carla was a recreational therapist. She changed professions, inspired by a friend. Carla exclaimed, "I got into special education and have no regrets. I love it!" Carla has a BS in Therapeutic Recreation, an MA in Special Education, and an Ed.D. in Leadership and Management. Carla is married with two children and lives in a neighboring rural county. Currently, Carla is the special education master teacher for the high school. In instruction, Carla said that she prefers a "hands-on approach." Post-COVID, she said that she has noticed that "there was some regression of skills that they had learned prior to COVID (and) the closing (of) schools." To encourage student engagement and learning, Carla stated she uses small groups and pull-out instruction tailored to whatever students' areas of weakness to "try to catch them up."

Michael

Michael has been teaching history for 17 years. He began teaching for his love the "story-telling aspect" of history. Michael has a BA in History and Secondary Education. He is from a military family that moved around frequently, offering him broad educational experience. Yet, he said that he loves teaching at a small, rural school. He stated, "I love the student population. I love the community feel. That's what kind of brought me into teaching and what brought me here." Michael is married with one child and lives in a neighboring rural county. Currently, Michael teaches history to 10th through 12th graders. Michael said that his teaching style is structured where students understand the expectation and give them the responsibility for their learning yet offering them "some type of anchor to where they're not just overwhelmed." Michael commented that he has seen a change in students post-COVID. He claimed, "There were a lot of missed opportunities with education during that time (COVID), and I think we're seeing the results of that in terms of expectation and socialization." Michael explained that he

sees weaknesses in independent thinking and learning as students appear to lack confidence and have forgotten "how to fail and recover."

Gregory

Gregory has been teaching for 25 years and has experience instructing at both private and public schools. He has been teaching in this school district for four years and currently teaches eighth-grade English. Gregory has a BA in English, an MA in Educational Philosophy-Gifted, and a doctorate in Educational Leadership. He is married with a daughter who attends the district's elementary school. As a teacher, Gregory described himself as a lecturer who is "strict and lenient at the same time." Although he admitted that his teaching style is "always evolving," Gregory said that he prefers more traditional methods of teaching–preferring to print out assignments and using educational technology only "rarely." He said that in this rural setting where there are digital disparities, students and parents appreciate a more traditional instructional approach. Gregory added, "The responses that I've gotten have been enormous because they like that they understand it much better than they understand digital." He shared that his post-COVID students need "a lot of remediation." He said, "I would say that what my kids do in eighth grade is not normal to me–not what an eighth-grade class should be."

Cindy

Cindy is a 17-year teacher who has instructed at both private and public schools. Cindy grew up in this county and was a stay-at-home mom until all her children were school-age. She then began to pursue a degree in business but changed her major after realizing that she was a "science geek." Cindy has a BS in Liberal Studies with a minor in English Literature and is certified in Science K-6 and Social Studies 6-8. Currently, Cindy teaches sixth-grade science and describes her teaching style as "extremely interactive." She said, "I enjoy the hands-on, and I

enjoy the activity." During the COVID school closure, Cindy was teaching at a small, private school but returned to this district post-COVID as she taught science there before teaching there. She said that she noticed many differences between private and public-school students. Cindy acknowledged that her current students have several learning gaps but is not convinced that COVID-19 is a contributing factor to these learning losses. She said that students lack the ability to work independently and focus. Cindy added, "I have never seen it on this level in my entire teaching career."

Overall, this section offered detailed information through narratives and tables to help familiarize the reader with the participants. Each teacher recognized some level of learning loss still apparent in their students during the 2023-2024 school year post-COVID-19. Their reasons for the learning loss varied, but each agreed that student readiness has been affected. In Table 4, participants describe their experiences with learning loss in their own words.

Table 4

Post-COVID Learning Loss Descriptors

Participant	Description of Post-COVID Learning Loss
Jeanine	"Their soft skills, in-person conversation, advocating for themselves, being around others for long periods of time, have decreased significantly."
DeAudra	"The lack of instruction, hybrid or online, has produced learning gaps in all content areas, and we are currently trying to fill those gaps with after-school, small group, homebound, and Saturday school instruction."
Heather	"Many of my students have huge learning gaps in reading, writing, grammar, and vocabulary."
Brian	"There is a skills gap that already exists between students, often facilitated by the engagement or lack of engagement by parents and guardians."
Joshua	"Since returning to in-person instruction post-COVID, I have noticed the students I teach now are lacking many of the skills they needed from previous classes."
Melvin	"Learning loss continues to be an insurmountable challenge in the field of education as the lack of empathy, infrastructure, and expectations still makes filling vacancies, if nothing else, as a result of the negligence, a daunting task."
Chris	"I found that my students were unfocused and uninterested in learning."

Participant	Description of Post-COVID Learning Loss
Veronica	"The time apart also impeded the development of key social skills, such as conflict resolution, collaboration, and proper school behavior."
Carla	"It can be a struggle for most teachers to engage students in learning because many students have regressed in their skills because of the lack of instruction during COVID-19."
Michael	"The amount of independent problem-solving and critical thinking skills that need to be regained through practice and execution will take years to bring back to the level which we were at pre-COVID."
Gregory	"The students lost the ability to independently learn."
Cindy	"The ability to write sentences that follow simple grammar rules and make sense was much lower than I have experienced before."

Results

The purpose of this phenomenological study was to understand the lived experiences of rural, secondary teachers in Southwest Virginia with student learning loss post-COVID. The data was collected from 12 certified teachers who had taught virtually during the COVID-19 school closure and were currently teaching post-COVID. Data were collected through individual interviews, a journal prompt, and focus groups. The individual interviews were done in-person, and focus groups were conducted through *Google Meet*. Each participant responded to a prompt that was emailed to a password-protected account. The interviews were recorded on an iPhone using the *Voice Recorder* app, transcribed using the *Transcribe* app, and then downloaded to a computer. Participants were told that their responses to the individual interviews and a journal prompt would be confidential. Their responses were frank and honest as teachers shared their experiences with thoughts and feelings about the phenomenon of learning loss post-COVID. The analysis of data was done through phenomenological reduction. Personal perspectives were bracketed through epoché and separated the data into codes, themes, and sub-themes (See Table

5). Triangulation of all three data collection methods suggested validity. There was one outlier identified.

Table 5

Themes and Sub-themes

Themes	Sub-themes
Long-term Learning Loss	Missing Foundational Skills Missing Prerequisite Skills
Student Readiness	Lack of Motivation Poor Socialization
Reteaching	Tutoring One-on-One Instruction
Innovative Instructional Strategies	Educational Technology Collaborative Learning
External Factors	Parental Involvement Digital Disparities Cultural Beliefs

Long-term Learning Loss

The first theme identified in this study was learning loss. All participants agreed that learning loss permeates the academic achievement of the secondary students of this small, rural school district. Even four years after the start of the COVID-19 pandemic, participants acknowledged that learning loss is apparent. Michael stated in his journal prompt, “We are still seeing the impact of learning loss in class today.” All 12 participants offered examples of where they have identified certain levels of learning loss. However, not all participants agreed on the cause of the apparent continuation of learning loss four years after the COVID-19 school closure. Jeanine stated in her journal prompt response that “the effects of learning loss have long-term results in lower SOL and GPAs.” Many participants agreed that learning losses are evident and

believe that COVID-19 played a role in current academic disparities. Carla shared during her individual interview, “To me, it goes back to reading. We have, even from what I’ve seen, high schoolers that are reading way below grade level. I think COVID played a big part in that.”

Other participants agreed the certain skills suffered following COVID-19 but have seen improvement each year. Gregory revealed in his interview that his 8th grade English class has recouped much of their learning loss each year. He said, “If you have two, three years of learning loss, and not being active in school, yeah, your reading’s going to be behind. But if you’re a typical reader, you should be able to pull that up quickly.” However, another participant claimed that all students do not easily overcome learning loss, especially those who already have gaps in their learning. Brian revealed in his individual interview, “You know, there’s always gaps in knowledge that kids have. COVID did seem to exacerbate that made it so that the kids who were missing things were missing more.”

Participants agreed that learning loss exists at the secondary level. Several participants mentioned that foundational skills, including reading, writing, and math, are weak post-COVID. Six others discussed the effects of missing prerequisite skills, especially in math and science. Three others expressed concern for the lack of problem-solving and critical-thinking skills.

Missing Foundational Skills

Study participants revealed that much of the learning loss of students post-COVID is evident through the missing foundational skills in reading and writing. Seven study participants spoke of the demonstrations of poor reading and writing skills in all the core classes. Carla stated, “The learning had to be more intense, more involved because we did notice where kids had some regression of the skills that they had learned prior to COVID closing school.” Learning loss has been aggravated by poor reading and writing skills as it hampers students’ ability to

grasp new concepts and repair remaining learning gaps. DeAundra said in her individual interview that "the lack of being able to read and to effectively write" is evident with many of her students with services. She added, "These are two important skills that they have no ability. Even down to English 11, we've seen it." Joshua commented that many students passed to the next grade level missing many fundamental skills:

> As we continue each year post-pandemic, a recent observation I have made is that many of our students missed out on their middle school classes and, therefore, lack many of the foundational skills and knowledge that we have relied on students having in pre-pandemic. This has caused an adjustment in teaching style, pacing, and course content.

