Theses, Dissertations and Capstones

2022

Experiences in Remote Learning: Perceptions of West Virginia Educators During the COVID-19 Pandemic

Craig Edward Arch

EXPERIENCES IN REMOTE LEARNING: PERCEPTIONS OF WEST VIRGINIA EDUCATORS DURING THE COVID-19 PANDEMIC
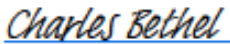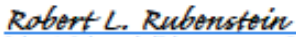
A dissertation submitted to
the Graduate College of
Marshall University
In partial fulfillment of
the requirements for the degree of
Doctor of Education
in
Leadership Studies
by
Craig Edward Arch
Approved by
Dr. Ronald Childress, Committee Chairperson
Dr. Charles Bethel
Dr. Robert Rubenstein

Marshall University
May 2022

APPROVAL OF DISSERTATION

We, the faculty supervising the work of **Craig Arch**, affirm that the dissertation, **Experiences in Remote Learning: Perceptions of West Virginia Educators During the Covid-19 Pandemic** meets the high academic standards for original scholarship and creative work established by the EdD Program in **Leadership Studies** and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

Dr. Ron Childress	*Ronald Childress (Feb 15, 2022 17:30 EST)*	2/15/2022
Leadership Studies	Committee Chairperson Major	Date
Dr. Charles Bethel	*Charles Bethel (Feb 16, 2022 09:59 EST)*	2/16/2022
Leadership Studies	Committee Member Major	Date
Dr. Robert Rubenstein	*Robert L. Rubenstein (Feb 16, 2022 11:23 EST)*	2/16/2022
External	Committee Member External	Date

iii

Dedication

This research project is dedicated to the love of my life, my wife, Ashley Arch. You have allowed me to pursue my dreams while managing to take care of our family for far too long. Your support during this time, and the past 18 years, has meant more than I could ever put into words. I love you.

Table of Contents

Abstract

In March 2020, the threat of illness caused by Covid-19 prompted West Virginia Governor Jim Justice to abruptly close public schools statewide. Instruction was delivered remotely for the remainder of the 2019 – 2020 school year and sporadically across the state during the 2020-2021 school year with educators holding class meetings and delivering instruction where technology and a reliable internet connection were available. Gaining understanding as it relates to a teacher's remote learning experience may provide insight into how administrators can prepare for future interruptions in in-person instruction. Identifying specific areas teachers felt were challenging or stressful may provide a point in which to focus attention when creating an action plan. The purpose of this descriptive, nonexperimental study was to examine the perception of West Virginia's public educators as they relate to their remote learning experience. Using a web-based survey, data reflected student interaction decreased and instructional methods changed dramatically throughout the remote learning period. Data also found teachers relied on specific software to deliver instruction and gained technological competence as a result of their experience. Educators felt confident in their ability to teach remotely but lacked confidence reaching unmotivated students or encouraging students to attend class. Data reflects educators' intention to remain in public education despite the stress of the remote learning period. Specific stressors of the remote learning experience include concern for students' and teacher's mental health and student physical well-being. Numerous statistically significant differences were found among four demographic variables: sex, experience level, instructional level taught, and prior technology training. Lastly, major professional challenges are identified including fear of the unknown and internet and technology concerns.

Chapter One: Introduction and Overview

An unknown disease causing pneumonia-like symptoms was reported to the World Health Organization (WHO) on December 31, 2019 (World Health Organization, 2020). The respiratory disease caused by this novel coronavirus was later officially named Coronavirus Disease 2019 (Covid-19) (Fauci et al., 2020). Identified as a cousin of the same virus that causes severe acute respiratory syndrome (SARS), Covid-19 spread rapidly throughout Asia before the first confirmed case was diagnosed in the United States on January 19, 2020 (Holshue et al., 2020). As Fauci et al. (2020) observed, public health, research, and medical communities all struggled to identify, treat, and mitigate this emerging crisis. Hospitalization and mortality rates varied widely depending on age and comorbidities, with fatality rates doubling for every 16 years of patient age (Palmer et al., 2021). The same literature suggested children were relatively safe from the virus, with an estimated hospitalization rate of 0.6 for every 100,000 cases for children ages 0-4.

Most first-world countries began to restrict travel in an effort to mitigate the spread of the virus (Fauci et al., 2020). These restrictions slowed the initial spread of the virus in the United States, but cases began to rise exponentially. The wide range of symptoms complicated initial efforts to quarantine infected individuals (Guan et al., 2020).

Contact tracing in China began immediately as researchers studied the contagiousness of the virus and struggled to understand the nature of its spread (World Health Organization, 2020). Additional steps to mitigate the virus continued as social distancing (keeping six feet of distance between individuals) and mask usage were highly encouraged (Feng et al., 2020). An indoor mask mandate was issued by executive order by West Virginia Governor Jim Justice on March 16, 2020 (J. Justice, personal communication, March 16, 2020).

On March 13, 2020, Governor Justice ordered the closure of all public schools in West Virginia (J. Justice, personal communication, March 13, 2020). The following day updated guidance was issued closing the state's schools until at least March 27, 2020. Governor Justice was quoted as saying, "At the heart of everything we are doing right now is the protection of our children, making sure our schools are safe for our teachers and staff, and making every effort to protect all of the people of West Virginia" (Office of the Governor, personal communication, March 14, 2020). On March 16, 2020, President Trump encouraged the public to avoid gatherings of 10 or more people and recommended working from home when possible (Rutledge, 2020). West Virginia's public schools would remain physically closed until the end of the 2019 – 2020 school year.

Despite the schools being physically closed, instructional day requirements were met through the specific framework provided by the West Virginia Department of Education (WVDE) on April 4, 2020 (West Virginia Department of Education, 2020). The publication laid out specific instructions regarding instructional areas in which teachers should focus, grading policies, attendance guidelines, and requirements pertaining to special education services. Remote learning took place through synchronous means (Microsoft Teams, Zoom), while some teachers provided asynchronous assignments via paper packets or online platforms such as SeeSaw and ClassDojo.

Due to the unprecedented spread of the virus and the abrupt closure of schools statewide, West Virginia Superintendent of Schools W. Clayton Burch formally announced his intention to suspend statewide formal assessments in a letter to Education Secretary Betsy DeVos on March 17, 2020 (W. C. Burch, personal communication, March 17, 2020). While Superintendent Burch

suggested students had at least two months before returning to the classroom to close the 2019 –

2020 school year, students would not return until the fall.

Reopening Plans for Fall 2020

The virus continued to spread throughout the summer of 2020. With the start of school

fast approaching in the fall, Maxwell (2020) described a range of opening models employed by

schools. Many districts nationwide opted to begin the school year remotely, including the

second-largest school district in the country, Los Angeles Unified School District (Maxwell,

2020). Other districts, such as Miami-Dade County, Florida, and Cobb County, Georgia,

provided parents the option for their students to return in-person full time. The nation's largest

school district, New York City Schools, adopted a hybrid option of sending students into schools

part of the week, while the other days were remote only.

As developing medical evidence demonstrated children were at low-risk of transmission

or asymptomatic infection, the pressure to reopen in-person instruction grew. Numerous

mitigation strategies designed to keep staff members and students safe, such as limiting class

sizes, restricting movement in the building, frequent handwashing, mask wearing, and

implementing social distancing while in classrooms were set in place (The National Academies

of Science, Engineering, and Medicine, 2020).

West Virginia Governor Jim Justice announced a re-entry plan days before teachers were

to report to work in the fall semester of 2020. Governor Justice felt as though the plan promoted

the safe and equitable return of students and staff members, saying, "I've told you repeatedly that

there's no chance in the world, to the best of all my abilities, will I put a kid, a teacher, our

service personnel, or anyone into a situation that's unsafe. Today, I am extremely proud to

announce that we have a safe method to reopen our schools that we built in from a standpoint of local control and scientific metrics" (J. Justice, personal communication, August 5, 2020).

The WVDE required all of West Virginia's 55 school systems to create specific plans requiring them to offer in-person instruction, remote learning, or a hybrid model. Systems subsequently surveyed parents and guardians to determine their preferred method of instructional delivery. Justice (2020) continued to tout the importance of a safe return to school by requiring the West Virginia Division of Health and Human Resources (DHHR) to develop a metric which would gauge the exposure threat by measuring county transmission levels.

Governor Justice (2020) announced the development of a statewide metric used to determine the current threat to safety in schools by assigning a color to four levels of risk. Green was assigned to less than eight cases per 100,000 residents with yellow, orange, and red indicating higher levels of infection. Counties were given permission to reopen for in-person learning if they met the green or yellow metrics on the DHHR Covid-19 map (J. Justice, personal communication, August 14, 2020). The metrics were later adjusted to require lower numbers of positive cases based upon the opinion of medical professionals. Governor Justice added, "We also said, along the way, we would listen and be fluid. We've stayed in contact and we decided that we needed to pivot just a little bit" (J. Justice, personal communication, August 17, 2020).

The map was later updated to reflect a new gold color (J. Justice, personal communication, September 15, 2020). Calling the original orange metric too broad, Governor Justice implemented a revised system by the introduction of the gold level. With the intention of allowing up to 64,000 students into classrooms with the revised system, the gold designation allowed a greater number of students to remain in school.

The West Virginia DHHR Covid-19 map was revised a final time with the introduction of the infection rate (Justice 2020). Implemented at the same time as the gold designation, the positivity rate metric measured the percent of positive tests counties were reporting. Using the same color code system as the infection rate, the positivity rate provided medical professionals with another metric to evaluate when determining if it was safe to keep schools open. Each of West Virginia's 55 school systems' opening status was then determined based on the better of the two measures.

The Return of In-Person Instruction in West Virginia

Governor Justice announced elementary and middle schools would return to at least a blended in-person instructional model beginning January 19, 2021 (J. Justice, personal communication, December 30, 2020). All high schools in "non-red' classifications on the DHHR Covid-19 map would also return to in-person learning. Students who elected to receive remote instruction for the entire year were permitted to continue to receive instruction virtually.

Governor Justice cited statistics stating Covid-19 transmission rates were 0.02 per 100 students and 0.03 for staff members at schools during the first semester of the 2020-2021 school year when proper mitigation strategies were utilized (Justice, 2020). Forty-eight of the 55 school districts were able to return due to registering orange or better on the DHHR Covid-19 map. Educators statewide pushed back on the plan, stating their preference to have all professional staff and service personnel vaccinated if they choose to be (Kroll, 2021)

On February 13, 2021, the West Virginia State Board of Education unanimously voted to require all elementary and middle schools to reopen beginning March 3 (Jenkins, 2021). Individual counties could request a waiver to allow students to learn remotely one day a week to allow teachers to clean classrooms and complete work for any virtual class they may have.

By the end of 2020, Covid-19 was still the leading cause of death in the United States (Koh et al., 2020). Vaccine research began in earnest on May 15, 2020, when President Trump announced a public-private partnership designed to dramatically decrease the time a vaccine could be produced (Van Norman, 2020). Pharmaceutical and biotechnology company Moderna created and produced a vaccine with acceptable efficacy and was granted emergency approval by the Food and Drug Administration for immediate dissemination on December 18, 2020 (Kaur & Gupta, 2020).

West Virginia was lauded by medical professionals for its vaccination efforts in efficiently and quickly delivering shots (Mervosh, 2021). The West Virginia Department of Education ensured faculty and staff members above the age of 50 were a priority in receiving the Covid-19 vaccine. Everbridge, the company tasked with gauging interest in the vaccine by the state's public educators, polled employees to determine the appropriate number of vaccinations to send to each county (Adams, 2021). By January 29, 2021, the first round of vaccinations had been administered to those employees who responded positively to the interest survey (Tierney, 2021). Vaccines for public school teachers and support staff under the age of 50 continued to be administered throughout the spring. The overall rate of vaccinations in West Virginia slowed substantially once those eager to receive the shot did so (Kabler, 2021).

Impact of Covid-19 on Teachers

Nationwide, the vast majority of American educators shifted to remote learning by March 2020. While a nationwide shutdown order was not put into place, all 50 states and U.S. territories had at least one school district closed due to Covid-19 (Winthrop, 2020). States like West Virginia were hopeful schools could reopen before the traditional close of the 2019 – 2020

school year while others like Kansas and Virginia announced in mid-March their intention to keep schools closed until the fall (Winthrop, 2020).

Educators struggled to adapt to remote instruction. Teachers in England felt unsatisfied and stressed, stating they felt "like a rug had been pulled from under you" (Kim & Asbury, 2020, p. 9). Major stressors identified by this population included increased worry for vulnerable students at home during a lockdown and the uncertainty surrounding teaching remotely in a pandemic. Kim and Asbury continue by suggesting teachers felt overwhelmed due to their inability to share their burdens with co-workers and lean on them during times of immense stress.

Statement of Problem

On March 13, 2020, West Virginia Governor Jim Justice closed all public pre-K-12 grade schools and all after-school extracurricular activities effective immediately in response to the looming threat of the novel coronavirus pandemic. The first positive Covid-19 test in West Virginia was confirmed on March 17 (Justice, 2020). The Governor would later declare on April 21 schools would remain closed for the remainder of the 2019 – 2020 school year. The unforeseen nature of the pandemic and immediate change in instructional delivery caused teacher stress to rise (Cerveny, 2020). Teachers' increased stress levels were also linked to concern for their most at-risk students (Kim & Ashbury, 2020). Due to the recency and ongoing nature of the pandemic, the current body of literature does not adequately address the effects of the school closure and subsequent changes in instructional delivery models teachers had in West Virginia.

Purpose of the Study

The purpose of this study was to complement the limited existing body of research that addresses the effects of the Covid-19 pandemic on education in West Virginia, specifically

regarding the concerns of teachers during the mandated remote learning period. Those concerns include teacher satisfaction levels and specific stressors, any changes to teacher-student interaction, professional retention concerns, barriers to remote learning due to technological inaccessibility, and the transformation of instructional techniques.

Research Questions

This study was guided by the following specific research questions:

1: What impact, if any, did the Covid-19 pandemic have on how West Virginia teachers interacted with their students during the mandated school closure?

2: What impact, if any, did the Covid-19 pandemic have on the instructional methods West Virginia teachers used during the mandated school closure?

3: What impact, if any, did the Covid-19 pandemic have on the use of technology West Virginia teachers utilized during the mandated school closure?

4: What impact, if any, did the Covid-19 pandemic have on the technological competence of West Virginia teachers as a result of the mandated school closure?

5: What impact, if any, did the Covid-19 pandemic have on the job satisfaction levels of West Virginia teachers?

6: What impact, if any, did the Covid-19 pandemic have on West Virginia teacher reported self-efficacy throughout the remote learning period?

7: What impact, if any, did the Covid-19 pandemic have on the intention of West Virginia teachers to remain in the educational field?

8: What impact, if any, did the Covid-19 pandemic have on the stress levels of West Virginia teachers as a result of the remote learning period?

9: What are the differences, if any, in the impact of the Covid-19 pandemic on West

Virginia teachers based on selected demographic/attribute variables?

10*: What were the major professional challenges faced by West Virginia teachers as a

result of the Covid-19 pandemic?

Operational Definitions

The following variables were operationally defined for inclusion in this study:

Sex: Participant sex, as measured by participant responses to Question 2 of the *Arch Survey of*

Teachers' Perceptions of Remote Learning during Covid-19.

Teaching Experience: The number of years a participant has been employed as an educator, as

measured by participant responses to Question 3 of the *Arch Survey of Teachers' Perceptions of*

Remote Learning during Covid-19.

Level: The educational grade level the participant taught during the Covid-19 pandemic, as

measured by participant responses to Question 4 of the *Arch Survey of Teachers' Perceptions of*

Remote Learning during Covid-19.

County or State Training: Participation in the technological training offered by the West

Virginia Department of Education or the county of participant employment as measured by

participant responses to Question 5 of the *Arch Survey of Teachers' Perceptions of Remote*

Learning during Covid-19.

Level of Remote Teaching Experience: The amount of prior experience a participant had

related to remote teaching as measured by participant responses to Question 6 of the *Arch Survey*

of Teachers' Perceptions of Remote Learning during Covid-19.