In middle school, Veronica stated that she has seen similar learning gaps in reading and writing. She commented,

> They were skills that we would expect students to come to middle school with, like sentence parts or certain phonemic awareness that students who were caught in the earlier years of COVID, we're seeing come to 5th grade not having those skills.

Cindy stated in her journal prompt, "The ability to write sentences that follow simple grammar rules and make Focus Group B." She stated simply, "They legitimately can't write a sentence, and they can't capitalize what needs to be capitalized."

Missing Prerequisite Skills

Another sub-theme that surfaced under learning loss was prerequisite skills. Four participants mentioned that some of their students lack the prerequisite skills to successfully master their current level of study. Jeanine commented:

> But most of the learning loss I see would be those soft skills that they would've had pre-pandemic from the day in day out of just being around people and learning to

> communicate and advocate for themselves. And some of the things for gap areas, these are things that sometimes teachers assume that they already know from the earlier grade levels, but they may not have received since they were learning virtually or they had a COVID experience.

Missing prerequisite skills means skills learned prior to the current school year are missing, hampering current learning and derailing curriculum pacing. Josh stated in his individual interview that many of his 10th and 11th-grade math students lack the "prerequisite skills that they need for higher-level math classes." Chris admitted that his students lack prerequisite skills in 10th-grade science. He stated in his individual interviews that "they missed out on a lot of stuff in middle school in terms of science content that is important to kind of build on the foundations for high school science that they didn't have." Participants claimed that the missing prerequisite skills added to the frustration of both students and teachers. Cindy wrote in her journal prompt response that "math skills, used in science for measurement and analyzing data were weak, even in basic skills such as addition, subtraction, and multiplication of multi-digit numbers."

Independent Problem-Solving and Critical Thinking

A few participants suggested that a byproduct of weak foundational skills is an encumbered ability to independently problem-solve, and think critically. Michael said in Focus Group B, "Now everything leans more towards direct instruction—if it's not step-by-step directions, then we have a problem. So, it's a lack of critical thinking and problem-solving." Jeanine commented in her individual interview that when some of her senior English students did independent work, "they get stuck on something, and sometimes they feel frustrated by it." The frustration can often lead to even more loss of learning. Melvin said in his interview that "all the

kids are very needy." He added in Focus Group B, "I would say that the kids were not successful unless the student is really, really great at independence. But there are few that sit under that umbrella." Chris stated during the same focus group, "So, I think overall, just a lack of independence and the ability to do many different assignments, many different activities." Chris added that he has noticed that students "have a hard time following instructions and reading procedures."

Student Readiness

The second theme revealed through the evaluation of the discussions and journals about learning loss is student readiness. Student readiness is the students' ability to perform as expected in the classroom setting. This lack of readiness impedes students' ability to learn. Study participants shared within all three data collection types that post-COVID students did not seem ready for the necessary demands and expectations of the classroom. Ten of the 12 participants revealed that students seemed unfocused, unable to multitask, and appeared apathetic or lacked confidence. Heather recognized a difference in her students during pre- and post-COVID, stating that the difference is the inability to multitask. She revealed in her individual interview that students are "okay at talking with each other and sports and whatnot, but talking academically with one another and staying focused, they just don't have these skills."

Lack of Motivation

All participants widely discussed student motivation, especially in individual interviews and focus groups. Many suggested that there has been a marked change in student motivation post-COVID. Carla conveyed, "Some of the more innovative strategies failed because of lack of student motivation. The strategies that were successful were because of the students that are committed to their learning and success post high school." Participants noted that the lack of

motivation is apparent through the quality of work and participation. Heather said, “Motivation is lacking. I feel like this year has been the worst year with motivating students.” However, according to the study participants, students display a lack of interest in lectures and discussions. Participants claimed that although some students have expressed interest in educational technology, such as gaming, most participants agreed that no one activity kept the attention and interest of all students. Joshua stated:

> I think that when students came back to in-person, they’re just totally different kids. And motivation for them to do work just definitely has not gotten back to where it was before COVID still, I don’t think.

Poor Socialization

Most teachers agreed that poor socialization plays a role in blocking student readiness. Participants told of their experiences with students unable or unwilling to work with other students. Teachers shared how students post-COVID have difficulty having a good relationship with their peers in small groups and other collaborative dynamics. Gregory said, “I notice that socialization is very difficult for them.” Many participants claimed that students’ ability to appropriately communicate has lessened to the point where some activities, such as group work or Socratic discussions, prove difficult. Cindy agreed that socialization was a problem. She stated, “the methods that you would use to teach them how to work together. I'm finding that they're not working now.” She added in her journal prompt response:

> Social or interpersonal skills are lacking in a large number of students in the following areas–politeness, good listening, following directions, respecting the personal space of others, respecting the learning of others, effective communication, conflict resolution,

persistence, communicating with others, the ability to work independently, and work ethic.

Reteaching

All 12 participants discussed reteaching as their main method of learning loss intervention. Melvin commented, “We backtrack a lot.” Reteaching may come in many forms, but all include repetition and remediation. Jeanine summed up this part of the learning loss phenomenon, saying, “We have to go backwards before we can go forward.” Many participants stated that they must go over material that students had learned previously but have forgotten the information or lost the learned skill. Gregory said he has met with the most success through sheer repetition. However, teachers in this study claimed that repetition, though effective in combating some learning loss, often derails pacing as new material must be delayed or condensed because students lack the background knowledge needed to move forward. Brian said:

> I do a lot of repetition, repeating expectations, going over that multiple times in the hope that it will stick. That’s one of the biggest things that I’ve started doing more of this year the I usually do on a normal basis.

Tutoring

Teachers all agreed that tutoring had been established by the district to assist students with recouping lost learning. At the secondary level, before-school, after-school, and Saturday-school tutoring have been made available to students. Yet, not all agree that tutoring has proven successful. Study participants revealed that few students benefited from the tutoring initiatives. Carla stated:

> I feel like I'm trying to find ways to motivate these students to come to after school programs, Saturday school, whatever opportunities that are available for them to come in and get that extra support. Oh my gosh. I mean, I, that would be wonderful. But if the parents aren't pushing the students to attend these programs or, take advantage of the opportunities, then what more can we do?

Eleven of the 12 participants oversaw one or more of the tutoring programs and expressed their frustration with the lack of participation in the program. Joshua commented:

> So, I think parental involvement is a lot of it. It's hard to get the kids that are involved in a lot of other activities. Like if they're doing a lot of sports and or working after school. We have a lot of kids who work part-time jobs because they got to help support their family. So, it's kind of hard to, to get those kids, you know, after school as well.

One-on-One Instruction

Eight out of 12 participants claimed they had success with one-on-one instruction during regular class. Several of the teachers claimed that one-on-one instructions offer students the opportunity to build a relationship of trust with students who may have been hesitant to read or write in a traditional classroom dynamic. Jeanine said, “But one-on-one instruction, I think is the only way that they trust you enough as an educator to help them. Because otherwise, they won't ask for any assistance at all, and they'll just hide in the groups.” Participants said that one-on-one instruction proved both necessary and successful. Chris said:

> And anytime I can work one-on-one with kids to catch them back up, that helps a lot too. So, if they're working on group work or something like that, and I got a couple kids who have real, are really lacking some skills of struggling. The one-on-one has been successful. Pulling kids in during my planning period that, that's worked well a lot too

because can't get them after school. But sometimes you can get them during your planning period and that has helped a lot, too.

Innovative Instructional Strategies

Teachers were asked about innovative strategies used to overcome learning loss. All teachers said that they use some form of educational technology daily to both review and introduce information. Most participants confessed that innovative strategies using technology as well as collaborative learning spark students' interest and help develop and strengthen academic deficiencies. Joshua responded, "I would say cooperative learning is the most successful strategy that I use. I think they enjoy getting together in groups." He added, "I've tried to incorporate more online stuff, online lessons because anything the students can do on the computer seems to motivate them a little bit more."

Educational Technology

Most of the participants relied on educational technology daily to communicate current information and reinforce skills previously identified as being weak. Participants named several different apps, programs, and platforms that are used to reinforce instruction. The single most mentioned was *Google Classroom*. Gregory said, "So I didn't pick up a lot of things from COVID that I carried over. One thing that I have learned how to use because of COVID is Google Classroom." Students have access to *Google Classroom* through school-issued Chromebooks. DeAundra said, "*Google Classroom* helps a lot. Whatever it is that you give them, they have access to."

Seven out of 12 participants said that *Google Classroom* helped with communication with students and with remediation. However, several teachers admitted that because many students have poor internet connection at home or are not computer literate, *Google Classroom*

cannot be often used for homework or to complete the day's classwork. Instead, most participants said that they sent paper copies home with students. Veronica said:

> Honestly, sadly, I think the only paper or whatever option they are able to have. And sadly, most of the time, it is just a paper packet option because that's the only way to still provide them with a learning opportunity.

Collaborative Learning

Participants agreed that when it is done correctly, collaborative learning is a successful strategy to use to repair gaps in learning. Joshua revealed in his individual interview:

> I would say cooperative learning is probably the most successful strategy that I use. Um, because I think, I think they enjoy getting together in groups and if one or two students can't figure something out, they kind of put all their heads together. And I think that just helps. I think it helps for other students to be more successful and feel better about, about the math. And I, yeah, cooperative learning is probably the biggest.