Provided Technology: The equipment used to provide remote instruction as measured by participant responses to Question 7 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Instructional Impact of Pandemic: The impact of the pandemic on teacher instruction, namely, face-to-face-instruction, thoughtful student responses, time spent instructing, and instructional methods utilized, as measured by participant responses to Questions 8, 9, 11, and 12 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Level of Teacher-Student Interaction: The amount of time educators spent interacting with students, as measured by participant responses to Question 10 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Level of Technological Competence: The ability to utilize technology to achieve desired results, as measured by participant responses to Question 13 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Utilized Products: The technological applications educators used during the remote learning period, as measured by participant responses to Question 14 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Teacher Stress Level: The feeling or emotion of being overwhelmed or unable to cope with mental or emotional pressure as a result of the pandemic and transition to remote learning, as measured by participant responses to Question 15 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Teacher Job Satisfaction: The contentment an educator felt in their position, as measured by participant responses to Question 16 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Teacher Self-Efficacy: The self-assurance an educator felt to complete the requirements of their position, as measured by participant responses to Question 17 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Stress Factors: The factors that could influence a teacher to leave education and seek employment elsewhere, as measured by participant responses to Questions 18 and 19 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Challenges: The difficulty faced by educators during the remote learning period, as measured by participant responses to Question 20 of the *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19.*

Delimitations

While participants in this study vary in age, sex, race, socioeconomic status, and geographic location in West Virginia, participants are limited to public educators employed in West Virginia who taught during the period of remote instructing who are currently members of the WV Public Employee UNITED Facebook group.

Significance of the Study

Study findings have the potential to better equip political and educational leaders in West Virginia to prepare for future pandemics, natural disasters, or other events that could alter the typical delivery of in-person instruction. Epidemiologists are able to predict, with some accuracy, the expected duration and veracity of the various waves of cases based on knowledge gained from the influenza pandemic of 1918 and the cyclical nature of outbreaks (Bjørnstad & Viboud, 2016). Future leaders could use the findings of this study to better implement contingency plans for remote instructional delivery when daily in-person schooling is temporarily unavailable.

Findings from this study have great potential for use by statewide government officials to understand the technological gap between urban and rural areas in the state. Cities like Martinsburg, Morgantown, Charleston, and Huntington have ample citizen access to the internet, but the lack of a developed high-speed internet infrastructure prevents all students statewide from having the ability to learn remotely.

Educators and administrators can potentially gain insight not only from their own experiences during the transition to remote learning, but also from the perceptions of teachers statewide. While another pandemic may not be likely during their professional career, additional disruptors to daily instruction (i.e., floods, loss of the electrical grid, catastrophic fire) remain a potential threat. Being cognizant of the experiences of others can help prepare teachers, administrators, and officials for the disruptions that will inevitably come.

Chapter Two: Review of Literature

The scope of this study was limited to understanding the various effects and areas of impact due to the transition to remote learning during the Covid-19 pandemic. Sources pertaining to historic and contemporary pandemic prevention and mitigation, the onset of the Covid-19 pandemic, and previous examples of abrupt loss of in-person instructional time were reviewed. Additional literature on best practices in student and teacher interaction, emerging methods of communication between students and teachers, instructional methods teachers utilize during in-person instruction, and professional stressors educators face in their career field was reviewed. The literature review then focuses on teacher self-efficacy, historical and current trends on professional development, the social and emotional concerns of students, the importance of high-speed internet at home for students, and the current state of West Virginia's broadband capabilities.

Historical Overview of Pandemic and Epidemic Prevention

Novel coronaviruses capable of sustained human-to-human transmission have the potential to cause pandemics, an event defined as an infectious disease rapidly spreading over a country or the entire globe (Fauci et al., 2009). The majority of novel coronaviruses capable of becoming infectious in humans originate through cross-species contamination and, having by definition never been exposed to humans, the contagion is met with little resistance because members of the general population have no antibodies to prevent infection (Pike et al., 2010). Since 2000, the world has endured seven pandemics of various severity (National Science and Technology Council, 2016).

Since the 1918 H1N1 pandemic killed approximately 675,000 people in the United States, epidemiologists have worked to prevent the next outbreak of an infectious disease. In

1994, The Center for Disease Control and Prevention devised a plan designed to prevent an event similar to the prior H1N1 outbreak. The plan focused on four goals: emphasizing preliminary surveillance and response, applied research, infrastructure and training, and prevention and control (Center for Disease Control and Prevention, 1998).

In the latter part of the 20th century, two additional pandemics took place in 1957 and 1968, killing an estimated 216,000 Americans combined (Kilbourne, 2006). The mid-century pandemic presented scientists with an opportunity to observe the effectiveness of a vaccine in a target population, including tests to determine the comparative efficacy of a single dose versus divided doses (Kilbourne, 2006).

In an effort to prepare for future pandemics, the Obama Administration prepared a modeling guide to better understand potential outbreaks of pandemic proportions, including viruses in the SARS-CoV family (National Science and Technology Council, 2016). The Obama Administration stated, "The next pandemic pathogen could emerge any day" (para 5, p. 15), and subsequently produced an additional 69-page playbook on how to deal with an inevitable pandemic (Executive Office of the President of the United States, 2016). None of these publications reference public education in their findings.

Previous Examples of Interrupted Instruction

There have been periods of interrupted in-person classroom instruction for various reasons throughout modern American history (i.e., Hurricane Katrina, Covid-19) and throughout the world at large (refugee movement, 2011 Japanese tsunami).

On August 29, 2005, Hurricane Katrina hit landfall just east of the Louisiana-Mississippi border, causing catastrophic damage to the city of New Orleans (Krane et al., 2007). Over 300,000 students were misplaced and were relocated throughout the United States. Students with

Interrupted Formal Education (SIFE) are defined as students who receive limited or no formal education (DeCapua & Marshall, 2009). The varied abilities of these students caused educators to alter and rethink their instructional methods and pace of instructional delivery (Picou & Marshall, 2007). The accommodations made by the educators did not stop the students from experiencing difficulties in establishing new relationships, reestablishing routines, and coping with anxiety related to the hurricane.

According to Picou and Marshall (2007), teachers of the relocated Katrina students went to extraordinary lengths to make them feel at home, including making extra efforts to install easily understood and implemented routines in the classroom, meet their varied psychological needs, and identify symptoms of post-traumatic stress syndrome. Peer mentors were assigned for each of the displaced students to help promote social adjustment. Educators were also tasked with closely monitoring displaced students for signs of physical problems, such as prolonged periods of sadness, anxiety, nervousness, and withdrawal that resulted from the disaster.

Internationally, the Syrian refugee crisis has caused European school districts to evaluate measures used to help SIFEs regain a sense of normalcy in their education. Belgium, for example, organizes "network days" in an effort to connect refugee children and their parents to their corresponding schools by introducing them to teachers, principals and follow-up coaches (Koehler & Schneider, 2019). Sweden immediately places refugee children in an academically-appropriate class based upon their last year of prior formal education to re-establish a sense of normalcy as soon as possible (Koehler, 2017). Despite the best efforts of European Union countries, Koehler and Schneider (2019) state, "Still too many teachers lack the training, competencies, and experience with issues of migration and diversity" to effectively deal with the surge of SIFEs in their school systems.

School districts have increasingly devoted more resources to developing action plans in an effort to provide services specifically to SIFEs displaced by a myriad of interrupters. Particular attention has been paid to cultural and economic sensitivities as a result of their displacement (Cohan & Honigsfeld, 2017). The best programs endeavored to locate SIFEs from the same country or region together to create "hubs" where students did not feel as isolated from cultural or economic norms. Programs exhibiting best practices also considered the students' abilities (i.e., English proficiency for refugees) and were immediately able to place them in English Language Learner programs. Instead of measuring SIFEs by what they do not know (the deficit approach), educators are encouraged to explore what knowledge their new students possess as they seek to build on their academic foundation in culturally sensitive ways (DeCapua, 2016). Scaffolded instruction, differentiated instruction, and personalized instructional techniques are all methods highly successful teachers of SIFEs utilized to help promote academic success.

Traditional Student-Teacher Interaction

Teachers' styles when interacting with students vary from "very nurturing and parental to downright confrontational," (Englehart, 2009). In order to make the best-suited educational impact, teachers must develop a trusted relationship based on listening, dialogue, and critical thinking (Noddings, 2012). Effective two-way communication allows the educator to learn from the student and vice versa. In an in-person classroom setting, teachers have the ability to greet each student face to face, find the extra time to learn about individual personal interests, and become ingrained in the lives of their students during the first few minutes of class, transition periods, and after closure when a lesson has come to an end. Fostering these relationships with students benefits the educator as a sense of caring produces pupil buy-in and creates trust while

the student benefits from having another caring adult in their lives during formative, and sometimes, tumultuous years. Positive teacher relationships with students has also been linked to the amount of joy versus anxiety a teacher experiences in their classroom (Hagenauer et al., 2015).

Maslov (1943) found that, once basic human needs such as clothing, shelter, and food are met, love and a sense of belonging are subsequently required if individuals are to possess the intrinsic motivation necessary to learn and retain new concepts. Meeting these needs at the tertiary level of Maslov's hierarchy is how exemplary teachers create fostering and welcoming classrooms capable of instilling the love of learning in students. Baker's (2006) research promotes the idea that showing appropriate affection and developing close relationships with students with disabilities promote student growth.

Baumeister and Leary (1995) state humans innately seek comfort and belonging in a social setting while also endeavoring to form positive relationships with other individuals. With countless external stimuli (i.e., unceasing notifications on student cellphones, other students, homelife concerns) challenging teachers for the attention of students, capturing the attentiveness of all students can be challenging in a 21st century classroom. Forming a positive relationship with each pupil is paramount to the success of each student, especially children in elementary grades (Baker, 2006).

As of May 2020, 7,265 children were in foster care in West Virginia (KVC West Virginia, 2020). Positive student-teacher interaction is the cornerstone when building interpersonal relationships with any child in public education but more so with vulnerable populations. Children in foster care are often in most need of as many caring adults in their lives as possible. Therefore, positive learning environments are of the utmost importance to these at-

risk students as a source of stability and in promoting learning, as Allen and Vacca's (2010) research draws a strong correlation between school achievement and the number of times foster children change schools due to relocation.

Organic Shift to Virtual Communication and Instruction

The technological revolution of the past 20 years has changed education in ways never imagined. As of this year, 85% of all Americans possess an internet-capable smart phone (Pew Research Center, 2021). Software developers have capitalized on this unprecedented reach, allowing teachers to use applications ("apps") to communicate with parents and students in new and exciting ways (Hirsh-Pasek et al., 2015). There are 80,000 educational apps currently available for download on Apple's App Store, though not all have been validated using science-based standards or through certification review. Almost every educational discipline has apps for specific content areas such as geography, (i.e., Google Earth, Bonza National Geographic), mathematics, (Khan Academy, Prodigy), and spelling, (Spelling City, Rocket Speller).

Pechenkina et al. (2017) found student retention of information increased more than 12% after educators began incorporating pertinent and engaging apps into their instructional methods. Notably, the teaching staff, the curriculum studied, and the assessment methods did not change throughout their study, highlighting app usage as the catalyst of the increased retention. As results like these continue to become available, educators continue to utilize educational apps as a needed part of their instructional repertoire.

Revolutionary technology such as educational apps gained the notice of educators because of the ability to promote the four pillars of education while also maintaining the attention of 21st century students. These apps allow students to be *actively involved*, *engaged* with the material through *meaningful* experiences, all the while *socially* interacting with their

classmates (Hirsh-Pasek et al., 2015). Educational apps promote rigor, as they can be tailored to challenge students at their instructional level while engaging the pupils in the content. State-approved content standards and objectives are being exercised, since pupils are working on apps the teachers have identified as beneficial. Critical social needs are also being met through collective apps or hosts such as Kahoot, which allows students to use its platform on cellphones or tablets to answer questions and immediately receive feedback in a whole group collaborative setting.

The emergence of the smartphone has also revolutionized parent-teacher and even student-teacher communication. Apps such as Remind and ClassDojo promote effective two-way communication while still maintaining the privacy of the teacher's phone number. Both apps allow teachers to contact parents and students any time through the notification system on their respective smart phones that alert invested parties to assignment due dates, provide the means to respond to messages, and remind parents and guardians of class-specific or schoolwide events.

Sophia et al.'s (2017) research concluded the ease of using Remind and similar communication apps increased parent responses from teacher messages. Smartphone apps were designed to overcome barriers to parent contact such as "economic pressures, time constraints, overlapping schedules, cultural barriers, and pre-existing negative experiences or feelings about school" (Graham-Clay, 2005, p. 6). The findings Sophia et al. (2017) reached were the result of a study which took place at a mixed-income middle school in North Dakota.

ClassDojo has also revolutionized the token economy system in elementary classrooms (Robacker et al., 2016). The app, which debuted in August 2011, allows students to create their own avatar, which is designed to increase student ownership over the points their "monster" receives for positive behavior or loses for negative actions. ClassDojo has encouraged teachers

who utilize the positive behavioral interventions and supports (PBIS) framework to increase parent and guardian participation in the process. ClassDojo allows parents to have real-time access to their child's behavior in school while also making token economies incredibly simple for teachers to manage throughout the school day. According to Krach et al. (2016), ClassDojo provides significantly more PBIS data than other methods as it allows the teacher to easily note the antecedent behavior for which the student is either rewarded or chastised. The increase in information available to parents promotes trust between the two parties and is further enhanced by ClassDojo's ability to host pictures of educational events and activities for parents to review or comment on.

The wide accessibility of smartphones in the hands of students has allowed virtual reality to become a tool available to educators. Virtual field trips through the YouTube app or other educational apps on student cell phones inserted into virtual reality headsets allow pupils to travel to locations public education budgets would never physically allow (Patterson & Han, 2019). Student interest can also be piqued through virtual reality with trips to historical events or locations where the laws of space and time will not allow. These virtual field trips, a novelty to most students, also promote student attention as most virtual reality videos suggest standing or even walking for the duration of the video (Patterson & Han, 2019). These advances in technology have created learning opportunities the parents of current students could never have imagined.

Best Practices in Instructional Methods

Specific instructional methods have been the topic of conversation between pedagogists since the first teaching colleges were established. Much of the debate takes place over the merits of both active and passive approaches (Johnson & Barrett, 2017). Active learning is defined as

an approach to learning that promotes students taking a major role in their own education through role playing, discussions, case studies, problem solving, etc., while passive learning is typically associated with the direct instructional method of content being delivered by a single teacher with the pupils taking on the role of content absorption.

Traditionally, students have shown resistance to active learning as it requires concrete action on their parts, while passive learning requires less energy exertion. Steps to mitigate resistance to active learning include developing a routine, grading on participation, conscientiously designing activities for student participation, and using incremental activities to accustom students to the actions necessary to become active participants (Tharayil et al., 2018). Research by Tharayil et al. (2018) identifies secondary methods educators can use to overcome opposition to active learning, including explaining the purpose of the activity, describing course and activity expectations, and approaching non-participants. Tharayil et al. continue by suggesting educators assume an encouraging demeanor to invite questions, while making their presence known by walking around the room.

In most schools, the mention of passive instruction conjures images of antiquated direct instructional methods with an educator standing in front of the classroom repeating facts and figures for students to remember. Stanton (1974) states independent study is more likely to produce better academic results than passive instruction; however, not all literature suggests clear dominance. Additional research suggests active instruction provided no clear difference in mastery of a subject over passive instruction, but "can lead to improved cognitive outcomes within a class," (Michel et al., 2009). Stanton, (1974) argues the individuality of the student's preferred learning style accounts for the method in which they will best retain information.

While a consensus is hard to find in almost any research, higher education officials have begun to take notice of the methods by which students learn most effectively (Hirsh et al., 2020). A study conducted at Dartmouth College produced results which indicated students taking an active role in their education scored twice as high as students that did not (Johnson & Barrett, 2017). Companies and organizations are increasingly seeking employees who can work collaboratively in teams and, as a result, teachers are taking the lead role in developing active instructional methods to better prepare graduates for professional workforce demands. It is important to note active instruction, typically constituting kinesthetic or collaborative practices, takes place in a traditional in-person classroom where a teacher is physically present to act as a facilitator.

Teachers with access to the requisite technology have been able to develop inventive instructional methods using these new devices. iPads, for example, have allowed teachers the opportunity to provide individualized instruction since 2010 (Tay, 2016). Incorporating active instructional methods with emerging technologies has the potential to increase academic achievement over an extended period of time. As Tay (2016) writes, "iPads are so ubiquitous now that one sometimes forgets that they came onto the scene and into schools only very recently in 2010" (p. 1). Therefore, additional studies must be conducted over a longer period of time before establishing technology, including iPads, as the new savior of education in conjunction with active instruction, but early results are promising.