Many teachers in the study shared their experiences with collaborative learning stating that using students supporting one another through lessons and working on projects can be beneficial. Jeanine admitted:

> They tend to listen to their peers more than me. Um, also do something. It's, they're called teacher ambassadors, where if I do group work, then there's one person in the group who absolutely knows how to do it.

However, four participants cautioned that collaborating in class post-COVID is not always possible or practical. Michael stated:

> Post-COVID. It's been a struggle. So, I found that I have to group certain students together knowing that I have one student in the group who will take charge, who will be able to figure it out. I never had to do that before.

Cindy added that students still have difficulty working together in her sixth-grade science class:

> Normally, I would have them work in groups of 4-6. Huge levels of off-task behavior, and issues with students simply being respectful to each other, and purposeful with the work and movement within the class have been so difficult that I have to keep the groups smaller. I have also had to do fewer activities than I would normally choose to do and adjust many of those that I choose to have the students do.

External Factors

There are several external factors that participants shared as being factors affecting the reversal of learning loss. Teachers expressed external factors of parental involvement, digital inequities, and rural community culture as having a negative effect on students' success and their interest in their own learning. Veronica expressed:

> I found myself giving lots of reminders. Like giving lots of reminders on due dates to try to help keep the students on track, a lot more communicating of due dates between school and home to try to get parents more involved with their students to make sure that they turn things in because, as much as it was an optional mindset for students, it was an optional mindset for parents too. So, getting everyone back on one accord has been major.

In addition to these factors five participants said poor attendance is another factor that keeps students from overcoming learning loss. Carla said:

> And I don't know if it is, has to do with the rural being in a rural county, but parent participation, parent support, that's a challenge. Just making sure that we are getting their support and knowing that if learning doesn't stop at school--it's home as well. I guess more so like the resources that you see are, that are in the, the bigger counties versus what's here in or offered in the more rural counties.

Parental Involvement

All participants claimed that parental involvement was minimal but agreed that parental support and communication with parents is essential to the academic recovery and success of students. Heather said, “Not much parental support to be found, honestly.” Each participant said that they initiate regular communication with parents. DeAundra said, “Sometimes it's a waste of time, but I feel like at least I'm letting them know I'm communicating with them.” However, most teachers claimed that few parents support students who have demonstrated gaps in their learning. Brian commented that he got a lot of “lip-service” from parents but little follow-through. He added:

> Ultimately, the lower level of our students suffered most. While our top 10-20% remained engaged either by choice or because of parental involvement, our bottom percentage performance dropped even more. There is a skills gap that already exists between students, often facilitated by the engagement or lack of engagement by parents and guardians.

Other participants stated that even parents who have promised support rarely followed through. Chris stated:

> I would say that parents are very receptive on the phone. They hear you. They say, thank you so much for letting us know and letting me know we're going to talk about this, or

> we're going to deal with this cell phone. We're going to make sure they do this assignment. And then a lot of times nothing comes about it.

Several participants stated that poor parental support has been an ongoing issue in the school district. Melvin said that it has been a struggle to get many parents to respond long before the COVID school closures:

> I think parent involvement's always been an issue, but during the COVID time where they have essentially full accountability because we can't, you know, if the kid's not here, there's literally nothing we can do. It's all on the parents. Like they can't turn that back on us. I mean, they may try, but we can't do anything if they're not here and parents are not involved.

Joshua pointed out that students who are higher achieving often have better parental support. He revealed:

> I am doing the after-school program and helping out with the lower-level math classes. And I've noticed with those students who are not advanced, it's harder to get in touch with parents and harder to get those parents to get those kids in here. So, there is a big difference. There's a huge difference between the groups of kids that you teach.

Digital Disparities

Participants agreed that in this rural county, many students struggle with participation in virtual lessons during COVID-19 and that currently, there are still students without internet access. Jeanine stated, “We have real problem with internet in rural areas. And it's not the first time that's been highlighted, but it (COVID) did show how devastating not having it is.” This digital disparity may be due to the rural location where internet can be spotty or economic

factors. Whatever the reason, participants said that they are reluctant to give online assignments for homework instead of doing all online work during class time. Heather said:

> They don't all have internet access at home. So, a lot of them aren't able to finish assignments once they get home because they don't have the internet access that they need in order to do it.

All 12 participants said that they had adapted lessons by using paper copies for students without internet access. Joshua shared:

> I try to knock out as much as I can while the kids are here. So as long as, we're not like in a COVID situation, lack of internet doesn't really hurt my students too much because I can, when they leave anything, they do at home or whatever I can have like copy for them or whatever. So, I don't assign a lot of internet things that they have to do at home. So that hasn't been that big of an issue like pre or post covid. But during COVID, it was a huge issue.

Veronica pointed out that the lack of internet goes beyond simply not being able to do online assignments but can limit students' worldviews and global knowledgebase. She stated that a lack of internet affects students:

> A lot because while the world is technology driven, you know, even when they take their benchmarks, that's a huge piece of exposure. So, things that some students are be able to be exposed to because they do have internet access and they can see things on YouTube or social media platforms, it does help with like their background knowledge because the students that lack that, they don't get exposure to it. Yet, they might encounter an assessment that may ask them about something, and it's not fair because they've had no exposure to it.

Cultural Beliefs

Several teachers expressed how many of the beliefs within the surrounding community negatively reflect on education. Participants discussed their experiences with students and their family members who downplay the importance of an education. Melvin commented:

> I think motivation's been an issue here the entire time I've been here in 2012. They just, being in a rural community, I don't think it's innate to being in a, in a rural community, but this specific rural community, they're either interested in it or they're not. And there's no, it doesn't really matter what you do.

Teachers said that some students plan to farm, join a family business, or even utilize public assistance. Gregory stated, **"**Some parents I've met are actually hostile about education. Here, I've dealt with a mom that just flat out said, 'I was a dropout and did just fine.'" Several teachers stressed that school, for many students, is simply not a priority. Brian said:

> The parents just aren't as interested in, in working with their kids. So, nothing has been dealt with because the parents just aren't as interested in it. Why? I don't know. I don't know why for parents, school's not a priority. And I don't know if that's a COVID thing. We had issues with that prior to COVID. Is it worse maybe because in this world right now? How many of those parents don't have a high school diploma themselves because they didn't finish high school? And if they didn't finish high school and they're making it, the kid looks at them and says, 'Well, they're doing fine. I don't need it.' And nobody's telling him that's not true.

Some of the participants relayed that the attitudes and beliefs of some community members towards education has limited students' ability and willingness to strive for experiences beyond this rural setting. Heather expressed:

> So many of our students are very sheltered in the fact that they've never left the county or definitely never left the state. And so, they're lacking a lot of background knowledge that is needed for our writing. Because they don't have the information to give them ideas, they can't come up with information to put in their essays because they don't know about the topic. We do a lot of reading on the topic before we do the essay to give them that background information.

Outlier Finding -Poor Attendance

Three out of the 12 participating teachers claimed during their independent interviews that post-COVID, there are many students who are chronically absent. Jeanine admitted, "Chronic absenteeism has been on the rise sing the pandemic began." These absences make planned remediation or innovative projects unsuccessful (Hoag, 2023) as absent students miss so much time that assignments, as Melvin put it, "fall apart." Melvin added,

> I've had so many kids absent this year, all the time that I, I feel like I'm doing like a week's worth of work with a kid while I'm still teaching my normal content. We don't have time to do any fun stuff.

Heather claimed that students with an abnormal number of absences missed important instruction and found it difficult to make up missed work:

> You can't do the work if you're not at school. I think he's most close to 30 of my class periods and then he's just constantly in a state of trying to make up work and he's missing the direct instruction, so he doesn't know what he's doing and it's so stressful for him and then his parents are like on him, but it's their fault. It, you know, snowballs for them.

Research Question Responses

The purpose of the phenomenological study was to understand the lived experiences of rural, secondary teachers in Southwest Virginia with learning loss post-COVID. This study used one central research question and three sub-questions to reveal the experiences of the 12 participants. This section highlights the responses to the research questions used in this study and reflects the themes developed in the previous section.

Central Research Question

What are the lived experiences of rural, secondary teachers and post-COVID-19 learning loss?

The central research question prompted all teacher participants to discuss their experiences with virtual learning during COVID-19 and reflect on the changes that have been observed several years after the return to in-person learning. Each admitted having experienced some level of student learning loss and struggled with methods and strategies to reverse learning loss. Their experiences included apparent weakness in reading, writing, and math skills. However, much of their experiences involved the behavior of students and external factors which interfered with both the identification and dissipation of learning loss. These barriers included poor student readiness, parental support, and attendance. Joshua stated:

> I think the biggest challenge is how do you, how do you get those kids, um, that have the loss of learning? How do you, how do you get them caught back up? Because in the rural setting, it's kind of hard to get them all to attend the afterschool program and and whatnot. So, I think that's the biggest challenge is what can we, what things can we do to help get those kids caught back up with the other kids who were coming to class all the time? Because it is hard to get kids to come after school or before school or anything like

that.

Sub-Question One

What are the lived experiences of rural, secondary teachers with student progress during post-COVID-19?

Although all participants shared their experiences with the progress of students, most had varied success levels. Some of the teachers in this study experienced some success and experienced progress with their students. Most admitted that the most success was due to one-on-one instruction where teachers explained confusing concepts, corrected student work, and offered immediate feedback. Jeanine said, “One-on-one instruction, I think is the only way that they trust you enough as an educator to help them. Because otherwise they won't ask for any assistance at all, and they'll just hide in the groups.” As teachers admittedly struggled to see progress, a lot had to adapt quickly to accommodate students who lacked skills, resources, and support. Carla stated,

> So it was more let's do small group, let's do pull out, let's do whatever we needed to do to try to catch them up. I think more small group instruction, and more tailored to whatever their areas of weakness were.

Many of the teachers expressed that the virtual instruction during COVID made gaps students had pre-COVID worse and even more difficult to recover from post-COVID. DeAundra revealed, “There was learning loss in our rural school district post-COVID-19, especially for the students with special needs.”

Sub-Question Two

What are the lived experiences of rural, secondary teachers using innovative methods to overcome learning loss? Many innovative methods mentioned by participants involved

technology education. Jeanine said, “Everyone here has access to a Chromebook and a charger. And I use *Google Classroom* to post all of my assignments online.” Most of the teachers admitted to using Google apps to present assignments that students can access on their school-issued Chromebooks. Joshua stated that he has used *Google Classroom* more often since returning to in-person learning:

> I've tried to incorporate more online stuff, online lessons, because that seem, you know, anything the students can do on a computer seems to motivate them a little bit more. So, I have tried to use *Google Classroom* and find online videos and lessons and things they can do. So, I try to do as much as possible and that helps. Yeah, I'd say that's probably the biggest change I've tried to make.

Heather uses *Google Classroom* to improve her 9th graders’ reading and writing skills. She revealed:

> Our writing, sometimes there's reading comprehension passages that can answer the questions through Google Forms and Google Docs. We do some vocabulary through freerice.com. They have vocabulary root words, grammar, and spelling questions.

However, most participants shared that the use of collaborative learning is an innovative strategy that helped students strengthen their skills and better understand confusing content in areas where they had demonstrated a deficiency. Most participants said their collaborations were necessary, as many students post-COVID were reluctant to work independently. Veronica stated:

> There was a severe lack of students wanting to work independently. They, they wanted almost like handholding. I don't know if it's because they didn't trust themselves to display their knowledge, but there wasn't this sense of urgency to be an independent learner or to do their work or feel that the requirement to do their work. Should I say. I

> think a lot of that may have come from it being optional during COVID. So, we've had to transition from this is not something you can do if you want to this is now a mandatory requirement. It's graded. There are expectations on it.

Several participants said that because of poor independent work and the lack of confidence note in many students post-COVID, teachers discovered that collaboration works well to reverse learning losses. However, grouping students together is not always easy to do. Cindy said:

> The things that seem to work the most is the thing that's the hardest to do. I get maybe 30 minutes with a class because of the way it's broken up. So small group work is very hard to work in when you only have 30 minutes with them a day. So, you know, that small group work has I found the most success with. But it's the hardest to implement because it's difficult to get them to work independently so that you can do small group effectively.

Sub-Question Three

What are the lived experiences of rural, secondary teachers with internal and external support to help overcome learning loss? Teachers spoke of internal support such as after-school, before-school and Saturday-school tutoring implemented to reduce learning gaps and learning loss and to catch students up in their current, on-level curriculum. Many participants said that although these programs are well-conceived and well-structured, most students who need support do not attend. External factors like parental support need to be strengthened to support school initiatives. Without the support of parents, most underclassmen cannot attend after-school due to transportation problems or other after-school responsibilities. Carla stated:

> I mean transportation may be an issue. They can't get here early in the morning, but again, they have the afterschool program, and we have to encourage these parents to

encourage their child to come to these programs and be actively involved. Don't just sit, don't just wonder. Be actively involved.

Summary

This chapter compiles rich descriptions of the lived experiences of rural, secondary teachers in Southwest Virginia post-COVID. The themes identified as being common among participants included missing foundational skills, student readiness, reteaching, and external factors. Participants stressed that many basic, foundational reading, writing, science, and math skills have obvious gaps that often interfere with current or more extensive learning as students advance from grade to grade. Students' motivation and participation in classes also affected their progress and success. Participants also expressed a great need for stronger parent support to encourage student persistence through in-class and after-school activities. The interventions used have been moderately successful, but more external support is needed to reverse learning loss in secondary students in this rural school district. The results of the study show that all 12 participating teachers stive have recognized a difference in student learning and behavior post-COVID and must alter students' knowledgebase, academic performance, and interest.

CHAPTER FIVE: CONCLUSION

Overview

This phenomenological study described the lived experiences of rural, secondary teachers with student learning loss post-COVID. The results of this study document participants' experiences with student gaps in learning and overall readiness because of COVID-19 school closures four years prior to the 2024 school year. Chapter five seeks to interpret research data and summarize thematic findings. In this chapter, the findings are discussed within five subsections, including (a) Interpretation of Findings; (b) Implications for Policy or Practice; (c) Theoretical and Empirical Implications; (d) Limitations and Delimitations; and (e) Recommendations for Future Research.

Discussion

Post-COVID, rural learning loss was predicted by many researchers (Kertih et al., 2023; Shin et al., 2023) and has now been found to exist as a byproduct of ineffective virtual instruction (Lestari et al., 2023). Some educational scholars have found that post-COVID students who began the pandemic with learning deficiencies or economically or geographically disadvantaged (Carlana et al., 2023; Tang, 2023) have disproportionately demonstrated some loss of learning. Four years after the COVID-19 school closures, the impact of the suspension of in-person learning is still evident through student learning loss and weakened socialization skills.

The findings of this study revealed the experiences of 12 rural, secondary teachers with at least five years of teaching experience that included instruction during the suspension of in-person learning during the COVID-19 pandemic. The participants of this study shared their experiences with student learning loss post-COVID. The study's results suggested learning losses

in foundational skills along with factors that affected the readiness of students between 6th and 12th grades.

Summary of Thematic Findings

The themes and sub-themes of this study were developed through individual interviews, focus groups, and a journal prompt. The data interviews, discussions, and written responses were reviewed and analyzed to identify common themes and significant quotes. The four main themes developed from the codes were as follows: (1) Long-term Learning Loss, (2) Student Readiness, (3) External Factors, and (4) Reteaching. The thematic findings within this study fell into categories sufficiently answering the central and sub research questions. The first theme, Long-term Learning Loss, suggests that much of the learning loss that participants have experienced is not fleeting but losses that will take time to overcome. The second theme of Student Readiness emerged as participants described factors that both contributed to learning loss and served as a barrier to recouping learning. The theme of External Factors highlighted agents that directly or indirectly affect the reversal of learning loss that is also beyond the control of teachers. The final theme, Reteaching, describes how each participant claimed as best practices for overcoming lost learning, knowledge, and skill.

Interpretation of Findings

Study participants discussed the many distinct types of lost learning and lost knowledge that can only be recovered through backtracking. Many participants noted that reviewing information that was forgotten or teaching information that was missed is necessary for students to move forward and be successful as they progress to more advanced coursework. The study also found that barriers to mitigating learning loss relate to the students' readiness as they have returned to person learning. Many participants claimed that student apathy and poor socialization

skills impede the success of even the most innovative strategies. Further complicating the recovery from learning loss were external factors, including parental support and internet accessibility, which participants claimed are pre-COVID problems in this rural school district that were exacerbated by COVID and further worsened post-COVID.

What They Forgot

This study asked the question, "What did they forget?" Data collected from participating teachers revealed that many secondary students in this district forgot the basics. They forgot many fundamentals of writing, reading, science, and math. They also forgot the scheduling and structure of school and how to sit and learn. Lastly, students forgot how to socialize appropriately with peers; and they forgot how to process information individually and trust their own judgement. So, how long will this forgetfulness last? Gee et al. (2023) predicted that the impact of COVID-19 learning loss would be far-reaching, especially for students who were already struggling academically pre-pandemic. Participants confirmed that many struggling students returned to in-person learning even further behind. This led to feelings of frustration, isolation, and apathy. Dautov (2020) found that student apathy comes from the belief that what is being taught is pointless.

According to participants, many secondary students showed a deficiency in reading, writing, science, and math skills. These forgotten skills have been difficult to recoup and were considered by many of the study participants to be long-term learning losses that impact all subjects. For example, Carla commented, "Not being able to read impacts their performance across multiple subject areas. This leads to negative behaviors that impact their learning, loss of motivation, low self-confidence, and can ultimately lead to the student wanting to drop out of school." During the data collection process, participants shared their experiences with learning

loss and explained how, four years later, students still demonstrate gaps in fundamental or basic skills needed as a foundation for more advanced studies. Participants revealed that when students do not understand the current content because they have never mastered the necessary foundational and prerequisite skills, they need to progress. Chris stated, “I would say that they missed out on a lot of the stuff in middle school in terms of science content that is important to kind of build on the foundations for high school science that they didn't have.”