<div align="center">**Increasing Professional Stressors**</div>

High levels of stress have been the main factors causing educators to leave the profession for a long time, with research on the topic dating back to the 1970s (Kyriacou & Sutcliffe, 1978). In the two years leading up to the Covid-19 pandemic, almost half of teachers polled considered

leaving their position before their scheduled retirement date (Diliberti et al., 2021). While many consider low pay to be a main contributor to the teacher exodus, stress is by far the largest reason why educators consider leaving their post (Harmsen et al., 2018).

The reasons for teacher stress are numerous, but a major contributing factor is the behavior of students in the classroom. The root cause of stress for teachers related to student behavior originates from the time spent managing even minor behavioral infractions (Clunies-Ross et al., 2008). Kokkinos (2007) successfully linked teacher burnout with more serious negative student actions in the classroom such as antisocial, oppositional, and defiant behavior (exhibiting cruelty and/or bullying other students). In a study of 121 teachers and over 1,800 students, the implementation of PBIS protocols helped mitigate negative behavior, but the issue remained a major source of teacher stress in an urban Midwest school district (Herman, et al., 2017).

An additional source of stress in teachers is poor school climate and unsatisfactory working conditions. While expected student behavior plays a role in creating a school climate, other factors such as parent and community relations, the effectiveness of the administration, and teacher satisfaction levels also play a role (Grayson & Alvarez, 2008). Districts that lack the funds for instructional resources or building maintenance also factor into reported levels of educator stress (Fimian & Blanton, 1987). Relying upon co-workers for peer support and as a source for additional instructional resources were identified as ways educators could overcome deficits in poor school climate. Furthermore, the development of positive relationships between teachers promoted a feeling of cohesiveness which helped ease educator stress (Howard & Johnson, 2004).

Not providing teachers with autonomy has been strongly linked to teacher stress. Research suggests teacher stress levels were reduced the more autonomy over the curriculum the educator possessed, as increased levels of autonomy promote feelings of empowerment (Moomaw & Pearson, 2019). The study indicated this feeling of empowerment was not constrained to specific grade levels but was generalizable across the K-12 spectrum and various disciplines.

The literature suggests pressure to meet high expectations is also a major contributor to increased teacher stress. The use of test-based accountability in performance evaluations, merit pay, and tenure decisions resulted in increased educator stress in the work environment (Ryan et al., 2017). According to Thibodeaux (2014), the pressure of statewide testing was a major contributing factor in teacher stress and was a marginal factor causing educators to leave the profession. While the reasons for teacher stress vary, studies have estimated nearly 40% of new teachers leave the profession within the first five years (Darling-Hammond, 2010). Stress levels remain at a constant level throughout the school year, with moderate spikes during important events like parent-teacher conferences, report card deadlines, or periods of statewide testing (Ryan et al., 2017).

Lambert and McCarthy (2006) cite President Bush's *No Child Left Behind Act of 2001* as a major driving factor behind teachers' decision to leave education. At the time, the law required schools to "replace the school staff who are relevant to the failure to make adequate yearly progress," (Crisafulli, 2006). The law offered moderate protection to tenured teachers, but those new to the profession could lose their job much easier.

Teacher Self-Efficacy

Self-efficacy is defined as the measure of one's beliefs in their own ability to exercise control over their own functioning (Bandura, 1993). While most individuals in public education think of student achievement when discussing self-efficacy, educators can and should reflect on other areas of their practice and how it impacts students. In so doing, they can see other potential areas of improvement in other facets of their work. For example, research conducted by Herman et al. (2017) on 121 elementary school educators found "teachers who feel more confident in their capacity to manage classroom behaviors are more likely to deliver effective practices and observe positive student outcomes" (p. 91). Conversely, a lack of self-confidence in ability to manage negative classroom behavior will prevent educators from attempting to develop their skills in this area. Herman et. al. (2017), also negatively associate teacher self-efficacy with stress levels and burnout, as the belief in one's ability to successfully complete a task would reduce the likelihood of anxiety while completing it or the refusal to attempt it in the future.

Student achievement has also been indirectly linked to teacher self-efficacy (Herman et al., 2017). Teacher self-efficacy and subject knowledge are positively correlated to the comfort level a teacher possesses over the material (Ayllón et al., 2019). Literature suggests teacher self-efficacy and student self-efficacy are closely linked, especially in math (Hajovsky et al., 2019). Confidence in one's ability allows an educator to project that confidence during instruction; therefore, students are more likely to grasp content when the teacher believes in their ability to effectively deliver instruction.

Teaching is historically a profession that attracts students who have a desire to teach as opposed to being a fallback career option. Lambert and McCarthy's (2006) study found 81% of the educators who left their position within four years of being hired claim they entered the field

because they felt it was their calling. This statistic suggests they always desired to enter the profession and initially felt they would perform at a high level in the classroom. Knowing the latest information and current best practices in the classroom is an effective way to retain high levels of self-efficacy. For example, educators must be trained and have access to ever-changing technology for them to feel comfortable and believe in their ability to use it in their classroom (Joo et al., 2018).

Technological self-efficacy is of the utmost importance in the 21st century classroom as instructional methods are constantly evolving through advances in technology. While instructional efficacy increases throughout a teaching career, technology self-efficacy declines as the years of teaching experience increase due to the ever-changing nature of technology and its implementation in the classroom (Kwon et al., 2019). The failure to remain current on technological best practices shows a lack of professional development on emerging technology provided by school districts. While there are numerous barriers concerning technology usage (i.e., time, resources), capable teachers succeed in utilizing technology in the classroom (Ertmer et al., 2006).

Professional Development

Public educators participate in professional development aimed at increasing their knowledge and ability level in their content area, technological skills, emerging best practices in teaching, childhood emotional and social development, and other means of professional growth. Teachers engage in professional development in preplanned in-service days, formal seminars, professional lunches, and even informal hallway discussions with peers (Desimone, 2011).

Professional development has become ingrained in long-term school-based strategic plans and local school improvement committees across the country as administrators at the

district and school level seek new methods of raising student achievement. Guskey (2000) believes, "Never before in the history of education has greater importance been attached to the professional development of educators" (p. 3). As educational best practices continue to develop, lifelong learners in the classroom are encouraged, and typically required, to periodically attend professional development to achieve the goals of strategic plans. While professional development of the past has been criticized for its inflexibility and lack of inventiveness or progressivism, recent professional development has provided teachers with an opportunity to grow as professionals (Borko et al., 2010).

Outside agencies and resources can be utilized during professional development sessions. Administrators can request teacher-leaders to conduct sessions on a topic of their choice or areas of school needs. Borko et al. (2010) believe high quality professional development contains consistent features – namely, it should focus on student learning and be situated in practice. Additional attributes of high-quality professional development are the opportunity for teachers to reflect on their own teaching, make connections between their specific content specialty and the lives of their students, and improve their methods of assessment (Borko et al., 2010).

The structure of high-quality professional development is also consistent across disciplines. Presenters model teacher expectations, providing educators an opportunity to experience the lesson as learners, which in turn provides insight into what they expect their students to achieve, learn, experience, or produce (Borko et al., 2010). While in-person, large group professional development sessions are typical, mentoring programs, college and university classes, private online courses, and teacher observations can also serve as professional development (Mizell, 2010). Professional development can be generalized to broad subjects such as classroom management or individualized to content areas for educators (Hardy, 2010).

Pupils who are taught by educators who regularly participate in professional development earn higher grades (Mizell, 2010). Teachers are able to hone their craft as a result of reflecting on their own practices and standards and reviewing student work during professional development sessions. Darling-Hammond et al. (2017) argue, "Analyzing student work collaboratively gives teachers opportunities to develop a common understanding of what instructional strategies may or may not be working and for whom" (p. 17).

Kennedy (2016) argues all professional development will not lead to the same academic gains by students, but tailoring PD sessions to the needs of the students, individual classrooms, schools, and districts can help target concerns and improve individual practice. Attributes of learners to consider when developing professional development include, among others, the socioeconomic status of the students and access to technology and requisite skills. (Kennedy, 2016).

Social and Emotional Concerns

Public educators play a vital role in the social and emotional development of their students. As of 1997, 73% of public schools included in Durlak and Wells (1997) offered services designed to prevent social and emotional problems in students, indicating public school officials have been aware of the need of intervention for an extended period. For some students, classroom experiences are their only exposure to other children throughout the day. In-person classroom management techniques such as peer tutoring, cooperative learning, and student-led discussion help facilitate the proper social development of students (Thomas & Green, 2015). As a result, the activities in the classroom shape and mold the student's perspective of other children as well as expected human behavior, such as self-control (Jones et al., 2016).

Self-control has been identified as a strong indicator of numerous life outcomes and works to prevent undesirable characteristics like impulsivity and hyperactivity. Possessing this quality also helps develop desirable attributes like delayed gratification and willpower. Further research links self-control to the level of physical health, financial understanding, criminal record, and substance dependence as adults (Moffitt et al., 2011).

Teachers are typically not trained in social and emotional learning techniques and are ill-equipped to deal with concerns surrounding the issue (Jones & Bouffard, 2012). Inappropriate behaviors exhibited by students in the classroom that teachers are unable or unwilling to control are consigned to school administrators in the form of a referral. Briesch et al. (2012), in their study observing two sections of a general education math course in an urban public charter school in the northeastern United States, found defiance was the most common behavior teachers wrote referrals for, but physical behavior and aggression were also grounds for referrals. While some referrals are prudent and unavoidable, what could present itself as a "teachable moment" is turned into a punitive action due to a lack of training on the part of the teacher. While the participants in the study were nominated for inclusion based upon previous behavior concerns, the generalizability of the findings is reliable based upon the increased number of observations and increased number of observers (Briesch et al., (2012),

Student mental health has been a concern for public educators for decades. Schools have endeavored to create whole school approaches to mental health to try to develop a feeling of connectedness for students as research has linked this feeling to positive mental health (Graetz et al., 2008). Additional techniques involve classroom-based strategies with the teacher instructing students how to cope with social and emotional issues. School nurses are in roles typically associated with medical concerns such as the dissemination of medicine, playground scrapes, and

bruises, or bloody noses. They now spend as much as 33% of their time at school dealing with mental health issues (Bohnenkamp et al., 2015).

Accessibility of High-Speed Internet

High-speed internet has become a necessity for students to successfully complete coursework at home, but the closure of schools due to the Covid-19 pandemic left some students unable to complete work outside of the classroom (Mitchell, 2020). School districts across the country have begun to provide devices for student usage at home and in the classroom (O'Dwyer et al., 2008). The devices most frequently provided by school districts, like Chromebooks and iPads, require access to high-speed internet to upload assignments or attend virtual meetings; however, not all students possess the means to connect these devices to the internet at home. This inequality in internet connectivity has created an achievement gap between students in low socioeconomic environments and those children whose parents and guardians can afford to provide access (Mitchell, 2020). Failure to provide the technology necessary to access the resources of the internet or create educational content "puts at risk the core value of public education – …meeting the unique needs of the students they serve…" (Kingston, K p. 113).

As of 2020, 12 million K-12 students in the United States do not have Wi-Fi at home (Mitchell, 2020). In response to the Covid-19 pandemic, private companies such as AT&T offered internet service at significantly reduced rates in an attempt to close the connectivity gap, while Comcast offered 60 days of in-home service at no cost. Students who are less likely to have an internet-capable device at home include those who identify as Black, Native American, Asian, Hispanic, those of low socioeconomic status, students who receive special education services, or are in foster care (Sen & Tucker, 2020).

Before the pandemic, nearly 20% of American teenagers could not complete their homework as a result of a lack of reliable internet access (Anderson & Perrin, 2018). In an effort to support students who lacked the necessary equipment to complete assignments at home, T-Mobile conducted a study investigating how the remote learning environment affected students without internet access at home. The random phone sampling of participants resulted in data showing 49% of students failed to complete an assignment during the 2019 – 2020 school year due to their inability to access the internet while 42% received a lower grade than anticipated because of their lack of connectivity (T-Mobile, 2020). As a result of the findings, T-Mobile created Project 10 Million, designed to provide mobile hot spots capable of delivering free internet access to households who otherwise would not have connectivity.

Typically, students are likely to be assigned work that will require access to the internet from home; however, district-provided devices like Chromebooks or iPads will not connect to the internet without proper internet connectivity. A potential solution to this problem is mobile hotspots which provide access to the internet through Wi-Fi, allowing students to access the internet without having a dedicated service in their home (Balachandran et al., 2005). The obvious problem with this solution is the cost of maintaining the service the mobile hotspot uses to produce Wi-Fi.

West Virginia's students are not immune to the lack of reliable high-speed internet. High-speed internet is widely available in West Virginia in areas of high population density (West Virginia Broadband Enhancement Council, 2019); however, defined as 25 Mbps download speed and 3 Mbps upload speed, high-speed internet is not widely available in rural areas of the state. As measured by the FCC, West Virginia ranks as the second-worst state for broadband internet

access, due to its abundance of rural areas and locations with small population density (Federal Communications Commission, 2019).

Summary

The review of the literature presented shows a sincere need for further research into the far-reaching effects of the transition to remote learning due to the onset of the Covid-19 pandemic. A commonality found amongst the literature pertaining to academic endeavors is the classroom setting in which content is delivered, professional development is received, teachers work to foster social and emotional development of students, and best practices of instructional methods are utilized. While the pandemic is ongoing, research is scarce, especially pertaining to West Virginia educators.

While the literature reviewed summarizes the typical origination method of coronaviruses and transmissibility, the frequency and perilousness of viruses remain a relative mystery. Due to the unpredictability of pandemics and the ongoing threat to in-person classroom instruction due to natural disasters and future viruses, it is the responsibility of those charged with leading West Virginia to understand what took place during the transition to remote learning in March 2020. The success of such an endeavor will require in-depth research into the perceptions of public educators who experienced the transition firsthand.

Chapter Three: Research Methods

The purpose of this study was to examine the experiences and challenges of PreK-12 teachers in West Virginia who transitioned to remote learning as required by West Virginia Governor Jim Justice in response to the dangers of the emerging Covid-19 pandemic. Educators in other states and countries reported concerns delivering content via electronic methods (Ross-Hain, 2020) and felt pressure to focus on math and reading (Pesnell, 2020). Educators outside of West Virginia also reported unease at the prospect of teaching remotely for an extended period (Marshall et al., 2020), so investigating how West Virginian educators perceived the events of the abrupt transition to remote learning can provide opportunities for reflection and professional growth. This chapter includes information regarding the study's research design, population and sample, instrument development and validation, data collection, and data analysis.

Research Design

This quantitative study used a descriptive, nonexperimental survey design. The description of an event through the perspective of a large population requires the use of a survey (Blackstone, 2012). The subjects constitute a large group in a vast geographic area; therefore, an internet-based survey was the most appropriate design (Fink, 2017). The duration of data collection and associated costs of survey dissemination were also considered when choosing a research design. Surveys can be collected over longer periods of time using standardized questions to all participants, increasing the reliability of data (Mauldin, 2020).

Population and Sample

The population for this study was approximately 6,400 teachers employed in West Virginia PreK-12 schools during the Covid-19 pandemic who are also members of the WV Public Employee UNITED Facebook group. Purposeful sampling was utilized for this study due

to the specialized requirements necessary for inclusion in the project. Survey participants were limited only to those who applied for membership to WV Public Employees UNITED Facebook group, a centralized digital gathering place for educators who desired to share information relevant to the West Virginia teacher strikes of 2018-19. WV Public Employees UNITED was created in February 2018 as a result of the anger public employees felt towards the West Virginia Legislature.

Instrument Development and Validation

The researcher developed, self-administered survey consists of 20 items containing Likert-type questions with subcategories, multiple response questions, and completion questions. The instrument was created by the researcher using original questions from a survey instrument created by Reed (2020) which measures self-perceptions and experiences, with additional questions by Voris (2011) measuring various aspects of job satisfaction, and questions by Ferreira (2013) measuring teacher self-efficacy.