Each participant discussed experiences with varied levels of learning loss and behavior challenges post-COVID. Following the return to in-person learning, students displayed evidence of the loss of fundamental skills that were forgotten or never developed and of an inability to grasp current information and understand new concepts. Math and science teachers in the study stressed that to move on to more advanced classes, students needed prerequisite skill sets that were either forgotten or somehow never learned. However, participants stressed that the long-term learning losses that they have observed are not possible to recoup in one school year. Consequently, students moved on without the necessary skills, background knowledge, or fundamental information. The learning loss was carried over into the next course, resulting in long-term learning loss. DeAundra said, “There are many gaps that we're seeing with the student body.”

What They Lost

In recounting their experiences, participants identified barriers to mitigating learning loss. During conversations, participants revealed that what students lost went beyond academic learning loss. Many used the term “student readiness” to describe a student’s inability to successfully participate in a traditional classroom environment. Student readiness is determined by the students’ ability to successfully participate and learn effectively in a classroom (Chavez

Maples, 2023). A lack of readiness can include students' academic preparedness (Molnár & Hermann, 2023) but also involves students' levels of motivation (Faridah et al., 2020; Korpershoek et al., 2020) or willingness to participate (Dautov, 2020). Joshua said,

> Student apathy seems to be a large problem school-wide after COVID, and I have experienced this over the last couple of years. I believe much of this is due to basically all students receiving passing grades during COVID, whether they completed the work or not.

Many participants added that the lack of classroom readiness has led to low student interest in even the most innovative lessons. Carla stated, "Some of the more innovative strategies failed because of lack of student motivation."

Participants also claimed that mitigating long-term learning losses was hampered by the apparent and, for some participants, shocking lack of socialization skills of secondary-level students. Participants discussed experiences with lost social skills that hindered attempts to instruct using group work that impeded learning. Heather stated that

> Students don't know how to interact with each other the way they did before. Class discussions are extremely poor. It takes a lot of pulling information. They'd much rather just sit and do their assignment on their own than work with a group.

Most of the participants reported observing that students were not working together well and often seemed at a loss as to how to work together in an academic setting. Each participant shared innovative classroom strategies they attempted to use that called for students to discuss and issue or solve a problem. Michael stated that he often had to correct his students' behaviors during group activities for "being mean and inappropriate" to other students. He said, "It's like they forgot how to interact with each other and show basic kindness and consideration."

Additionally, participants shared their experiences with students whose leaning loss extended to an inability to work independently. Current scholars such as Muhsin et al. (2023) found that learning loss can affect independence and self-confidence. Several teachers surmised that the lost learning affected the confidence of students who failed, or refused to, successfully problem-solve, or think critically, preferring to get step-by-step assistance from the teacher or peers. Brian said,

> Today's students need more step-by-step direct instruction rather than independent practice. The amount of independent problem-solving and critical thinking skills that need to be regained through practice and execution will take years to bring back to the level which we were at pre-COVID.

Participants recounted that the overall effect of lack of motivation and poor socialization is that many students, particularly those who were already struggling academically, were not coming to classes ready to learn. Current literature predicts that learning loss could lead to students' lack of interest and motivation. Nadeem and Van Meter (2023) found that following COVID-19 school closures, students would struggle academically and consequently suffer behavioral challenges. Many participants mirrored this finding as they shared that learning loss and gaps in learning correlate with declining motivation and over-all lack of readiness. Cindy discussed that when instructing her students this year, many simply shut down. She said, "I have lots of students that will just shut down, and it's like, they're afraid to be wrong. They're afraid to make a mistake, and others just don't want to do it."

Beyond Our Control

Participants relayed that many students went without any learning or structure for, in some cases, two years. There were students in this rural area, who were simply unable to connect

to the internet to participate regularly or not at all. Therefore, the school district in this study provided hotspots, and students could go to various areas throughout the county to access the internet. However, participants pointed out that not all parents were able to consistently take students to utilize the hotspots. The irregularity of access and inconsistency of learning added to the probability of learning loss occurring.

Study participants said there were varied reasons for this lack of participation in virtual lessons: 1. Students were unable to access the internet for either geographical or economic reasons; 2. Students did not have the necessary training to access *Google Classroom* or utilize their Chromebooks effectively. Some participants said that training of students may have made a difference. Joshi et al. (2023) suggested that students' technological savviness can make a stark difference in their learning capabilities. Although participants readily agreed that technology education is necessary for student achievement, many students did not understand the full capabilities of their digital tools. Brian stated, “They’re (students) trying to improve it. But you also run into the kids (who) aren't really taught how to use their computers. That is something that we've been lacking.”

Current literature predicted that some students, especially those who had academic deficiencies pre-COVID, would find it difficult to recover from learning loss. Carlana et al. (2023) believed that COVID-19 would have long-term effects on many students who may never regain their lost knowledge or skills. Additionally, many scholars found that students’ apathetic attitudes gained during the COVID-19 school closures will remain and only further derail them academically (Robbins & Cipollone, 2023; Tang, 2023). Participants echoed these findings, stating that many students move on to the next grade having not recovered critical skills adding

to students' frustration and apathy. Kertih et al. (2023) said that this level of apathy would be difficult to redirect without both internal and external support.

Participants revealed in interviews and discussions that there were external factors that should be the strongest tools to help guide and encourage student learning. The most common external factor mentioned was parental support. Participants said that the lack of parental support has affected students' interest in learning and regular attendance. Poor parental support can derail any attempt at developing support for students in need of academic help (Shen & Hannum, 2023), increase chronic absenteeism (Korpershoek et al., 2020), and negatively affect students' success. Heather gave an example of one of her ninth-grade students stating, "You know like you can't do the work if you're not at school. I think he's missed close to 30 of my class periods, and then he's just constantly in a state of trying to make up work."

Several participants stated that with the support of parents, intervention programs would be more successful, and students would be more motivated to learn and more confident to participate in their own learning. Melvin commented, "I think parent involvement's always been an issue, but during the COVID time where they have full accountability because we can't, you know if the kid's not here, there's literally nothing we can do. It's all on the parents."

Study participants also discussed the culture within the community and how education is not as highly valued within this rural community. Carla stated, "I don't know if it is, has to do with the rural--being in a rural county, but parent participation, parent support, that's a challenge." Tieken and Montgomery (2021) stated that the cultural beliefs of rural communities can permeate the school's environment, making academics appear to be a non-essential part of a successful future (Delahunty & Hellwig, 2022). Participants claimed that parents' passive

participation in student progress had gotten worse post-COVID and resulted in student apathy and stagnated learning. Melvin stated that

> I think motivation's been an issue here the entire time I've been here in 2012. They just, being in a rural community, I don't think it's innate to being in a, in a rural community, but this specific rural community.

He later added in his journal response, “The mentality that has long been perpetuated in (Whitherspoon) is that education has no value.”

All 12 participants recognized that unreliable or non-existent internet access during school closure made successful learning difficult and caused many students to miss learning opportunities. Michael recalled, “We also saw many of our students without a steady internet at home.” Baxter et al. (2023) found that once students returned to in-person learning, the digital disparities continued to affect student learning. Some participants agreed that the lack of internet still affected students’ ability to complete assigned work with the required digital access. Heather commented,

> They don’t all have internet access at home. So, like a lot of them aren't able to finish assignments once they get home because they don't have the internet access that they need in order to do it. The internet in the county is not always reliable, you know?

All participants relayed that internet access is essential for students to participate in the more innovative, technology-based teaching practices at home. However, because so many lack consistent access, these practices are still limited to the classroom. Considering this continued digital deficiency, all 12 participants admitted to having to send home paper copies of assignments rather than assign work that required internet access. Brian said, “If a kid's out of

school and you want to send work home with them, you must get paper copies to them. You can't rely on the internet."

Go Backwards to Go Forward

With limited external resources and support, participants said that they still must focus on repairing gaps in learning. So, how do you fix learning loss? Veronica stated in her focus group, "You go backwards to go forward." All 12 participants said that they had developed ways within their classes to *reteach* and *repeat.* Heather admitted, "I have to spend a good amount of time reteaching very basic concepts."

The secondary-level of the school district has historically offered after-school tutoring. This school year, both middle and high school offered before-school tutoring and Saturday school to reverse identified learning losses and help students catch up on missed work. Most study participants worked with one or more of the tutoring programs. According to many of the participants, most of the regular tutoring attendees were the stronger students, and those who truly needed support did not attend. Joshua stated,

> I am doing the after-school program and helping with the lower-level math classes. And I I've noticed with those students who are not advanced, it's harder to get in touch with parents and harder to get those parents to get those kids in here.

Nevertheless, participants still said that going over material and backtracking to scaffold lost ideas and concepts have been the best practice.

Because of limited internet access and poor interest in tutoring programs, participants said that reteaching happens primarily during regular class time and during teachers' planning periods. The need to cover old material to successfully understand new material became a

mainstay in participants' classrooms. The necessity to backtrack within the school day and cover current information continued to be a challenge. Chris said,

> Unfortunately, we have so much content that has to be taught that a lot of times what'll have to happen is it'll give us less time to spend on the important stuff. I'm spending time doing that, which is taking away time from being able to go over the content that is necessary for the course.

Participants said that because of this gap in learning, they were forced to reteach and cover fundamental skills before moving on to grade-level or course-level content. Many admitted that the result of this phenomenon was not completing curriculum requirements and having to "cut corners" to make sure that students have enough information and skills to meet the minimum requirements for their standardized testing. Participants admitted that how they built those skills had less to do with innovative strategies and more to do with individualized, one-on-one instruction. Participants claimed that one-on-one instruction restructured students' learning and reintegrated students into their learning environment through the development of a rapport with teachers who were able to praise success and correct errors through immediate feedback.

According to most of the participants, one-on-one instruction works best for most students as it gives students the opportunity to learn without interaction with other students and receive immediate feedback from teachers. Heather commented, "They see immediate feedback, which they really appreciate. I do one-on-one conferences when we get to our writing so that I can work with them, and they immediately see, 'oh, that's what I need to do,'" Participants shared that one-on-one instruction helped to redirect many students whose readiness--academically and socially-- was not there post-COVID.

Implications for Policy or Practice

In this study, parental support emerged as a crucial component to improve student readiness and to encourage participation in district initiatives like before, after, and Saturday school tutoring by working more closely with administrative stakeholders to best utilize the available digital tool. Parent involvement can alter the community's cultural attitudes about education (Campbell-Halfaker & Gregor, 2021) and promote innovative learning that would make their students more competitive globally (Bortoló et al., 2023).

Implications for Policy

Implications for this study are to make policymakers in this rural school district aware of learning losses and their possible long-term effects on secondary students. Policies that include the need for well-publicized community events would include parents and other members of the community to better support students. Furthermore, policies that support the inclusion of the surrounding community would alter traditional cultural beliefs about education (Ralejoe, 2021), boost student compliance and student apathy, and eliminate learning loss (Baral, 2023). This study revealed that students of this district are supported by teachers and administrators who have worked together to develop programs, initiatives, and strategies to address post-COVID learning loss. The external factors are such that, if correct, they could help develop a more consistently successful solution to learning loss and rebuild students' academic strengths post-COVID.

Implications for Practice

This study highlighted the experiences of teachers in a rural school district and shared their points of view on the existence and reasons behind learning loss. Findings in this study revealed implications for teachers, parents, and administrators to stress parental support of program initiatives designed to mitigate post-COVID learning loss. This implication may lead to

new practices to restructure parent-teacher relationships and, consequently, renewed student readiness. Participants said that after-school, before-school, and Saturday school were ways offered by the school district to reach many students who have "forgotten." However, attendance, for a variety of reasons, was low, and the students who needed the additional support the most became, inevitably, further behind.

Implications for Rural Learning Loss

Learning loss has not often been contested in historical or more contemporary literature. Following the COVID pandemic most educational institutions expected a certain level of learning loss to be evident upon the return to in-person learning. However, in rural school systems, the prediction of widespread effects on students has been proven to be prophetic. In this study site, the findings highlighted possible long-term learning loss in many of the secondary students in the school district. The data collected delved deeper, well past the research question of experiences with learning loss, to uncover long-standing issues with fundamental learning loss, lack of motivation, and poor parental support. According to the findings, teachers within this study utilize technology daily, are supportive of innovative classroom dynamics, attend professional development trainings, and regularly reteach material and contact parents. Additionally, some interventions have been implemented that offer three opportunities for tutoring outside of regular class time. Despite these measures taken by teachers and administrators, learning loss persists.

There were diverse types of learning loss revealed in this study. Findings indicated that fundamental skills such as reading, writing, math, and science were missing in many secondary-level students. These skills, if not recovered, affect all subject matters and lead to the students' overall failure to progress and to student frustration, apathy, and diminished confidence. Other

learning losses appeared as gaps in learning where certain crucial prerequisite information was forgotten or never learned. The math and science teachers especially stressed the difficulty of instructing students who lacked essential skills and information to be successful in that course. Again, participants noted the resulting student frustration diminished students' overall readiness to learn.

Although this study was based on post-COVID learning loss, findings indicate that learning loss and student behaviors, including poor socialization, independent learning, collaborative learning, motivation, focus, and confidence, were exacerbated by COVID-19 school closures and the virtual learning platforms that followed. The lack of internet accessibility made participation in lessons difficult, and the result was learning loss of students who were already struggling learners. The participants of this study recognized this and shared that students who lost learning but were stronger academically or had more resources and support recovered quickly from learning loss through in-class and after-school remediation. Four years later, there is still learning loss, but it is long-term, and study participants admit that some students may never recover.

Further findings revealed that internet access is still *patchy* in this small, rural community, and many students are unable to utilize their school-issued Chromebooks outside of regular class time. Remediation lessons in the form of videos, tutorials, and games cannot be accessed. Participating teachers all admitted to still sending home paper copies home with students. Personal hotspots are available to students, and most have access to cellphones, yet online assistance and support are not often used after class time.

Three types of tutoring were offered by both the middle and high school during the 2023-2024 school year: after-school, before-school, and Saturday school. Saturday school was used to

both remediate students and recoup seat-time for chronic absentees. According to participants, attendance at all three tutoring initiatives was poor. Ten of the 12 participants tutored outside of their regular class schedules and encouraged students who had demonstrated learning losses to attend. However, attendance did not improve, particularly at the high school level. At this study's completion, secondary students who demonstrated through low reading, writing, or math assessments to have foundational deficiencies were invited to summer school. Attendance was not mandatory.

Implications for Parental Support and Culture

Participants spoke broadly about the lack of student motivation and low level of self-efficacy post-COVID. The study research questions afforded participants the opportunity, both individually and with other educators, to consider and share. The findings of the study point to deficiencies in the relationship between parents and the rural school district's stakeholders. Participants stated that without parental support, students lack motivation and fail to participate in their own learning. Each expressed concerns about the interference of cultural, community traditions and beliefs about education, and raised questions as to how to overcome deep-seated beliefs and an overwhelming disinterest in students' educational progress. The findings of this study indicate a need for establishing relationships with parents to support students who need extensive remediation and support to overcome lingering post-COVID learning loss.

Empirical and Theoretical Implications

This section highlights the empirical and theoretical implications of this phenomenological study. The study's findings are compared with current literature and the constructivist learning theory related to post-COVID learning loss, instructional strategies and best practices, and student readiness.

Empirical Implications

Empirical implications were evident through the depiction of experiences with the learning loss phenomenon. Previous studies emphasized the likelihood of the effects of COVID-19 hitting rural school districts harder than their urban counterparts (Clark et al., 2023; Curren, 2023; Moscoviz & Evans, 2022). This study reflects the findings of previous research. The rural students of the study participants still demonstrate varied types of learning loss as well as behaviors that were not as common pre-COVID. Shin et al. (2023) warned that educators need to take specific precautions to prevent the worsening of learning loss. The findings of this study indicate that learning loss may not be worsening. Instead, it lingers in students who lack the resources and external support to want to recoup lost learning. Chris stated in his journal response, “Throughout the time of the COVID-19 pandemic, I observed a loss of learning and motivation among my students. I found that my students were unfocused and uninterested in learning.”

Researchers claimed that rural school districts disproportionately suffered digital inequities that prevented students from accessing virtual instruction (Tate & Warschauer, 2022). The missed learning developed into learning losses and gaps (Conto et al., 2021; Sahlan et al., 2022) and exacerbated barriers and challenges already present in rural communities (Dow-Fleisner et al., 2022). Findings showed that this study site did have students who did not have access during COVID-19, and many still did not have reliable access to the internet years after the return to in-person learning. Heather confided that “The most frustrating part was students who didn't have access to the internet consistently, or when there were power outages, internet shortages, Wi-Fi, being slow. And I think that's definitely part of the rural area we live in.”

Prior studies also revealed that professional development and innovative practices help

mitigate learning losses post-COVID (Luctkar-Flude & Tyerman, 2021; Yue et al., 2023). Yet, not all researchers believe that so much emphasis should be placed on technology when building relationships with students is more important (Patrick et al., 2021). This research study supported existing literature on learning loss in that study participants all claimed to have attended professional development workshops and have become competent in various educational technology tools. Yet, participants claimed that innovative lessons are not often effective in reversing learning loss, but one-on-one instruction produced the best result in reversing learning loss. Joshua stated, "Anytime I can work one-on-one with kids to catch them back up, that helps a lot. One-on-one has been successful."

There is no previous study on the experiences of rural, secondary teachers in Southwest Virginia. Participants in this study confirmed many concepts highlighted in previous research about post-COVID learning loss, including the reduction of motivation and increase in student apathy (Faridah et al., 2020; Gustiani, 2020; Madi et al., 2023) and absenteeism post-COVID (Khan & Ahmed, 2021) --each affecting student readiness and acting as a barrier to mitigating learning loss (Muhsin et al., 2023). Participants affirmed current studies that found that the inclusive support of parents can alter student learning practices. Veronica commented on post-COVID instruction:

> I found myself giving lots of reminders. Like giving lots of reminders on due dates to try to help keep the students on track a lot more communicating of due dates between school and home to try to get parents more involved with their students to make sure that they turn things in because as much as it was an optional mindset for students, it was an optional mindset for parents too. So, getting everyone back on one accord has been major.