The first section of the instrument contains four multiple-response demographic questions (Questions 1-7). The second part of the survey contains five multiple-choice questions (Questions 8-12) measuring the importance of face-to-face instruction, teacher interaction with students, the effects of the pandemic on student responses, and a Likert-type question on how the pandemic influenced the frequency of instructional strategies used in a remote setting. The third section begins with a Likert-type question (Question 13) on technological competence of teachers as a result of teaching remotely and device access during the remote learning period before ending with a Likert-type question (Question 14) on specific technology products used during the school shutdown. The next section consists of a single Likert-type question (Question 15) on professional stressors followed by a sliding scale on teacher satisfaction. The survey ends

with a Likert-type questions on teacher efficacy (Question 16) and teacher perceptions regarding their ability to effectively perform tasks during the remote learning period (Question 17), a multiple-choice question (Question 18) regarding the future career plans of teachers, a Likert-type question (Question 19) on what push factor caused them to reconsider their career choice, if any, before closing with an open-ended question (Question 20) on the greatest challenge faced during the transition to remote learning. The survey instrument can be found in Appendix B.

Several strategies were used to determine instrument validity. First, an expert in survey construction reviewed the instrument to ensure questions were not leading and easily readable for the target audience while still being clear and concise. Secondly, a pilot test was conducted with individuals who reflect the target population to ensure questions made sense to members of the potential participant pool (Fink, 2017). Respondent time spent completing the survey was also analyzed.

<p style="text-align:center">Data Analysis</p>

Information was gathered using a survey instrument developed by the researcher using Qualtrics software and subsequently analyzed using IBM SPSS Statistics 27. The data derived from the survey instrument were organized by research question and used to create the foundation of understanding of the investigation.

Each research question was assigned at least one item on the survey instrument. Statistical analysis was completed for each research question by assigning a numerical code to every answer and inputting the data into IBM SPSS Statistics 27. Survey data were reported using frequency, percentages, means, and standard deviations. Data were statistically analyzed using Independent samples T-tests and Analysis of Variance (ANOVA).

Limitations

Study findings' generalizability to the larger teacher population of the state is limited due to the self-selecting nature of the survey participants (Lavrakas 2008). Additionally, the abrupt transition to remote learning took place in March 2020. Over a year had passed by the time survey participants were asked to provide information relevant to their experience. As a result, findings are limited to what participants remember or their current perceptions of past events (Plano Clark & Creswell 2015). The amount of time elapsed between Governor Justice's executive order to transition to remote learning and the survey completion window (i.e., approximately 15 months) also served as a potential research limitation.

This study also required teachers to recall their perceptions of an event many consider traumatic. Potential bias presented a threat to internal validity as teachers' recall of traumatic events may have been influenced by the ongoing nature of the pandemic (Baldwin 2018).

Summary

This study was a non-experimental, descriptive study which explored the perceptions of teachers who experienced the transition to remote learning and their subsequent experience delivering instruction remotely. The goal of the project was to add to the existing literature of Covid-19-related research nationwide and to establish a foundation of research specific to West Virginia. The project aimed to examine the relationship the remote learning period had on some specific demographic and attribute variables, the relationship between student-teacher interaction during the remote learning period, the instructional methods utilized during the pandemic, teacher job satisfaction and intent to remain in education as a result of the remote learning period, and major professional challenges of West Virginia teachers throughout the pandemic.

Chapter Four: Findings

This chapter provides a description of respondent characteristics and findings derived from analysis of survey results. The presentation of the findings is organized by research question. The final section provides a chapter summary.

Data Collection

The administrator of the WV Public Employees UNITED Facebook group granted permission to share a link to the *Arch Survey of Teachers' Perceptions of Remote Learning During Covid-19* (Appendix C), which provided access to the approximately 6,400 members of the group. The survey window opened on July 21st, 2021 and remained open until August 14th, 2021. The link to the survey instrument was shared once a week for three weeks with a reminder accompanying the link. At the end of the third week, the window remained open for an additional three days to provide an opportunity for participants to complete any open surveys.

Of the 321 participants that began the survey, 71 did not proceed past the consent page or did not answer the first question. An additional 20 respondents did not meet the required parameters for inclusion in the study or failed to complete a sufficient number of survey items to be included in the analysis. The remaining 230 completed submissions provided the sample for the study.

Characteristics of the Respondents

Thirty-six (15.7%) of the respondents were male, 29.1% had more than 20 years of teaching experience, and 36.1% taught at the elementary level. The largest percentage (27.0%) of respondents taught at the middle/junior high and high school (27.8%) levels, combining to account for 54.8% of participants. More than four of ten (45.2%) respondents taught at either the Pre-K/K level (9.1%) or elementary levels (36.1%). These data are presented in Table 1.

Table 1

Characteristics of the Respondents

Characteristic		*n*	*%*
Sex	Male	36	15.7
	Female	194	84.3
Years of Teaching Experience	≤ 5	33	14.3
	6-10	44	19.1
	11-15	47	20.4
	16-20	39	17.0
	20+	67	29.1
Teaching Level	Pre-K/Kindergarten	21	9.1
	Elementary	83	36.1
	Middle/ Junior High School	62	27.0
	High School	64	27.8

N=230

Respondents were asked about their experiences relating to any previous technological training in remote instruction, prior experience with remote learning, and technological devices provided by their employer. One hundred seventy-four (75.7%) participants indicated they had not received any county or state training regarding the delivery of remote instruction prior to March 2020. Fifty-six (24.3%) respondents reported receiving training. These data are provided in Table 2.

Of the 56 respondents who received training on remote instruction, 22 (39.2%) were instructed on the use of Schoology, a comprehensive management system designed to combine gradebooks, parent and student messaging, and electronic assignments starting with third grade. Five teachers (8.9%) received the second most frequently provided training which focused on

Microsoft Teams. A smaller number of respondents reported receiving training in various types of programs, including Zoom, Clever, Seesaw, and a variety of Google products.

More than nine of ten respondents (90.4%) reported little to no prior experience with remote learning. Eighteen (7.8%) reported some experience and four respondents (1.7%) reported considerable prior experience with remote learning. Ninety-eight (42.6%) participants indicated their employer provided a laptop or Chromebook for their use. Twenty-five (10.9%) respondents reported being provided an iPad or other tablet. One hundred and seven respondents (46.5%) indicated they were provided a different type of technology or none at all. (See Table 2.) Of those, seven (3%) reported being provided a document camera with two identifying the technology as an Osmo and an additional two reporting their use of an Elmo. Five (2.1%) respondents reported their employer provided a MacBook. A single respondent reported they were provided an Apple pen for their use while three participants stated they were not given any type of technology. These data are provided in Table 2.

Table 2

Respondent Technology Competency/Training

Training/Experience		*n*	*%*
Participation in county/state training	Yes	56	24.3
	No	174	75.7
Prior experience with remote learning	Little/no experience	208	90.4
	Some experience	18	7.8
	Considerable experience	4	1.7
Technology devices provided	Laptop/Chromebook	98	42.6
	iPad/tablet	25	10.9
	Other	107	46.5

N=230

Survey Findings

This section contains an analysis of the survey results collected from 230 participant responses. The section is organized by research question and closes with a summary.

Impact on Student-Teacher Interaction

Student interaction with teachers was measured when respondents were asked to select one of three choices measuring their perception of changes to student-teacher interaction due to the transition to remote learning. A majority (86.5%) of teachers felt meaningful interaction with students decreased while less than a tenth (9.6%) felt it remained the same. Nine educators felt as though student-teacher interaction increased as a result of the transition to remote learning. These data are provided in Table 3.

Table 3

Impact of Remote Learning on Interaction with Students

Impact on Student Interaction	*n*	*%*
Student interaction decreased	198	86.5
Student interaction remained the same	22	9.6
Student interaction increased	9	3.9

N=230

The impact of remote learning on student-teacher interaction compared to pre-pandemic face-to-face learning was analyzed by teaching levels. A one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of teaching levels on student-teacher interaction. Respondents were divided into four groups based on respondent teaching levels (Group 1: PreK-kindergarten; Group 2: Elementary; Group 3: Middle/Jr. High; Group 4: High School). The impact on student-teacher interaction was measured using the following scale: (1 = student-teacher interaction decreased; 2 = student-teacher interaction remained the same; 3 = student-teacher interaction increased). Mean scores and standard deviation for each group were: Group 1 PreK-kindergarten ($M = 1.33$, $SD = .69$); Group 2 Elementary ($M = 1.22$, $SD = .50$); Group 3 Middle/Jr. High ($M = 1.11$, $SD = .34$); Group 4 High School ($M = 1.13$, $SD = .46$). ANOVA results indicated no statistically significant differences in student-teacher interaction mean scores based on respondent teaching level: $F(3,225) = 1.59$, $p = .194$.

Impact on Instructional Methods

Teachers were asked to indicate their perception of the impact of the lack of face-to-face instruction on student retention of material during the remote learning period. Teachers overwhelmingly (80.9%) felt as though student retention of material taught during the remote

learning period decreased when compared to in-person instruction. Thirty-six teachers (15.7%) indicated student retention of material remained consistent with that of in-person instruction while eight educators (3.5%) felt student retention of material increased. These data are provided in Table 4.

Table 4

Impact of Remote Learning on Student Retention of Material

Impact on Student Retention	*n*	*%*
Student retention of material decreased	186	80.9
Student retention of material remained the same	36	15.7
Student retention of material increased	8	3.5

N=230

Teachers who taught remotely during the Covid-19 pandemic were asked to reflect on the impact of teaching remotely on their ability to elicit thoughtful student responses. One hundred ninety-seven (86%) educators felt thoughtful student responses decreased during the remote learning period. Twenty-six (11.4%) indicated the thoughtfulness of the responses students provided remained the same while six (2.6%) believe thoughtfulness increased. The data are provided in Table 5.

Table 5

Impact of Remote Instruction on Teacher Ability to Elicit Thoughtful Responses

Impact on Student Responses	*n*	*%*
Thoughtful student responses decreased	197	86.0
Thoughtful student responses remained the same	26	11.4
Thoughtful student responses increased	6	2.6

N=230

Teachers were also asked to gauge the impact of teaching remotely on instructional time during the remote learning period. Three-quarters of respondents (n = 168) felt instructional time decreased while forty-three (18.7%) perceived instructional time remained about the same. Nineteen (8.3%) felt instructional time increased once the remote learning period began. The data are provided in Table 6.

Table 6

Impact of Remote Instruction on Time Spent Instructing Students

Impact on Instructional Time	*n*	*%*
Instructional time decreased	168	75.0
Instructional time remained about the same	43	18.7
Instructional time increased	19	8.3

N=230

Respondents were asked to indicate the extent to which their use of a selected list of instructional strategies was affected by the transition to remote learning. The instructional strategy most affected was the use of collaborative projects with two hundred eighteen (95.2%)

participants indicating they used this instructional strategy less during the remote learning period. Other instructional strategies utilized less virtually than during in-person instruction include small group assignments (87.2%), kinesthetic activities (88.6%), peer tutoring (87.6%), and instructional stations (93.8%). One instructional strategy – technology-based assignments – was utilized substantially more during the remote learning period (n = 189, 82.5%) compared to in-person instruction. The data are provided in Table 7.

Table 7

Impact of Remote Instruction on Frequency of Use of Selected Instructional Strategies

Strategy	Less		Same		More		M	SD
	n	*%*	*n*	*%*	*n*	*%*		
Direct instruction	109	47.6	71	31.0	49	21.4	1.74	.79
Small group assignments	197	87.2	21	9.3	8	3.5	1.16	.46
Whole class discussion	149	65.1	61	26.6	19	8.3	1.43	.64
Kinesthetic activities	202	88.6	25	11.0	1	.4	1.12	.34
Collaborative projects	218	95.2	10	4.4	1	.4	1.05	.24
Tech-based assignments	20	8.7	20	8.7	189	82.5	2.74	.60
Flipped classroom	117	53.4	58	26.5	44	20.1	1.67	.79
Peer tutoring	198	87.6	19	8.4	9	4.0	1.16	.47
Instructional stations	213	93.8	12	5.3	2	.9	1.07	.29
Student centered discussion	152	67.0	64	28.2	11	4.8	1.38	.58

N=230   Scale: 1 = Used less frequently; 2 = Used with same frequency;
                3 = Used more frequently

Technology Tools/Products Used by Teachers

Respondents were asked to identify those technology products and tools they now use as a result of their virtual learning experience. One hundred ninety-seven (85.7%) educators identified Microsoft Teams as a technology product they now utilize due to the transition to remote learning. Schoology was identified by over half (n = 145, 63%) of all respondents as a tool now used. Other technological tools selected by participants include Zoom (n = 121, 52.6%), Google Classroom (n = 59, 25.6%), and Seesaw (n = 53, 23%). The data are provided in Table 8.

Twenty-one respondents identified some other type of technology now being used as a result of the transition to remote learning. The video hosting website MyVRSpot, matching card game service Boom Cards, and math activity builder Desmos were the only products mentioned more than once by participants. Other notable products mentioned by a single participant include Microsoft PowerPoint, Blackboard Learn, Google Drive, and Kahoot. Most respondents did not identify specific products or services, but rather indicated their county or district utilized other software.

Table 8

Technology Tool Use

Technology Tool/Product	*n**	*%*
Microsoft Teams	197	85.7
Zoom	121	52.6
ClassDojo	49	21.3
Remind	33	14.3
Google Classroom	59	25.6
Schoology	145	63.0
Edmodo	2	0.1
Classloom	3	1.3
Blackboard Learn	8	3.2
Seesaw	53	23.0
Other	21	9.1

N=230   *Duplicated count

Impact on Teacher Technological Competence

Participants were asked to describe their current competency levels compared to pre-pandemic levels in six technology-based practices. Participants reported feeling more confident in grading assignments virtually (70%), troubleshooting technology concerns (61.7%), delivering remote instruction (77.4%), creating virtual activities (70%), and conducting virtual meetings (79.9%). Sixty-three (27.4%) respondents reported they were more competent in peer

communication as a result of their pandemic teaching experience. These data are provided in

Table 9.

Table 9

Pandemic Impact on Teacher Competency on Selected Technology Skills

Skill	Less Comp (1)		(2)		Same Comp (3)		(4)		More Comp (5)		*M*	*SD*
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
Virtual grading	7	3.0	-	-	49	21.3	13	5.7	161	70.0	4.40	1.02
Troubleshooting technology concerns	8	3.5	4	1.7	54	23.5	22	9.6	142	61.7	4.24	1.09
Remote instruction	8	3.5	-	-	28	12.2	16	7.0	178	77.4	4.55	0.96
Creating virtual activities	8	3.5	-	-	45	19.6	16	7.0	161	70.0	4.40	1.03
Peer communication	15	6.5	4	1.7	134	58.6	14	6.1	63	27.4	3.46	1.11
Virtual meetings	5	2.2	3	1.3	22	9.6	18	7.9	180	79.9	4.60	0.88

N=230   Scale: 1 = Less competence than pre-pandemic; 3 = About the same competence as pre-pandemic; 5 = Greater competence than pre-pandemic.

An independent samples T-test was performed to determine the difference, if any, between sexes in the impact of the remote learning experience on teacher technology competence. There were no significant differences between male and female respondents in teacher technology competence as a result of the remote learning experience. These data are provided in Table 10.

Table 10

Independent Samples T-test for Pandemic Impact on Teacher Technology Skills by Sex

Skill	Males		Females		MDif	P
	M	*SD*	*M*	*SD*		
Virtual Grading	4.44	.84	4.39	1.05	.06	.76
Troubleshooting technology concerns	4.25	1.02	4.24	1.10	.01	.97
Remote instruction	4.36	1.10	4.58	.93	.22	.20
Creating virtual activities	4.39	.99	4.40	1.03	.01	.94
Peer communication	3.78	1.10	3.40	1.10	.38	.06
Virtual meetings	4.44	1.03	4.63	.85	.19	.25

N=230 (Male n=36; Female n=194) Scale: 1 = Less Competent; 3 = Same Competence; 5 = Greater Competence

The impact of remote learning on teacher technology skills compared to pre-pandemic face-to-face learning was analyzed by teacher experience. A one-way between-groups analysis of variance (ANOVA) was conducted to compare the technology skills scores for teachers based upon their level of experience. Respondents were divided into five groups based on years of teaching experience (Group 1: Five years or less; Group 2: Six to ten years; Group 3: Eleven to fifteen years; Group 4: Sixteen to twenty years; Group 5: Greater than twenty years). The remote learning impact on teacher technology skills was measured using the following scale: (1 = less competent; 3 = same competence; 5 = greater competence).

A statistically significant difference based on teaching experience was found in creating virtual activities. Mean scores and standard deviation for each group were: Group 1: Five years or less ($M = 4.61$ $SD = .79$); Group 2: Six to ten years ($M = 4.57$, $SD = .90$); Group 3: Eleven to

fifteen years (*M* = 4.26, *SD* = 1.03); Group 4: Sixteen to twenty years (*M* = 4.64, *SD* = .87);

Group 5: Greater than twenty years (*M* = 4.15, *SD* = 1.22). Despite an F value significant at p <

.05, Tukey HSD post-hoc tests did not reveal the specific significant differences among the five

groups. ANOVA results indicated no other statistically significant differences in teacher

technology skills mean scores based on respondent teaching experience. These data are provided

in Table 11.

Table 11

ANOVA Results for Pandemic Impact on Teacher Technology Skills by Experience

Skill	≤ 5		6 - 10		11 - 15		16 - 20		> 20		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Virtual Grading	4.61	.79	4.43	.98	4.23	.88	4.44	.99	4.22	1.23	.87	.48
Troubleshooting technology concerns	4.39	1.02	4.45	.95	4.06	1.24	4.26	1.04	4.15	1.14	1.02	.40
Remote instruction	4.54	.94	4.72	.76	4.66	.96	4.56	.91	4.34	1.08	1.32	.26
Creating virtual activities	4.61	.79	4.57	.90	4.26	1.03	4.64	.87	4.15	1.22	2.46	.05*
Peer communication	3.85	.97	3.67	1.09	3.21	.88	3.49	1.23	3.36	1.21	1.88	.12
Virtual meetings	4.60	.83	4.80	.56	4.68	.81	4.69	.83	4.36	1.10	1.92	.11

N=230 (Male n=36; Female n=194) Scale: 1 = Less Competent; 3 = Same Competence;
*P < .05   5 = Greater Competence

The impact of remote learning on teacher technology skills compared to pre-pandemic

face-to-face learning was analyzed by educational level taught using a one-way between-groups

analysis of variance (ANOVA) test. Respondents were divided into four groups based on the

level of education taught by respondent (Group 1: PreK/K; Group 2: Elementary; Group 3: Middle/Junior High; Group 4: High School). Six factors related to virtual learning skills were measured in the survey. No significant differences were found between teachers across various levels taught related to technological skills. These data are provided in Table 12.

Table 12

ANOVA Results for Pandemic Impact on Teacher Technology Skills by Level

Skill	PreK/K		Elementary		Middle/Jr		High		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Virtual Grading	4.19	1.33	4.30	1.04	4.44	1.08	4.04	.77	1.02	.38
Troubleshooting technology concerns	4.24	1.18	4.23	1.20	4.19	1.07	1.21	.92	.13	.94
Remote instruction	4.57	1.03	4.60	.90	4.42	1.06	4.59	.90	.51	.67
Creating virtual activities	4.43	1.12	4.42	.98	4.39	1.01	4.38	1.09	.03	.99
Peer communication	3.62	1.11	3.53	1.14	3.31	1.18	3.47	.99	.65	.59
Virtual meetings	4.81	.68	4.62	.65	4.48	1.07	4.63	.79	.78	.51

N=230 (Male n=36; Female n=194) Scale: 1 = Less Competent; 3 = Same Competence;
5 = Greater Competence

An independent samples T-test was conducted to explore the impact of previous teaching training on teacher technology skills. Respondents were divided into two groups based on respondent teaching training (Group 1: Training; Group 2: No training). The remote learning impact of previous training on teacher technology skills was measured using the following scale: (1 = less competent; 3 = same competence; 5 = greater competence).

Statistically significant differences were found in three areas. Mean scores and standard deviations regarding virtual grading in each group were: Group 1 Training (*M* = 4.66, *SD* = .75); Group 2 No training (*M* = 4.31, *SD* = 1.08). Mean scores and standard deviation regarding the ability to deliver instruction remotely in each group were: Group 1 Training (*M* = 4.84, *SD* = .50); Group 2 No training (*M* = 4.45, *SD* = 1.05). Mean scores and standard deviation regarding conducting virtual meetings in each group were: Group 1 Training (*M* = 4.87, *SD* = .43); Group 2 No training (*M* = 4.51, *SD* = .97). Independent samples T-test results indicated no other statistically significant differences in teacher technology skills mean scores based on respondent's previous training status. These data are provided in Table 13.

Table 13

Independent Samples T-test for Pandemic Impact on Teacher Technology Skills by Training

Skill	Training		No Training		MDif	P
	M	*SD*	*M*	*SD*		
Virtual Grading	4.66	.75	4.31	1.08	.35	.01*
Troubleshooting technology concerns	4.34	.92	4.21	1.15	.13	.45
Remote instruction	4.84	.50	4.45	1.05	.39	.00*
Creating virtual activities	4.59	.78	4.34	1.09	.25	.11
Peer communication	3.55	1.06	3.43	1.12	.12	.47
Virtual meetings	4.87	.43	4.51	.97	.36	.01*

N=230 (Male n=36; Female n=194) Scale: 1 = Less Competence;
3 = Same Competence; 5 = Greater Competence   *P < .05

Impact of Pandemic on Job Satisfaction Levels

Participants were asked to rate the impact of the pandemic on their job satisfaction levels in five different areas: self-satisfaction, a sense of value, personal autonomy, interpersonal relationships, and workload management. One hundred sixty-one participants (70.3%) indicated they agreed or strongly agreed they felt satisfied as a teacher, while one hundred forty-five (63.8%) agreed or strongly agreed they felt valued as a teacher. One hundred eighty-two (80.5%) participants agreed or strongly agreed they had personal autonomy as teachers during the remote learning period, while one hundred eighty-one (79.4%) agreed or strongly agreed they were able to maintain personal relationships with their colleagues. Over three quarters (n = 175, 76.8%) of respondents felt as though they were able to adequately maintain their workload during the remote learning period. The data are provided in Table 14.

Table 14

Impact of Pandemic on Teacher Job Satisfaction Levels

Factor	SD		D		A		SA		*M*	*SD*
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
I felt satisfied as a teacher	62	27.1	6.0	2.6	53	23.1	108	47.2	2.90	1.26
I felt valued as a teacher	74	32.6	8	3.5	55	24.2	90	39.6	2.71	1.29
I had personal autonomy as a teacher	21	9.3	23	10.2	114	50.4	68	30.1	3.01	0.88
I maintained personal relationships with my colleagues	21	9.2	26	11.4	116	50.9	65	28.5	2.99	0.88
I was able to adequately maintain my workload	45	14.7	8	3.5	101	44.3	74	32.5	2.69	1.07

N=230   Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree

An analysis of the differences in teacher job satisfaction levels, if any, by sex was completed using an independent samples T-test. Five factors related to teacher satisfaction were measured in the survey. There were no significant differences between male and female responses related to teacher job satisfaction. These data are provided in Table 15.

Table 15

Independent Samples T-test for Impact of Pandemic on Teacher Job Satisfaction by Sex

Factor	Males		Females		MDif	P
	M	*SD*	*M*	*SD*		
I felt satisfied as a teacher	3.03	1.32	2.88	1.25	.15	.52
I felt valued as a teacher	2.67	1.31	2.71	1.29	.05	.83
I had personal autonomy as a teacher	2.89	.85	3.04	.89	.15	.36
I maintained personal relationships with my colleagues	3.06	.89	2.97	.88	.08	.61
I was able to adequately maintain my workload	2.67	1.20	2.94	1.04	.27	.21

N=230 (Male n=36; Female n=194) Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Agree;
4 = Strongly Agree

An ANOVA test was conducted to compare the differences in teacher job satisfaction

levels, if any, by educator experience. There were no significant differences, based on teaching

experience, in teacher job satisfaction levels. These data are provided in Table 16.

Table 16

ANOVA Results for Impact of Pandemic on Teacher Job Satisfaction by Experience

Factor	≤ 5		6 - 10		11 - 15		16 - 20		> 20		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
I felt satisfied as a teacher	2.79	1.29	2.70	1.37	2.94	1.29	3.10	1.12	2.95	1.22	.62	.65
I felt valued as a teacher	2.53	1.24	2.63	1.30	2.78	1.36	2.69	1.32	2.80	1.26	.31	.87
I had personal autonomy as a teacher	3.03	.86	2.81	.95	3.17	.73	3.05	.86	3.00	.96	.94	.45
I maintained personal relationships with my colleagues	2.59	.78	3.11	.92	3.00	.83	2.95	.89	3.11	.88	2.20	.07
I was able to adequately maintain my workload	2.56	1.27	3.09	1.12	2.82	1.07	2.87	.95	2.98	.98	1.32	.27

N=230 (Male n=36; Female n=194) Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Agree;
4 = Strongly Agree

An analysis of the differences in teacher job satisfaction levels, if any, by level of education taught was completed using an analysis of variance test. There were no significant differences in teacher job satisfaction based on level of education taught. The data are provided in Table 17.

Table 17

ANOVA Results for Impact of Pandemic on Teacher Job Satisfaction by Level

Factor	PreK/K		Elementary		Middle/Jr		High		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
I felt satisfied as a teacher	2.67	1.39	2.96	1.20	2.98	1.25	2.82	1.30	.48	.70
I felt valued as a teacher	2.48	1.25	2.82	1.19	2.70	1.36	2.63	1.36	.53	.66
I had personal autonomy as a teacher	2.95	1.23	3.02	.79	3.03	.96	3.00	.80	.05	.98
I maintained personal relationships with my colleagues	3.10	.89	2.99	.82	2.98	.90	2.95	.94	.14	.94
I was able to adequately maintain my workload	3.24	1.04	2.84	.99	2.87	1.11	2.87	1.14	.81	.49

N=230 (Male n=36; Female n=194) Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree

Impact on Teacher Reported Self-Efficacy

Teachers were given the opportunity to rate their self-efficacy during remote learning in eight areas of remote virtual instruction. One hundred educators (43.7%) indicated they were somewhat confident in their ability to teach remotely from home using available technology. One hundred five respondents (45.9%) stated they were somewhat confident instructing from home using the technology at their disposal. Ninety-eight (43%) respondents were somewhat confident in their ability to communicate effectively with parents, while more educators (n = 113, 49.3%)

felt somewhat confident communicating with students. Nearly half – one hundred thirteen participants (49.6%) – were still somewhat confident in engaging students in remote instruction.

Three quarters of educators (n = 171, 75%) were not confident in reaching unmotivated students during the remote learning period. One hundred six participants (46.7%) were somewhat confident when encouraging students to return assignments during the remote learning period. Lastly, one hundred four teachers (45.6%) were not confident in their capacity to foster a collaborative environment with their students throughout the remote learning period. These data are provided in Table 18.

Table 18

Impact of Pandemic on Teacher Self-Efficacy During the Remote Learning Period

Indicator	NC		SC		C		VC		*M*	*D*
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
Teach remotely from your home using available technology	33	14.4	100	43.7	69	30.1	27	11.8	2.39	0.88
Use the technology at your disposal to deliver instruction	24	10.5	105	45.9	70	30.6	30	13.1	2.46	0.85
Communicate effectively with parents	30	13.2	98	43.0	66	28.9	34	14.9	2.46	0.90
Communicate effectively with students	32	14.0	113	49.3	66	28.8	18	7.9	2.31	0.81
Engage students in learning	68	29.8	113	49.6	43	18.9	4	1.8	1.93	0.74
Reach unmotivated students	171	75.0	47	20.6	9	3.9	1	0.4	1.30	0.56
Encourage students to return assignments	93	44.0	106	46.7	26	11.5	2	0.9	1.72	0.10
Foster a collaborative environment	104	45.6	89	39.0	29	12.7	6	2.6	1.72	0.78

N=230   Scale: 1 = Not Confident; 2 = Somewhat Confident; 3 = Confident;
           4 = Very Confident

An independent samples T-test was conducted to compare the self-efficacy scores for males and females. There was a significant difference in males (*M* = 1.67, *SD* = .63) and females (*M* = 1.97. *SD* = .75; *t* (-2.59) = 55.476, *p* = .01) in engaging students in learning throughout the remote period. There were no other statistically significant differences in self-efficacy between male and female. These data are provided in Table 19.

Table 19

Independent Samples T-test for Impact of Pandemic on Teacher Self-Efficacy by Sex

Indicator	Males		Females		MDif	P
	M	*SD*	*M*	*SD*		
Teach remotely from home using available technology	2.25	.69	2.42	.90	.17	.21
Use technology to deliver instruction	2.39	.87	2.48	.85	.09	.57
Communicate effectively with parents	2.39	.87	2.47	.91	.08	.63
Communicate effectively with students	2.25	.81	2.32	.81	.07	.65
Engage students in learning	1.67	.63	1.97	.75	.31	.01*
Reach unmotivated students	1.28	.61	1.30	.55	.02	.81
Encourage students to return assignments	1.58	.65	1.75	.70	.17	.19
Foster a collaborative environment	1.53	.70	1.76	.80	.17	.10

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat Confident;
*P < .05   3 = Confident; 4 = Very Confident

An ANOVA test was conducted to compare self-efficacy scores of teachers based upon their level of experience. A significant difference was found in those with five or fewer years of experience Group 1: (*M* = 2.45, *SD* = 1.06), six to ten years of experience Group 2: (*M* = 2.48, *SD* = .73), eleven to fifteen years' experience Group 3: (*M* = 2.49, *SD* = .93), sixteen to twenty years' experience Group 4: (*M* = 2.59, *SD* = .82), and more than twenty Group 5: (*M* = 2.12, *SD* = .81; p = .05) in teaching remotely using available technology from home. Despite an F value

significant at p <. 05, a Tukey HSD post-hoc test did not reveal significant differences among the five groups.

A significant difference was also found in those with five or fewer years of experience Group 1: ($M = 2.63$, $SD = .96$), six to ten years of experience Group 2: ($M = 2.39$, $SD = .65$), eleven to fifteen years' experience Group 3: ($M = 2.57$, $SD = .83$), sixteen to twenty years' experience Group 4: ($M = 2.69$, $SD = .86$), and more than twenty Group 5: ($M = 2.21$, $SD = .87$; $p = .02$) in using technology to deliver instruction. Post-hoc comparisons using the Tukey HSD test indicated the mean score for Group 4 ($M = 2.69$, $SD = .86$) was statistically different from Group 5: ($M = 2.21$, $SD = .87$). Group 1, Group 2, and Group 3 were not statistically significantly different from any other group.

There were no other statistically significant differences in teacher self-efficacy based on teaching experience. These data are available in Table 20.

Table 20

ANOVA Results for Impact of Pandemic on Teacher Self-Efficacy by Experience

Indicator	≤ 5		6 - 10		11 - 15		16 - 20		> 20		F	P
	M	SD	M	SD	M	SD	M	SD	M	SD		
Teach remotely from home using available technology	2.45	1.06	2.48	.73	2.49	.93	2.59	.82	2.12	.81	2.43	.05*
Use technology to deliver instruction	2.63	.96	2.39	.65	2.57	.83	2.69	.86	2.21	.87	2.87	.02*
Communicate effectively with parents	2.58	1.03	2.32	.92	2.48	.78	2.72	.94	2.31	.86	1.84	.17
Communicate effectively with students	2.42	.79	2.16	.81	2.32	.75	2.49	.91	2.23	.78	1.20	.31
Engage students in learning	1.94	.75	1.84	.68	1.87	.69	2.03	.90	1.95	.73	.41	.80
Reach unmotivated students	1.27	.63	1.34	.61	1.17	.43	1.38	.67	1.32	.50	.95	.44
Encourage students to return assignments	1.64	.65	1.66	.75	1.76	.67	1.82	.72	1.72	.70	.44	.78
Foster a collaborative environment	1.91	.91	1.61	.72	1.70	.86	1.65	.81	1.65	.67	1.09	.37

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat Confident;
*P < .05   3 = Confident; 4 = Very Confident

An ANOVA test was conducted to compare the self-efficacy scores for teachers at different instructional levels. There was a significant difference in PreK/K teachers ($M = 2.05$, $SD = .74$), elementary teachers ($M = 2.45$, $SD = .92$), middle/junior high teachers ($M = 2.40$, $SD = .76$), and high school teachers ($M = 2.67$, $SD = .84$; $p = .03$) in using technology to deliver instruction throughout the remote period. Post-hoc comparisons using the Tukey HSD test

indicated the mean score for PreK/K ($M = 2.19$, $SD = .81$) was significantly different from high school ($M = 2.63$, $SD = .84$). There were no other statistically significant differences among groups.