Theoretical Implications

This study was based on the constructivist learning theory, which states in part that an innovative classroom with the implementation of technological education can improve student learning. The findings of this study followed many aspects of Piaget's (1953) constructivist learning theory. A constructivist learning environment consists of prior knowledge, technology, and peer interactions. Each study participant utilized innovative practices to mitigate learning loss to encourage students to participate in their own learning. The reteaching study participants claimed to be a consistent part of their classroom instruction to construct prior knowledge. Once this knowledgebase is achieved, a constructivist learning environment may be initiated.

A construct of the constructivist learning theory is discussion groups to enhance and encourage critical thinking where students construct new learning based on prior knowledge (Neutzling et al., 2019). Constructivist educators encourage individual learning using tools and technology that support student learning (Rob & Rob, 2018). Additionally, student participation is paramount in a constructivist learning environment. Each participant in this study noted a lack of prior knowledge, digital disparities that limit technology usage, and a lack of student motivation. Yet, each discussed their attempt to reshape their post-COVID classrooms to include an environment described by constructivist learning theorists.

Another construct of this theory states that constructivist learning is dependent upon learning through interactions with peers (Tam, 2000) and applying combined knowledge toward problem-solving projects. Many researchers claimed that aspects of the constructivist learning theory improve teacher-student interaction. Chuang (2021) stated that students' minds construct their own knowledge. This means that teachers need to shift the control of learning to the

students. This process was being reestablished as study participants shared their attempt to reconstruct student self-confidence and self-directed learning.

Teachers participating in this study used technology to introduce, review, and support learning objectives. Gallardo-Alba et al. (2021) claimed that constructivist -based teaching helps teachers identify and mitigate learning loss. All participants stated that they had students use their school-issued Chromebooks to access various learning apps and digital games to review lost fundamental skills and support on-level learning. However, they each admitted that the use of technology was limited to the classroom because many students still lacked the internet access necessary to participate in online activities or to complete assignments that required connectivity.

The findings of this research study may impact learning loss research in rural school districts where the focus on digitalized tools and technology education may also need to encourage one-on-one instruction and other strategies that promote rapport, confidence, and character-building over innovation. The constructivist learning theory framework for this study, as far as the restructuring of the learning environment with innovative, technological tools, framed this study successfully and revealed impactful findings about post-COVID learning loss in a rural school district.

After the COVID-19 shutdown, participants returned to in-person learning with innovative structures, strategies, and technology. All participants recounted their daily use of technology to introduce lessons, review instructional videos, or play educational games. However, digital disparities still existed within this rural community, and teachers found it difficult to extend innovative learning beyond their classrooms. A component of the constructivist teaching philosophy is to find ways to overcome digital inequities (Feyzi Behnagh & Yasrebi, 2020). In school, this goal was obtained at the secondary level of the Whitherspoon

School District. However, the lack of internet still exists throughout the community. According to study participants, the focus is to build student-teacher relationships and re-establish student readiness and parent-teacher interactions so that an innovative, technology-rich learning environment could be eventually fully realized.

Limitations and Delimitations

There were some limitations in this study related to the participant sample and the participation levels. Other limitations included the study's site. There were delimitations associated with participants' criteria and sample size. This section highlights the limitations and delimitations of the study.

Limitations

The first limitation of the study was the participation in all three data sources. One participant, Gregory, was not able to participate in either focus group. Additionally, the level of participation varied. Some participants commented less during the individual interviews, focus groups, and journal responses and were not as forthcoming with elaboration despite follow-up questions. In the focus groups, some participants answered more thoroughly and more frequently than others. Some of the journal responses were lengthy, where participants cited examples and elaborated freely, while other responses were brief and vague.

The second limitation is the lack of diversity in the sample. The study called for teachers who had experience teaching during COVID-19 and post-COVID. Most respondents were female and White, with over 10 years of teaching experience. Future studies may explore whether race or teaching experience impacts teachers' experiences with learning loss and the mitigating techniques used. A broader spectrum of the impact of post-COVID learning loss may

be revealed by diversifying the race of teachers and having a broader sample of years taught to include veteran and newer teachers.

Delimitations

Delimitations included the study's site, which was delimited to Whitherspoon School District. Witherspoon School District is unique among the surrounding rural school districts because of the absence of major industry and limited housing availability. Another delimitation was that all participants had to have at least five years of teaching experience and claimed to have experienced the phenomenon of post-COVID learning loss. Additionally, only secondary teachers were accepted into this study.

Recommendations for Future Research

Recommendations for future research include an expansion of this study's sample, site, and findings. The first recommendation is to diversity the sample by varying ethnicities and by including a more equal number of male and female participants. Future studies may explore other, larger, rural areas with more industry and housing. Studies may also look at the residences of the participants who live within the counties and are part of the community. This study only briefly mentioned where the participants resided in the description of participants and found that only two lived in the community. Finally, future studies might focus solely on external factors that cause or prolong learning loss.

This study highlighted innovative methods teachers used to mitigate post-COVID learning loss. Future research may emphasize rural teachers' use of one or more of the innovative techniques and document success in recouping lost learning. This study also touches on the success of technology education in the classrooms and how the use of technology improved

student-teacher relations and communication. Future studies can focus on specific technological practices in one or more of the disciplines.

Another suggestion for future research is to explore the impact of rural parental involvement on learning loss. Consideration of educational beliefs and cultural traditions may be included to delve deeper into the causalities of the continuation of post-COVID learning loss in rural school districts. One additional area of research involves the expansion of this study by varying the sample. This diversification may be accomplished by using several sites and teachers from varied backgrounds to broaden the perspective and enrich the study results. The use of multiple sites could also allow for diversification in gender, race, and experience.

Conclusion

This phenomenological study examined the phenomenon of learning loss in a small, rural secondary district in Southwest Virginia. The teacher participants each shared their experiences with learning loss, which led to discussions about student readiness and multiple factors that were always apparent but worsened by isolation (Curren, 2023) and digital disparities of COVID-19 school closures. Participants revealed that mitigating post-COVID learning loss and preventing long-term learning loss is the responsibility of all stakeholders, including parents, teachers, and district administrators. Future studies may further investigate solutions to unite these stakeholders toward educational restructuring and reconfiguring pathways, goals, and beliefs for students of this rural community.

The results of this study showed that post-COVID learning loss exists, and teachers in this rural school district in Southwest Virginia experienced this phenomenon and used various constructivist learning strategies to mitigate learning loss. These strategies were used to improve not just learning loss but socialization and student readiness.

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APPENDIX A

IRB APPROVAL

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

January 22, 2024

Tracey Wade
Sherrita Rogers

Re: IRB Exemption - IRB-FY23-24-1123 What Did They Lose? Learning Loss of Rural Secondary Students Post-COVID 19: A Phenomenological Study

Dear Tracey Wade, Sherrita Rogers,

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. (iii). 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:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

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 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

SITE PERMISSION

October 17, 2023

[redacted]

Dear [redacted]

As a Ph.D. candidate at the School of Education at Liberty University, I am conducting a qualitative phenomenological study to better understand the lived experiences of secondary teachers dealing with student learning loss during post-COVID-19. The title of my dissertation is *What Did They Forget? Learning Loss of Rural Secondary Students Post-COVID 19: A Phenomenological Study.* The purpose of my research is to offer teachers the opportunity to express their experiences with learning loss and share the innovative methods, through technology education, that they are using to identify learning gaps and mitigate learning loss.

I am writing to request your permission to conduct my research at [redacted] to recruit participants for my research and utilize staff test data.

Participants will be presented with informed consent information prior to participating. Consenting teachers will be scheduled for individual interviews and participate in group forums. Taking part in this study is completely voluntary, and participants are welcome to discontinue participation at any time. Pseudonyms will be used in place of staff names and for the school's name.

Thank you for considering my request. If you choose to grant permission, please provide a signed statement on an official letterhead indicating your approval. A permission letter document is attached for your convenience.

Sincerely,

Tracey A. Wade

October 22, 2023

To the Liberty University Institutional Review Board:

[redacted] grants permission for Tracey Wade, a Liberty University doctoral candidate, to recruit teachers [redacted] to participate in her dissertation *Did They Forget? Learning Loss **of** Rural Secondary Students Post-COVID* 19*: A Phenomenological Study*, with the following stipulations.

1. The primary data source for this study will be interviews/surveys with those teachers who are willing to participate in the study who will be asked to share their experiences with learning loss and share the innovative methods, through technology education, that they are using to identify learning gaps and mitigate learning loss. It will be made clear to teachers that they are in no way obligated to participate.
2. The division understands that Mrs. Wade may ask teachers to share any performance data. Data must be limited to that which could be shared with the public and should in no way identify specific students, groups of students, or teachers. In a small division, it is often easy to identify individuals or groups. Mrs. Wade may not ask for any materials that are from other sources other than those developed by [redacted] which **may** have a copyright attached or any materials that staff members do not have express permission to share.
3. [redacted] is not to be identified in the study in any way at all, nor are names of teachers involved to be mentioned without their direct permission.

[redacted] does not endorse this study nor is the school division obligating itself to facilitate this study in any way.

Sincerely,

[redacted]

[redacted]
Assistant
Superintendent

APPENDIX C

RECRUITMENT EMAIL

Dear Potential Participant,

As a doctoral candidate in the School of Education, at Liberty University, I am conducting research to better understand a phenomenon. The purpose of my research is to the understand the lived experiences of rural, secondary teachers in Southwest Virginia during post-COVID who are still charged with following educational guidelines and demands with students who have suffered learning loss. I am writing to invite you to join my study.