A significant difference was also found in PreK/K teachers ($M = 2.57$, $SD = .93$), elementary teachers ($M = 2.65$, $SD = .88$), middle/junior high teachers ($M = 2.18$, $SD = .89$), and high school teachers ($M = 2.42$, $SD = .89$; $p = .02$) in communicating effectively with parents. Post-hoc comparisons using the Tukey HSD test indicated the mean score for elementary ($M = 2.65$, $SD = .88$) was statistically different from middle/junior high ($M = 2.18$, $SD = .89$). There were no other statistically significant differences among groups.

There were no other statistically significant differences in teacher self-efficacy based on instructional levels. These data are available in Table 21.

Table 21

ANOVA Results for Impact of Pandemic on Teacher Self-Efficacy by Level

Indicator	PreK/K		Elementary		Middle/Jr		High		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Teach remotely from home using available technology	2.19	.81	2.36	.96	2.42	.86	2.48	.80	.62	.61
Use technology to deliver instruction	2.05	.74	2.45	.92	2.40	.76	2.67	.84	3.15	.03*
Communicate effectively with parents	2.57	.93	2.65	.88	2.18	.89	2.42	.89	3.37	.02*
Communicate effectively with students	2.42	.79	2.31	.83	2.26	.75	2.40	.85	.62	.60
Engage students in learning	1.95	.86	1.99	.74	1.90	.68	1.86	.78	.40	.75
Reach unmotivated students	1.29	.46	1.37	.66	1.24	.43	1.26	.57	.81	.49
Encourage students to return assignments	1.62	.59	1.77	.74	1.72	.61	1.69	.76	.32	.81
Foster a collaborative environment	1.62	.74	1.86	.85	1.68	.74	1.63	.75	1.22	.30

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat Confident;
*P < .05   3 = Confident; 4 = Very Confident

An independent samples T-test was conducted to compare the technology skills scores for

teachers based upon prior technological training. A significant difference was found in those

with training (*M* = 2.69, *SD* = 1.03) and those without (*M* = 2.38, *SD* = .85, *p* = .05) in

communicating with parents. There was also a significant difference found in those with training

(*M* = 2.52, *SD* = .91) and those without (*M* = 2.24 *SD* = .76, *p* = .04) in communicating

effectively with students. An additional significant difference was found in those with training

(M = 1.95, SD = .88) and those without (M = 1.65, SD = .74, p = .03) in fostering a collaborative

environment.   There were no other statistically significant differences between educators with

and without training. These data are available in Table 22.

Table 22

Independent Samples T-test for Impact of Pandemic on Teacher Self-Efficacy by Training

Indicator	Training		No Training		MDif	P
	M	*SD*	*M*	*SD*		
Teach remotely from home using available technology	2.52	.91	2.35	.86	.17	.22
Use technology to deliver instruction	2.55	.91	2.43	.83	.12	.36
Communicate effectively with parents	2.69	1.03	2.38	.85	.31	.05*
Communicate effectively with students	2.52	.91	2.24	.76	.28	.04*
Engage students in learning	1.98	.65	1.91	.77	.07	.48
Reach unmotivated students	1.33	.55	1.29	.57	.04	.66
Encourage students to return assignments	1.87	.67	1.68	.70	.19	.07
Foster a collaborative environment	1.95	.88	1.65	.74	.30	.03*

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat Confident;
*P < .05   3 = Confident; 4 = Very Confident

Impact on Teachers' Intention to Remain in Education

Participants were asked to assess the likelihood of remaining in public education as a

result of their experience teaching throughout the remote learning period. Respondents were

provided three options with which to gauge their respective likelihoods. Well over half of

respondents (n = 148; 64.6%) indicated they were as likely to remain in public education after the transition to remote learning. Seventy-five educators (32.8%) reported they were less likely to remain in public education, while six participants (2.6%) indicated the transition to remote learning made it more likely they would remain in public education. These data are available in Table 23.

Table 23

Impact of Remote Learning on Teacher Intention to Remain in Public Education

Impact Factor	*n*	*%*
Less likely to remain in public education	75	32.8
As likely to remain in public education	148	64.6
More likely to remain in public education	6	2.6

N=230

Respondents were asked to rate the significance of factors educators considered to be stressors influencing a decision to leave public education as a direct result of the pandemic and remote learning experience. Short term stressors such as the abrupt transition to remote learning n = 69, 47.3%) and lack of Covid-19 vaccine access (n = 113, 78.5%), did not contribute to the likelihood of educators leaving the field. The lack of access to personal protective equipment was not deemed a contributing factor by sixty-six (47.1%) respondents. Longer term Covid-related issues played a larger role as contributing factors in the likelihood of educators exiting the field, as forty-eight (33.8%) felt the inconsistent application of the Covid remote learning map was a major contributor in any decision to leave the field.

The lack of communication from governing bodies was a major contributor with ninety respondents (62%). Increased professional stress (n = 83, 58.9%) and an increase in teacher

workload (n = 71, 51.4%) were major contributors to educators' decision to leave the field. Seventy-four participants (53.2%) were not concerned about professional evaluation metrics, while 68.3% of respondents were similarly unconcerned about the potential of receiving Reduction-in-Force letters. These data are provided in Table 24.

Respondents were given the opportunity to provide qualitative data related to specific reasons they felt compelled to leave their chosen profession. A lack of respect was the most common theme as four of the eleven (36.3%) respondents specifically referenced that concern. Additional concerns included increased expectations from administrators, paperwork related to special education, a feeling state, local leaders out of touch, parent entitlement, a lack of teacher empowerment, inequality in the distribution of teacher workload, and teacher mistreatment by community members.

Table 24

Impact of Teacher Stressors on Likelihood to Remain in Public Education

Stressor	DNC		CS		C		MC		*M*	*SD*
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
Abrupt transition to remote learning	69	47.3	45	30.8	18	12.3	14	9.6	2.37	1.42
Lack of communication from governing bodies	20	13.8	35	24.1	44	30.3	46	31.7	3.66	1.30
Lack of vaccine access	113	78.5	16	11.1	7	4.9	8	5.6	1.59	1.20
Inconsistent application of Covid map guidelines	45	31.7	19	13.4	30	21.1	48	33.8	3.25	1.67
Lack of PPE	66	47.1	25	17.9	32	22.9	17	12.1	2.53	1.54
Larger class size	53	37.3	19	13.4	36	25.4	34	23.9	2.99	1.65
Lack of social distancing	39	27.9	35	25.0	33	23.6	33	23.6	3.15	1.51
Increase in professional stress	11	7.8	13	9.2	34	24.1	83	58.9	4.26	1.15
Fear for my own safety	40	28.6	43	30.7	33	23.6	24	17.1	3.01	1.44
Fear for safety of loved ones	38	27.1	33	23.6	35	25.0	34	24.3	3.19	1.51
Fear of RIF	95	68.3	20	14.4	12	8.6	12	8.6	1.89	1.40
Professional evaluation metrics	74	53.2	30	21.6	21	15.1	14	10.1	2.29	1.48
Increased workload	18	13.0	16	11.6	33	23.9	71	51.4	4.01	1.35

N=230   Scale: 1 = Does Not Contribute; 2 = Contributes Somewhat;
                  3 = Contributes; 4 = Major Contributor

An independent samples T-test was conducted to compare teacher stressors on the likelihood to remain in public education scores for males and females. Significant differences were found for six stressors: Mean scores for males (M = 2.42, SD = 1.12) were lower than those for females (M = 2.90 SD = 1.00; t (-2.34) = 143, p = .02) for the lack of communication. Scores for males (M = 2.03, SD = 1.28) were lower than scores for females (M = 2.72, SD = 1.21; t (-3.46) = 61.81, p = .01) for the lack of personal protective equipment at school. Means scores for males (M = 3.00, SD = 1.03) were lower than those for females (M = 3.44, SD = .89; t (-2.13) = 43.46, p = .02) in increased professional stress. Scores for males (M = 1.93, SD = .94) were also lower than scores for females (M = 2.39 SD = 1.08; t (-2.12) = 138, p = .04) on the fear for my safety. Males (M = 2.00, SD = 1.08) also scored lower than females (M = 2.59 SD = 1.12; t (-2.63) = 47.3, p = .01) on the fear for safety of loved ones. These data are provided in Table 25.

Table 25

Independent Samples T-test for Impact of Teacher Stressors on Likelihood to Remain in Public Education by Sex

Stressor	Males		Females		MDif	P
	M	*SD*	*M*	*SD*		
Abrupt transition to remote learning	1.94	1.12	1.82	.94	.12	.55
Lack of communication from governing bodies	2.42	1.12	2.90	1.00	.48	.02*
Lack of vaccine access	1.55	.99	1.33	.76	.22	.26
Inconsistent application of Covid map guidelines	2.03	1.28	2.72	1.21	.69	.01*
Lack of PPE	1.50	.82	2.14	1.12	.64	.01*
Larger class size	2.39	1.02	2.35	1.26	.04	.87
Lack of social distancing	2.45	1.03	2.42	1.17	.03	.90
Increase in professional stress	3.00	1.03	3.44	.89	.44	.02*
Fear for my own safety	1.93	.94	2.39	1.08	.46	.04*
Fear for safety of loved ones	2.00	1.08	2.59	1.12	.59	.01*
Fear of RIF	1.60	1.07	1.57	.95	.03	.88
Professional evaluation metrics	1.70	1.07	1.85	1.02	.16	.45
Increased workload	3.07	1.08	3.16	1.07	.09	.68

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat
*P < .05   Confident; 3 = Confident; 4 = Very Confident

An ANOVA test was conducted to compare scores measuring the impact of stressors on

intent of teachers to remain in public education based upon their level of experience. A

significant difference was found in those with five or fewer years of experience (*M* = 1.80, *SD* = 1.24), six to ten years of experience (*M* = 1.52, *SD* = .95), eleven to fifteen years' experience (*M* = 1.32, *SD* = .60), sixteen to twenty years' experience (*M* = 1.48, *SD* = .96), and more than twenty (*M* = 1.09, *SD* = .36; p = .01) related to the lack of vaccine access. Post-hoc comparisons using the Tukey HSD test indicated the mean score for Group 1 (≤ 5) (*M* = 1.80, *SD* = 1.24) was significantly different from that of Group 5 (> 20) (*M* = 1. 09, *SD* = .36). There were no other statistically significant differences among the groups.

There were no other statistically significant differences in the impact of stressors based on technology experience. These data are provided in Table 26.

Table 26

ANOVA Results of Teacher Stressors on Likelihood to Remain in Public Education by Experience

Impact Factor	≤ 5		6 - 10		11 - 15		16 - 20		> 20		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Abrupt transition to remote learning	1.85	1.04	1.60	.65	1.70	.95	1.73	1.00	2.13	1.08	1.54	.16
Lack of communication from governing bodies	2.75	1.16	2.70	1.18	2.93	1.08	2.84	.90	2.76	.98	.24	.92
Lack of vaccine access	1.80	1.24	1.52	.95	1.32	.60	1.48	.96	1.09	.36	3.23	.01*
Inconsistent application of Covid map guidelines	2.42	1.42	2.30	1.33	2.87	1.15	2.96	1.17	2.34	1.20	1.80	.13
Lack of PPE	1.94	1.16	2.17	1.30	2.03	1.07	2.16	1.14	2.00	1.09	.60	.67
Larger class size	2.89	1.05	2.21	1.24	2.45	1.18	2.12	1.20	2.27	1.26	1.37	.25
Lack of social distancing	2.68	1.16	2.21	1.17	2.57	1.10	2.50	1.06	2.42	1.13	.72	.58

Increase in professional stress	3.17	1.25	2.96	1.19	3.51	.61	3.36	.86	3.48	.73	1.65	.17
Fear for my own safety	2.05	1.08	2.14	1.04	2.50	1.11	2.48	1.09	2.22	1.03	.88	.48
Fear for safety of loved ones	2.16	1.17	2.36	1.14	2.73	1.20	2.60	1.15	2.39	1.06	.95	.43
Fear of RIF	1.84	1.26	1.73	1.12	1.53	.94	1.60	1.00	1.40	.73	.88	.48
Professional evaluation metrics	2.26	1.19	1.68	1.09	2.07	1.10	1.80	.87	1.55	.90	2.26	.07
Increased workload	3.11	1.18	3.00	1.30	3.27	1.01	3.24	.93	3.14	1.07	.30	.88

N=230 (Male n=36; Female n=194) Scale: 1 = Not Confident; 2 = Somewhat Confident;
*P < .05   3 = Confident; 4 = Very Confident

An analysis of the differences in teacher stressors impacting the likelihood of educators to remain in public education, if any, by the level of education taught was completed using an ANOVA. No significant differences were found between the responses of teachers working at various levels of education related to the likelihood of remaining in public education. These data are available in Table 27.

Table 27

ANOVA Results for Impact of Teacher Stressors on Likelihood to Remain in Public Education by Level

Impact Factor	PreK/K		Elementary		Middle/Jr		High		F	P
	M	SD	M	SD	M	SD	M	SD		
Abrupt transition to remote learning	2.00	1.00	1.77	1.05	1.86	1.00	1.88	.91	.19	.90
Lack of communication from governing bodies	2.67	1.32	2.73	1.11	2.74	.98	2.94	.99	.45	.72
Lack of vaccine access	1.33	1.00	1.21	.64	1.42	.88	1.49	.87	.96	.42
Inconsistent application of Covid map guidelines	2.22	1.39	2.73	1.27	2.33	1.20	2.69	1.25	1.15	.33
Lack of PPE	2.22	1.20	2.07	1.10	1.90	1.12	1.98	1.06	.29	.53
Larger class size	2.44	1.42	2.36	1.89	2.40	1.34	1.31	1.10	.07	.98
Lack of social distancing	2.89	1.27	2.26	1.08	2.36	1.14	2.55	1.14	1.05	.38
Increase in professional stress	3.44	1.13	3.36	.91	3.24	1.10	3.40	.79	.26	.86
Fear for my own safety	2.44	1.51	2.31	1.09	2.31	1.06	2.29	1.06	.13	.94
Fear for safety of loved ones	2.56	1.42	2.38	1.15	2.51	1.12	2.48	1.13	.12	.95
Fear of RIF	1.67	1.32	1.52	.86	1.59	1.02	1.60	.97	.07	.98
Professional evaluation metrics	1.56	1.01	1.95	1.15	1.82	.95	1.74	1.01	.51	.68
Increased workload	3.33	1.32	3.00	1.10	3.07	1.10	3.28	.96	.66	.58

N=230 (Male n=36; Female n=194) Scale: 1 = Does Not Contribute; 2 = Contributes Somewhat
3 = Contributes; 4 = Major Contributor

Impact on Stress Levels

Participating teachers were asked to rate the extent to which selected factors were sources of stress during the transition to remote learning. A concern for students' mental health and their own mental health were identified as areas that were very stressful by eighty-three respondents (36.2%). A concern if participants had sufficient internet access at home to conduct the duties of their position was described as producing little stress (n = 91, 39.7%).

Teachers were likewise not stressed regarding their available technological devices as eighty-six (37.6%) respondents reported little stress. Concern for the personal well-being of students was deemed stressful by eighty-two respondents (36%). Sixty-one respondents (26.6%) indicated they felt no stress at all relating to their personal well-being, while sixty-six (28.8%) felt somewhat stressful. Additionally, fifty-nine (25.8%) teachers felt stress regarding their safety and well-being while 43 (18.8%) were very stressed. These data are provided in Table 28.

Seventeen participants (43.6%) chose the "Other" option. Two (11.7%) of the seventeen respondents felt very stressed about worries over their family concerns spilling over into their professional performance. Single respondents (5.8%) were concerned over many issues, such as the amount of planning required for remote learning, pressure to pass students despite subpar performance, student engagement, parent contact, technology failure, lack of attendance, administrative expectations, and time management.

Table 28

Impact of Pandemic Events as Teacher Stressors

Stressor	LS		SS		S		VS		*M*	*SD*
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
Sufficient internet access at home	91	39.7	61	26.6	44	19.2	33	14.4	2.08	1.08
Sufficient technology devices at home	86	37.6	79	34.5	48	21.0	16	7.0	1.97	0.93
Possession of necessary technological skills	61	26.6	71	31.0	54	23.6	43	18.8	2.35	1.07
Concern for student's mental health	12	5.2	62	27.1	72	31.4	83	36.2	2.99	0.92
Concern for own mental health	25	10.9	55	24.0	66	28.8	83	36.2	2.90	1.01
Concern for student's physical well-being	28	12.3	55	24.1	82	36.0	63	27.6	2.79	0.98
Concern for personal physical well-being	61	26.6	66	28.8	59	25.8	43	18.8	2.37	1.07
Other	10	25.6	5	12.8	7	17.9	17	43.6	2.79	1.26

N=230   Scale: 1 = Little Stress; 2 = Somewhat Stressful; 3 = Stressful; 4 = Very Stressful

An independent samples T-test was conducted to compare teacher stressor scores for males and females. Significant differences were found for three stressors. Mean scores for males (*M* = 2.47, *SD* = .97) were higher than those for females (*M* = 3.08 *SD* = .88; *t* (-1.97) = 50.72, *p* = .01) for concern for student mental health. Scores for males (*M* = 2.17, *SD* = 1.33) were lower than those for females (*M* = 2.91, *SD* = .91; *t* (-3.70) = 43.86, *p* = .01) for concern for student physical well-being. Mean scores for males (*M* = 1.97, *SD* = .97) were also lower than those of

females (*M* = 2.44. *SD* = 1.07; *t* (-2.61) = 52.32, *p* = .01) for concern for teachers' physical well-being. There were no other statistically significant differences for teacher stressors between male and female participants measured in other indicators. These data are provided in Table 29.

Table 29

Independent Samples T-test for Impact of Pandemic Events as Teacher Stressors by Sex

Stressor	Males		Females		MDif	P
	M	*SD*	*M*	*SD*		
Sufficient internet access at home	2.22	.83	2.06	1.12	.17	.31
Sufficient technology devices at home	2.14	.83	1.94	.95	.20	.25
Possession of necessary technology skills	2.28	.97	2.36	1.09	.08	.68
Concern for student mental health	2.47	.97	3.08	.88	.61	.01*
Concern for own mental health	2.61	.96	2.96	1.02	.35	.06
Concern for student physical well-being	2.17	1.33	2.91	.91	.74	.01*
Concern for personal physical well-being	1.97	.97	2.44	1.07	.47	.01*

N=230 (Male n=36; Female n=194) Scale: 1 = Little Stress; 2 = Somewhat Stressful;
*P < .05   3 = Stressful; 4 = Very Stressful

An ANOVA was conducted to compare scores measuring specific teacher stressors based upon their level of experience. A significant difference was found in those with five or fewer years of experience (*M* = 2.30, *SD* = 1.10), six to ten years of experience (*M* = 2.05, *SD* = 1.08), eleven to fifteen years' experience (*M* = 2.26, *SD* = .99), sixteen to twenty years' experience (*M*

= 2.26, *SD* = 1.00), and more than twenty (*M* = 2.67, *SD* = 1.08; p = .03) in unique teacher

stressors in public education. Post-hoc comparisons using the Tukey HSD test indicated the

mean scores between Group 6-10 (*M* = 2.05, *SD* = 1.08) and Group > 20 (*M* = 2.67, *SD* = 1.08)

were significantly different. There were no other statistically significant differences among

groups. These data are provided in table 30.

Table 30

ANOVA Results for Impact of Pandemic Events as Teacher Stressors by Experience

Stressor	≤ 5		6 - 10		11 - 15		16 - 20		> 20		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Sufficient internet access at home	1.97	.98	1.93	.90	2.02	1.09	2.08	1.04	2.29	1.24	.94	.44
Sufficient technology devices at home	1.94	.86	1.91	.87	1.83	.82	1.95	.92	2.15	1.08	.95	.44
Possession of necessary technology skills	2.30	1.10	2.05	1.08	2.26	.99	2.26	1.00	2.67	1.08	2.66	.03*
Concern for student mental health	2.88	.93	3.11	.90	2.96	.83	2.92	1.00	3.01	.96	.40	.81
Concern for own mental health	2.91	.95	3.00	.99	2.87	1.06	2.95	1.02	2.83	1.06	.21	.94
Concern for student physical well-being	2.76	1.15	2.89	.99	2.78	.92	2.72	.94	2.79	.98	.17	.96
Concern for personal physical well-being	2.24	1.03	2.43	1.15	2.20	.92	2.45	1.06	2.37	1.07	.50	.74

N=230 (Male n=36; Female n=194) Scale: 1 = Little Stress; 2 = Somewhat Stressful;
*P < .05   3 = Stressful; 4 = Very Stressful

An ANOVA was conducted to compare the pandemic events which acted as teacher stressors at different instructional levels. There was a significant difference in PreK/K teachers ($M = 2.71$, $SD = 1.10$), elementary teachers ($M = 2.49$, $SD = 1.04$), middle/junior high teachers ($M = 2.34$, $SD = 1.14$), and high school teachers ($M = 2.03$, $SD = .96$; $p = .03$) in the possession of necessary technology skills as a stressor during the remote learning period. Post-hoc comparisons using the Tukey HSD test revealed the mean score difference between elementary ($M = 2.49$, $SD = 1.04$) and high ($M = 2.03$, $SD = .96$) is statistically significant. There were no other statistically significant differences among groups. These data are available in Table 31.

Table 31

ANOVA Results for Impact of Pandemic Events as Teacher Stressors by Level

Stressor	PreK/K		Elementary		Middle/Jr		High		F	P
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*		
Sufficient internet access at home	2.29	1.10	2.15	1.07	2.10	1.92	.98	2.08	.82	.49
Sufficient technology devices at home	2.29	1.01	2.00	.94	1.95	.97	1.86	.85	1.14	.33
Possession of necessary technology skills	2.71	1.10	2.49	1.04	2.34	1.14	2.03	.96	3.32	.02*
Concern for student mental health	2.81	1.03	3.04	.97	3.02	.88	2.95	.86	.39	.76
Concern for own mental health	2.95	1.19	3.05	.96	2.76	1.08	2.84	.96	1.07	.36
Concern for student physical well-being	2.70	1.03	2.79	.99	2.87	.91	2.73	1.04	.26	.85
Concern for personal physical well-being	2.48	1.12	2.46	1.02	2.35	1.10	2.22	1.08	.66	.58

N=230 (Male n=36; Female n=194) Scale: 1 = Little Stress; 2 = Somewhat Stressful;

Major Professional Challenges

The last question of the survey instrument provided participants an opportunity to expand on the largest professional challenge faced during the remote learning period. One hundred fifty-six participants provided written responses through unstructured text entry with fourteen themes emerging from the replies. More than one professional challenge was mentioned in some responses. One hundred ninety-six challenges were mentioned by one hundred fifty-six participants as some respondents identified multiple challenges. These data are provided in Table 32.

Table 32

Major Challenges of Remote Learning Period

Challenge	n*	%
Family Concerns	3	1.5%
Lack of Communication	6	3.0%
Special Education Students/Services	8	4.1%
Accountability	11	5.6%
Student Motivation	11	5.6%
Attendance	14	7.1%
Parent/Administrative Support	15	7.6%
Teacher Workload	20	10.2%
Unclear Expectations	20	10.2%
Reaching/Engaging Students	28	14.2%
Unknown Future	28	14.2%
Internet/Technology	32	16.3%

N=156   *Duplicated Count

Family Concerns

During the immediate transition to remote learning in March 2020, educators scrambled to ensure student learning continued throughout the 2020 – 2021 school year. Meeting teacher expectations and providing for a family was challenging to several respondents. One individual described the challenge in the following manner: "Managing teaching virtually from home with no internet connection while also being a mother to two kids that were home while my spouse

was an essential employee outside of the home." Teachers were concerned for the educational welfare of their own children in addition to the academic success of their students. One participant stated their biggest challenge was "the fear that my children were not benefiting at all from the online lessons."

Lack of Communication

A lack of communication was identified as the biggest challenge for six respondents. One respondent mentioned, "It was difficult to transition, but the hardest things were really lack of communication and no clear guidelines. I left the school system for other employment outside the public school system in June 2021. I will not be returning."

Special Education Services

Providing special education services to exceptional students proved difficult during the remote learning period. While providing extended time, word banks, and other simple accommodations was easy for teachers of students with learning disabilities, providing more intense services to students with more intense needs became problematic. When asked what the biggest challenge of the remote learning period was, a respondent stated, "The caseload of 20 students with varying levels and eligibilities in SPED." Supporting students who required the support of a paraprofessional was also a major challenge during the remote learning experience with a participant specifically highlighting the need, "reaching special education students who required aide support." The inability to provide direct services to students remotely was challenging due to the diverse academic levels and variety of exceptionalities with special education services. Other participants felt as though the burden of special education paperwork was the largest challenge by adding, "Keeping up with lessons along with all the SPED paperwork [was challenging]."

Accountability

A major challenge faced by educators in the state involved accountability for students and themselves. Educators felt as though students were given a free pass to not complete work or attend meetings while still being promoted to the next grade. One teacher noted how completed student work could only increase their grade rather than detract from it. Others bemoaned students who completed no work at all, stating, "Kids who just didn't do anything because they knew nothing mattered were the WORST! There was no accountability for them and a ton for the teachers. It made it feel like 'Then why are we even doing this?!?'"

Some educators were frustrated higher authorities were either unwilling or unable to hold students accountable. One participant identified their biggest challenge as being "[a] state board who said we couldn't hold students accountable."

Student Motivation

Being prohibited from attending in-person classes prevented teachers from being able to motivate students who would otherwise lack the intrinsic desire to complete work independently. One teacher identified unmotivated students as the biggest challenge of the remote learning period, saying, "Unmotivated students could easily not pay attention and give in to distraction without the physical presence of the teacher." The lack of the ability to forge personal relationships with students, often the key to motivating students who would not otherwise complete their work, prevented teachers from helping their students meet their academic obligations and deepen their understanding of the content. This theme was echoed by numerous participants with another adding, "Motivating students and maintaining positive relationships with them were two of the biggest challenges."

Attendance

A major source of stress throughout the remote learning environment was the substandard virtual attendance of students participating in instructional lessons and class meetings. Eleven educators referenced how they found it difficult to provide meaningful academic instruction to students if their attendance was inconsistent or even nonexistent. One participant stated, "Student attendance online was next to none. Only a few students went online during my teaching time during the entire remote learning period." This lack of participation made it difficult for teachers to provide instruction, facilitate discussion, and ensure content standards and objectives were covered in a purposeful way. Another participant simply stated, "Students were not required to attend virtual classes, so most did not."

Parent/BOE/Admin Support

Fifteen educators indicated the lack of support from various groups as the largest challenge they faced during the remote learning period. The lack of parental support played a role in students not participating in classes or completing work. Others felt the lack of support from their local boards of education was their biggest challenge as educators felt board members were out of touch with the trials facing teachers. The absence of support from school-based and state administrators was also referenced by teachers with one stating their biggest challenge was "lack of support from state leaders; they publicly denounced remote learning, which sent a very negative message to students, parents, and educators. They set us up for failure from the beginning." Educators felt unsupported by numerous groups throughout the remote learning period with a portion believing the actions of some actively worked against the goals of teachers. Participants bemoaned parent "apathy," calling them "disengaged" and "hard to reach."

Teacher Workload

Educators found it difficult to find time to create virtual lessons for their students. Teachers, in some instances, were also expected to provide both in-person and virtual instruction during the 2020 – 2021 school year. This increase in teacher workload was referenced as the largest challenge during the remote learning period by twenty participants. One respondent elaborated on how they felt overwhelmed due to their workload, adding:

> The greatest challenge that I encountered was the workload compared to the time I am given to plan. I was spending an increased amount of time outside of school hours working on plans, creating new activities for virtual use, and researching activities that would present well to my virtual kids.

Unclear Expectations

Due to the unprecedented nature of the pandemic, little to no guidance was given as state officials struggled to react to the situation. One respondent indicated this as their largest challenge, stating, "[L]ack of guidance and clear direction from WVDE to the county levels." Additionally, due to the uniqueness of the situation, expectations were unclear. As no plan was in place beforehand, many counties, schools, and teachers were left without clear guidelines to follow. One teacher wrote their biggest challenge was "[u]nclear expectations of what to do, little to no guidance, [I] had to jump right in rather than the higher ups thinking things through and coming up with a plan."

Nine participants believed the sudden changes were the largest challenge they faced during the remote learning period. Teachers needed to pivot to new lesson plans, a change in venue and content delivery methods seemingly at a moment's notice. One respondent described

frustration with "the lack of clarity from the state and being on constant watch for a change of plans."

Reaching/Engaging Students

If students did choose to sign on to classes during the remote learning period, teachers struggled to engage students during instruction. Respondents referenced the inability to reach and/or engage students in active learning twenty-eight times. A statement offered by one respondent was a typical response: "Another serious issue was engagement. Most of my virtual students did show up, but if they don't ask questions in chat, don't turn on a camera, don't respond to you … how do you know they've engaged?" Two participants shared similar thoughts by stating, "Engaging/reaching students who had little to no help at home from adults" and "Engaging students with distractions at home" were the biggest challenges they faced during the remote learning experience. This inability to ensure students were active participants in their instruction prohibited educators from ensuring student acquisition of material was taking place, promoting student interaction with peers and instructors, and assessing content knowledge.

Unknown Future

One of the most frequent challenges mentioned – a fear of the unknown – was referenced sixteen times. When West Virginia's schools were closed in March of 2020, there was no immediate timetable made available for students to return to in-person instruction. As the 2020 - 2021 school year approached, safety protocols changed frequently, and little concrete information was provided to teachers. A respondent indicated as much, saying their biggest challenge was "The fear of the unknown. Not knowing what the future held while still trying to conduct classes as normal as possible." This uncertainty posed a large challenge to educators as they endeavored to navigate a school year like they had never experienced previously. Teachers

felt directionless due to not being informed stakeholders in the educational process. Another

participant shared their frustration, identifying "[t]he unknown and lack of information, the stress

of not knowing if or when we were going back. The continual lack of direction from the state or

county on masks and possible quarantines" as reasons for their view.

Internet/Technology

The most often referenced challenge included lack of reliable internet access, inadequate

technology with which to complete work, and a lack of proper training on the apps and programs

required to instruct students remotely. Thirty-two participants referenced technological concerns

as the biggest challenge faced throughout the remote learning period. With parents and students

prohibited from entering schools for long durations or barred completely, troubleshooting

technological problems was left to phone conversations with one respondent saying:

> The other greatest challenge that I faced was that Microsoft Teams was unreliable,
>
> awkward, not user-friendly, and there was no tech support during school hours that
>
> students and families could rely on to help them, so I was delivering instruction and
>
> trying to troubleshoot simultaneously for most of the day.

Due to the abrupt nature of the transition to remote learning, teachers were unprepared for the

demands of their new proposition. Many participants agreed, calling internet and technological

concerns "extremely frustrating" and "unpredictable."

<p align="center">Summary</p>

When examining the impact of the remote learning period on West Virginia's educators,

several findings become apparent. The way teachers interacted with students changed

dramatically as educators scrambled to find ways to deliver instruction and ensure class meetings

were held. Video conferencing technology such as Microsoft Teams and Zoom replaced in-class

instruction while teachers saw a sharp decrease in student interaction (n=198, 86.5%). Thoughtful responses decreased (n=197, 86%) as a result of the transition to remote learning.

Instructional methods utilized by teachers changed due to the transition to remote learning. Teachers reported a notable decrease in the retention of instructional material (n=186, 80.9%) and the thoughtfulness of students' responses to questions posed in virtual meetings (n=197, 86.0%). Responses by teachers indicate thoughtful responses fell due to video cameras being off, decreases in student attention, technological concerns and troubleshooting, and a lack of attendance enforcement from parents. Instructional time decreased (n=168, 75.0%) due to the transition to the remote learning period. Kinesthetic activities, collaboration-based tasks, and instructional stations all proved difficult in a remote learning environment. As a result, teachers adjusted to the technology they were forced to use as technology-based assignments (n=189, 82.5%) surged. With teachers struggling to engage students in the video conferencing platform, student-based discussions (n=152, 67.0%) fell precipitously throughout the remote learning mandate.

Educators adapted to new technology to ensure students had the opportunity to be exposed to new content. Microsoft Teams and Zoom were widely utilized across West Virginia with ClassDojo (n=49, 21.3%) and Seesaw (n=53, 23.0%) being used at elementary level and Google Classroom (n=59, 25.6%) and Schoology (n=145, 63.0%) being utilized at the secondary level. Teachers added other technological products during the remote learning period such as Kahoot, MyVRSpot, and numerous Google and Microsoft products.