Participants must be certified teachers with at least five years of teaching experience. Those who consent to join this study will be asked to participate in an in-person, audio-recorded individual interview that will take no more than 1 hour. Participants will review their interview transcripts. This procedure is called member checking. Member checking is a technique for exploring the credibility of results. Participants will then take part in an in-person, audio-recorded focus group that will take no more than 1 hour. Lastly, participants will complete a journal prompt that will take no more than 15 minutes.

To participate please contact me at [redacted] to schedule an interview.

A consent document will be emailed to you one week before the interview. The consent document contains additional information about my research.

If you choose to participate, sign the consent document, and return it to me before the interview. Participation is entirely voluntary.

Sincerely,

Tracey A. Wade

Doctoral Candidate
[redacted]

APPENDIX D

PARTICIPANT CONSENT

Title of the Project: What Did They Forget? Learning Loss of Rural Secondary Students Post-COVID 19: A Phenomenological Study
Principal Investigator: Tracey A. Wade, Doctoral Candidate, 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 certified teacher with at least five years of teaching experience. 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 study's purpose is to understand the lived experiences of rural, secondary teachers in Southwest Virginia during post-COVID who are still charged with following educational guidelines and demands with students who have suffered learning loss.

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:

1. Participate in an in-person, audio-recorded interview that will take no more than 1 hour.
2. Review their interview transcripts. This procedure is called member checking. Member checking is a technique for exploring the credibility of results.
3. Participate in an in-person, audio-recorded focus group that will take no more than 1 hour.
4. Complete a journal prompt that will take no more than 15 minutes.

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 bringing attention to the needs within rural education and highlighting the difficulties rural teachers face to combat learning loss post-COVID.

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.
I am a mandatory reporter. During this study, if I receive information about child abuse, child neglect, elder abuse, or intent to harm self or others, I will be required to report it to the appropriate authorities.

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 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 people outside of the group.
- Data collected from you may be used in future research studies 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 all hardcopy records will be shredded.
- Recordings will be stored on a password locked computer for three years and then deleted. The researcher and members of her doctoral committee will have access to these recordings.

How will you be compensated for being part of the study?

Participants will not be compensated for participating in this study.

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 your studies?

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 Tracey A. Wade. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]
You may also contact the researcher's faculty sponsor, Sherrita Rogers at [redacted]

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.

Your Consent

By signing this document, you agree to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

☐ The researcher has my permission to audio-record me as part of my participation in this study.

_____
Printed Subject Name

_____
Signature & Date

APPENDIX E

INTERVIEW GUIDE

What Did They Forget? Learning Loss of Rural, Secondary Students Post-COVID: A Phenomenological Study

Participant Individual Interview:

Thank you once again for consenting to participate in my study. The following is an overview of the individual interview. Please email me with questions or to change the interview time.

Overview:

I. Interview time: Friday, February 9, 2024 @ 9:50 a.m.
II. Interview location: Classroom
III. Interview Questions: Feel free to review questions prior to your scheduled interview. The estimated run-time is 1 hour. Please note that certain responses may initiate a follow-up question to increase clarity and understanding.
IV. Transcripts will be sent to you to ensure accuracy.

1. Please tell me about yourself and how you got into teaching.
2. How would you describe your teaching style?
3. What was your experience with teaching online during Covid-19 school closures?
4. What did you experience once students transitioned back to in-person learning?
5. What did you notice in your students' learning post-COVID, opposed to pre-COVID?
6. What are some key changes in teaching practices that you have made post-COVID?
7. What instructional methodologies do you utilize in your classroom?
8. What strategies have met with the most success?
9. What educational strategies were used for in-person classroom instruction?
10. What types of educational technology are used daily within your lessons?
11. What types of technological professional development training have you recently received that was beneficial to your instruction?
12. What are some of the challenges that rural teachers encounter with learning loss?
13. Please describe how the lack of internet access affects your students.
14. What methods of instruction are used for students without internet access?
15. What gaps and loss of knowledge have been evident since the return to in-person learning?
16. How have you altered your curriculum to support students' loss of learning?
17. What alternative instructional techniques work best with students who have demonstrated learning loss? What successes were you able to document?
18. How have you dealt with student motivation in your classroom?
19. What experiences have you had with parental support of students with learning loss or lack of motivation?

20. What innovative lessons have you found to motivate your students most and why was that successful?

APPENDIX F

INTERVIEW QUESTIONS

1. Please tell me about yourself and how you got into teaching. CRQ
2. How would you describe your teaching style? CRQ
3. What was your experience with teaching online during COVID-19 school closures? CRQ
4. What did you experience once students transitioned back to in-person learning? CRQ
5. What did you notice in your students' learning post-Covid, opposed to pre-Covid? SQ1
6. What are some key changes in teaching practices that you have made post-COVID? SQ1
7. What instructional methodologies do you utilize in your classroom? SQ2
8. What strategies have met with the most success? SQ2
9. What educational strategies were used for in-person classroom instruction? SQ2
10. What types of educational technology are used daily within your lessons? SQ2
11. What types of technological professional development training have you recently received that was beneficial to your instruction? SQ3
12. What are some of the challenges that rural teachers encounter with learning loss? CRQ
13. Please describe how the lack of internet access affects your students. CRQ, SQ3
14. What methods of instruction are used for students without internet access? SQ2
15. What gaps and loss of knowledge have been evident since the return to in-person learning? CRQ
16. How have you altered your curriculum to support students' loss of learning? SQ2
17. What alternative instructional techniques work best with students who have demonstrated learning loss? What successes were you able to document? CRQ
18. How have you dealt with student motivation in your classroom? SQ2

19. What experiences have you had with parental support of students with learning loss or lack of motivation? SQ3
20. What innovative lessons have you found to motivate your students most and why was that successful? SQ1, SQ2

APPENDIX G

FOCUS GROUP QUESTIONS

1. What aspects of learning loss have become evident during this school year? CQR
2. What techniques were used to communicate lessons and expectations to students? SQ2
3. What methods worked best with student post-COVID? What methods were not as successful? Why? CRQ, SQ1
4. How did some of the more innovative strategies fail? How were they successful? SQ2
5. How were parents involved in the success of students' virtual lessons? In current in-person lessons? SQ2, SQ3
6. What knowledge have you gained from virtual instruction and what would you suggest for future virtual usages? CRQ, SQ2

APPENDIX H

JOURNAL PROMPT

Share your opinion about your technology preparedness for online learning during COVID-19 and challenges with technology education, student motivation, and learning loss in a rural school district post-COVID-19.

APPENDIX I

AUDIT TRIAL

Sample Procedural Log

Pseudonym	**Consent Letter Received**	**Interview Date**	**Interview Time**	**Transcriptions Completed** (*Transcribe* App)	**Participant Verified Transcript**	**Emailed to Participants/ Returned Journal Prompt**	**Focus Group**
Teacher A	1/30/24	January 30, 2024	9:50 a.m.	January 30, 2024	January 30, 2024	Jan.30/Feb. 8	FG #1
Teacher B	1/31/24	January 31, 2024	7:00 p.m.	January 31, 2023	February 1, 2024	Feb.1/Feb. 20	FG #1
Teacher C	1/31/24	January 31, 2024	9:50 a.m.	January 31, 2024	February 5, 2024	Feb. 5/ Feb.12	FG #2
Teacher D	2/3/24	February 4, 2024	9:50 a.m.	February 4, 2024	February 4, 2024	Feb. 4/Feb. 12	FG #1
Teacher E	1/23/24	February 2, 2024	2:00 p.m.	February 2, 2024	February 5, 2024	Feb. 5/Feb. 8	FG #1
Teacher F	1/24/24	February 5, 2024	9:00 a.m.	February 5, 2024	February 7, 2024	Feb. 7/Feb. 15	FG #1
Teacher G	2/9/24	February 12, 2024	2:00 p.m.	February 12, 2024	February 12, 2024	Feb.12/Feb.20	FG #2
Teacher H	2/2/24	February 9, 2024	1:00 p.m.	February 9, 2024	February 13, 2024	Feb.13/Feb.20	FG #2
Teacher I	1/26/24	February 14, 2024	9:50 a.m.	February 15, 2024	February 20, 2024	Feb. 20/Mar. 1	FG #1
Teacher J	1/29/24	February 9, 2024	3:00 p.m.	February 9, 2024	February 12, 2024	Feb.12/Feb.27	FG #2
Teacher K	2/6/24	February 8, 2024	3:30 p.m.	February 8, 2024	February 12, 2024	Feb.12/Feb.21	FG #2
Teacher L	2/12/24	February 23, 2024	1:15 p.m.	February 24, 2024	March 4, 2024	Mar. 4/Mar. 6	FG #2
Teachers A, B, D, E, F, I	FG#1	March 1, 2024	3:30 p.m.	March 2, 2024	**Initial Email to Potential Participants**	**Coding**	
Teachers C, G, H, J, K, L	FG#2	March 5, 2024	5:00 p.m.	March 5, 2024	January 23, 2024	Began March 6, 2024	