West Virginian educators are now more proficient in almost every technological skill surveyed. Increased proficiencies include areas such as virtual grading of assignments, troubleshooting technological problems, remote instruction of content, creating virtual activities,

and conducting virtual meetings. Virtual peer communication was the only skill educators indicated they possessed the same competency in as prior to the remote learning period.

Teachers felt valued (n=145, 63.8%) as educators while also reporting feeling satisfied (n=161, 70.3%) in their position throughout the remote learning period. Educators also felt they possessed at least some professional autonomy (n=182, 80.5%) throughout the remote learning period.

Teachers reported themselves as at least somewhat confident in six of eight surveyed tasks. Seventy-five percent of tasks received at least 43% as educators felt somewhat confident in teaching remotely from home, using the technology at their disposal, communicating effectively with parents and students, engaging students in learning, and encouraging students to return assignments. Teachers did not feel confident in reaching unmotivated students or fostering a collaborative environment during the remote learning period.

The pandemic and subsequent remote learning period did not have a large impact on the desire (n=148, 64.6%) for educators to leave public education. Almost one third of educators (n=75, 32.8%) indicated they were less likely to remain in the education field. Teachers reported the inability to reach unmotivated students as a reason that could influence a decision to exit the profession as well as the increase in professional stress (n=83, 58.9%) and an increase in workload (n=71, 51.4%).

Teachers were asked to assess the impact of a selected list of stressors. Two stressors – concern for both student and personal mental health – received the highest score (n=83, 36.2%). Thirty-nine chose to respond to the "Other" option. Stressors identified included concern for the safety of family members, reduction in planning time, a lack of parent contact, insufficient administrative support, and inadequate student attendance.

Statistically significant differences in male and female educators were found in self-efficacy, the intent to remain in education, and stress levels. Differences in technological competence, self-efficacy, the push factors driving teachers out of education, and stress levels were all found to be statistically significant in teachers at various experience levels. Statistically significant differences were found in teacher self-efficacy, the intent to remain in public education, and stress levels based on instructional levels. Statistically significant differences in educators who previously received technological training were found in technological competence and self-efficacy.

The most frequently reported professional challenge identified by teachers during the remote learning period pertained to issues related to internet capability or technological concerns. Lack of internet capable devices or reliable internet connections prevented students and teachers from holding class meetings or completing assignments. The second most frequently reported professional challenge was the lack of certainty and fear of the unknown. Teachers were unaware of when in-person learning would return during the 2019 – 2020 school year. When the 2020 – 2021 school year began, the status of in-person instruction was updated weekly per the WV DHHR Covid-19 map. Not knowing what to expect for the upcoming week was a major professional challenge. Subsequent challenges identified were the inability to reach students, attendance concerns, teacher workload, student motivation, and others.

Chapter Five: Conclusions, Discussion, and Recommendations

This chapter contains the statement of the problem, research questions, a summary of research methods, a summary of the findings, conclusions, discussion and implications, and recommendations for further research. A brief summary closes the chapter.

Problem Statement

On March 13, 2020, West Virginia Governor Jim Justice closed all public pre-K-12 grade schools and all after-school extracurricular activities effective immediately in response to the looming threat of the novel coronavirus pandemic. The first positive Covid-19 test in West Virginia was confirmed on March 17 (Justice, 2020). The Governor would later declare on April 21 schools would remain closed for the remainder of the 2019 – 2020 school year. The unforeseen nature of the pandemic and immediate change in instructional delivery caused teacher stress to rise (Cerveny, 2020). Teachers' increased stress levels were also linked to concern for their most at-risk students (Kim & Ashbury, 2020). Due to the recency and ongoing nature of the pandemic, the current body of literature does not adequately address the effects that the school closure and subsequent changes in instructional delivery models had on teachers in West Virginia. Therefore, the purpose of this study is to gain a deeper understanding of the perceptions of educators in West Virginia relating to the transition to remote learning in March 2020 and subsequent experiences of remote instruction throughout the remainder of the transition period.

Research Questions

The following questions provided guidance for this study:

1. What impact, if any, did the Covid-19 pandemic have on how West Virginia teachers interacted with their students during the mandated school closure?

2. What impact, if any, did the Covid-19 pandemic have on the instructional methods West Virginia teachers used during the mandated school closure?

3. What impact, if any, did the Covid-19 pandemic have on the use of technology West Virginia teachers utilized as a result of the mandated school closure?

4. What impact, if any, did the Covid-19 pandemic have on the technological competence of West Virginia teachers as a result of the mandated school closure?

5. What impact, if any, did the Covid-19 pandemic have on the job satisfaction levels of West Virginia teachers?

6. What impact, if any, did the Covid-19 pandemic have on West Virginia teacher reported self-efficacy throughout the remote learning period?

7. What impact, if any, did the Covid-19 pandemic have on the intention of West Virginia teachers to remain in the educational field?

8. What impact, if any, did the Covid-19 pandemic have on the stress levels of West Virginia teachers as a result of the remote learning period?

9. What are the differences, if any, in the impact of the Covid-19 pandemic on West Virginia teachers based on selected demographic/attribute variables?

10. What were the major professional challenges faced by West Virginia teachers as a result of the Covid-19 pandemic?

Data Collection

The link to a survey (Appendix C) measuring the impact of the remote learning period on West Virginia's public educators was distributed on Facebook via the WV Public Employee UNITED group. The survey window was open for 25 days from July 21st, 2021 to August 14th,

2021. Three hundred twenty-one total responses were collected with two hundred thirty usable responses returned during the data collection period.

Respondents were employed as public educators during the remote learning period during the end of the 2019 – 2020 school year and/or the 2020 – 2021 school year. The majority (84.3%) of respondents were female with a plurality (29.1%) having more than twenty years' experience. The remaining participants were evenly spread across experience groupings. Most (36.1%) respondents taught at the elementary level with a quarter teaching at the junior high/middle school level and high school level. The remaining (9.1%) taught at the PreK/kindergarten level. Three quarters of respondents received no prior technological training with 90.4% possessing no prior experience delivering remote instruction. Over half (53.5%) of participants were given an iPad, a different tablet, laptop, or Chromebook. Respondents spent an average of approximately 13 minutes completing the survey.

Summary of Findings

There was a decrease in student-teacher interaction (n=198, 86.5%), and the thoughtfulness of student responses (n=197, 86%) during the remote learning period. Tools designed to conduct live video class meetings, such as Microsoft Teams and Zoom were utilized to ensure classes were held. Teachers reported a significant decrease in the retention of instructional material (n=186, 80.9%), student-based discussions (n=152, 67.0%), and instructional time (n=168, 75.0%) due to the transition to remote learning with instructional stations, kinesthetic activities, and collaboration-based tasks all decreasing in use. Instead, teachers utilized technology-based assignments (n=189, 82.5%) using available instructional tools like iPads and laptops.

In addition to Teams and Zoom, ClassDojo (n=49, 21.3%) and Seesaw (n=53, 23.0%) use increased at the elementary level while Google Classroom (n=59, 25.6%) and Schoology (n=145, 63.0%) were used at the secondary level. Those products were supplemented with items such as Kahoot and MyVRSpot along with other Google and Microsoft offerings. The remote learning period provided an opportunity for teachers to increase in every technological proficiency measured with virtual peer communication as the only skill not reporting an increase.

Educators felt valued (n=145, 63.8%) and satisfied (n=161, 70.3%) throughout the remote learning period while possessing at least some professional autonomy (n=182, 80.5%). Teachers felt at least somewhat confident in seventy-five percent of the tasks surveyed; however, educators did not feel confident in their ability to reach unmotivated students or foster a collaborative environment during the remote learning period.

Almost a third of educators (n=75, 32.8%) reported they were less likely to remain in education as a result of the remote learning experience. Factors contributing to their departure were the inability to reach unmotivated students, increase in professional stress (n=83, 58.9%), and an increase in workload (n=71, 51.4%). Two of the largest stressors contributing to workplace stress included concern for both student and personal mental health (n=83, 36.2%). Other stressors contributed by teachers included concern for the safety of family members, reduction in planning time, a lack of parent contact, insufficient administrative support, and inadequate student attendance.

Areas where statistically significant differences in male and female educators were found were self-efficacy, the intent to remain in education, and stress levels. When comparing experience levels, differences in technological competence, self-efficacy, the push factors driving teachers out of education, and stress levels were all found to be statistically significant

while statistically significant differences were found in teacher self-efficacy, the intent to remain in public education, and stress levels based on instructional levels. Statistically significant differences in educators who previously received technological training were found in technological competence and self-efficacy.

The most frequently reported professional challenge identified by teachers pertained to issues related to internet capability or technological concerns such as the lack of internet capable devices or reliable internet connections with the lack of certainty and fear of the unknown being reported as the second most frequent stressor. Subsequent challenges identified were the inability to reach students, attendance concerns, teacher workload, student motivation and others.

Conclusions

The data collected throughout this study are sufficient to support the following conclusions:

What impact, if any, did the Covid-19 pandemic have on how West Virginia teachers interacted with their students during the mandated school closure? Teachers reported student-interaction decreased significantly throughout the remote learning experience. Students were less likely to participate in class discussions, contribute thoughtful responses, or submit assignments. Teachers indicated they did not see significant portions of their class for extended periods of time. There were no significant differences in the impact of remote learning on student-teacher interaction compared to pre-pandemic instruction based on teaching levels.

What impact, if any, did the Covid-19 pandemic have on the instructional methods West Virginia teachers used during the mandated school closure? Teachers felt student retention of material, teacher ability to elicit thoughtful student responses, and instructional time were all substantially decreased during remote learning. Instructional strategies used less frequently

93

during remote learning included small group assignments, whole class discussions, kinesthetic activities, collaborative projects, a flipped classroom, peer tutoring, instructional stations, and student-centered discussions. Technology-based assignments were used more frequently during remote instruction.

What impact, if any, did the Covid-19 pandemic have on the use of technology West Virginia teachers utilized as a result of the mandated school closure? During the remote learning period, teachers utilized programs and applications such as Microsoft Teams, Zoom, Schoology, and ClassDojo to conduct virtual classes, disseminate assignments, and message students and parents. Teachers used remote methods of engagement such as Kahoot, classroom management systems such as Blackboard Learn and Google Classroom, and video hosting websites such as MyVRSpot throughout the remote learning environment.

What impact, if any, did the Covid-19 pandemic have on the technological competence of West Virginia teachers as a result of the mandated school closure? Teachers reported greater competence in their technological abilities as a result of the remote learning period. Competencies for which teachers reported increased proficiency include grading virtual assignments, delivering remote instruction, troubleshooting technological issues, creating virtual activities, and conducting virtual meetings.

Teachers with more than 20 years' experience were less competent than teachers with ten or fewer years' experience as a result of the remote learning experience. Teachers with technology training reported a higher level of competency than those with no training on virtual grading, remote instruction, and virtual meetings. There were no significant differences in teacher technology competency levels compared to pre-pandemic levels based on sex or levels taught for the six technology skills.

What impact, if any, did the Covid-19 pandemic have on the job satisfaction levels of West Virginia teachers? Teachers reported feeling valued and satisfied throughout the remote learning period. Participants reported strong feelings of autonomy while teaching remotely. Teachers indicated they were able to maintain professional relationships and adequately maintain their workload throughout the remote learning period. There were no significant differences in job satisfaction levels compared to pre-pandemic levels based on sex, years of experience, or levels taught.

What impact, if any, did the Covid-19 pandemic have on West Virginia teacher reported self-efficacy throughout the remote learning period? Teachers reported feeling confident teaching remotely, using technology at their disposal, communicating with parents and students, and encouraging students to return work throughout the remote learning environment. Respondents did not feel confident in their ability to reach unmotivated students or foster a collaborative environment due to concerns regarding the inability to ensure students signed on to class meetings or enabled their cameras during instruction.

Males reported feeling less competent than females in engaging students in learning throughout the remote learning period. Teachers with sixteen to twenty years' experience were more competent teaching remotely from home and teaching using available technology than teachers with more than twenty years' experience. PreK/K teachers reported feeling less competent using technology to deliver instruction throughout the remote period than high school teachers. PreK/K teachers were less competent communicating effectively with parents than middle/junior high teachers. Teachers with training in remote learning were more confident in their abilities than teachers who received no training in three areas: communicating with parents, communicating effectively with students, and fostering a collaborative environment.

What impact, if any, did the Covid-19 pandemic have on the intention of West Virginia teachers to remain in the educational field? Teachers are likely to remain in public education as a result of the remote learning experience. Of those who expressed a desire to leave the profession, the increase in professional stress was the most influential factor in their decision.

Males reported feeling more likely to remain in public education compared to females throughout the remote learning period in six areas: the lack of information from governing bodies, inconsistent application of Covid map guidelines, lack of personal protective equipment, increase in professional stress, fear for their own safety, and fear for the safety of others. Females were less likely to remain in public education due to the lack of communication from governing bodies, the inconsistent application of Covid map guidelines, the lack of personal protective equipment at school, increased professional stress, the fear for their own safety, and the fear for safety of loved ones. Teachers with less than five years' experience reported feeling significantly less concerned regarding the lack of vaccine access than teachers with more than twenty years' experience. There were no significant differences in stressors based upon instructional levels.

What impact, if any, did the Covid-19 pandemic have on the stress levels of West Virginia teachers as a result of the remote learning period? Concern for students' and teacher's mental health and student physical well-being were the pandemic events causing the most teacher stress. Other stressors identified included "planning time" and "professional performance."

Males reported feeling less stressed than females in concern for student mental health, concern for student physical well-being, and concern for teachers' physical well-being. Teachers with six to ten years' experience were less stressed than teachers with more than twenty years' experience in their belief that they possessed the necessary technology skills to teach remotely.

96

High school teachers reported feeling less stressed about their possession of necessary technology skills than elementary teachers.

What are the differences, if any, in the impact of the Covid-19 pandemic on West Virginia teachers based on selected demographic/attribute (i.e., sex, experience, academic level, and training) variables? Differences in the impact of the pandemic and the remote learning experience based on selected demographic/attribute variables are addressed under the applicable research question.

What were the major professional challenges faced by West Virginia teachers as a result of the Covid-19 pandemic? Teachers reported numerous professional challenges faced throughout the remote learning period. The greatest challenges identified throughout the remote learning experience include family concerns, lack of communication, special education services, accountability of students, student motivation, student attendance, parent/administrative support, teacher workload, unclear employee expectations, inability to reach and engage students, an unknown future, and internet accessibility/technology.

Discussion and Implications

Governor Justice closed all West Virginia public schools out of an abundance of caution on March 13, 2020 to prevent the spread of Covid-19 (J. Justice, personal communication, March 13, 2020). There were no confirmed cases of Covid-19 present in West Virginia at the time of the school closure. This immediate transition to remote learning did not provide time for educators to receive technological training or allow teachers to prepare virtual lessons before classes were expected to begin on March 16, 2020. The loss of in-person instructional norms, the lack of technological training in troubleshooting and providing remote instruction, and the

increase in professional stress were some of the top issues teachers faced during the remote learning period.

Previous research indicates teachers reported difficulty delivering their content remotely (Ross-Hain, 2020). This study builds upon existing research as results echo the difficulty teachers experienced instructing students remotely. Self-efficacy scores indicate teachers were not confident or somewhat confident in every measured indicator throughout their remote learning experience. Participant self-efficacy scores were lowest in reaching unmotivated students, encouraging students to turn in assignments, and actively engaging students in remote learning.

The results of this research support existing data regarding the abrupt transition and subsequent challenges educators faced during periods of remote learning. Research from England indicates teachers confronted a collective failure to reach students remotely as the biggest concern educators experienced during remote learning (Kim & Asbury, 2020). The data provide a clearer understanding of the instructional challenges (inability to elicit thoughtful responses, ensure student attendance, promote collaboration among students) faced during periods of remote learning as the current study's findings are consistent with the aforementioned research. A failure to encourage students to turn in assignments, motivate students to attend class meetings and elicit thoughtful responses to questions posed by teachers were three of the biggest instructional challenges identified in the current study.

Best practices in typical in-person instruction require collaboration among students, kinesthetic activities, and student-led instruction. Johnson and Barrett's (2017) research indicates students learn best when they take an active role in their education. Due to the lack of face-to-face instruction caused by the immediate transition to remote learning, direct instruction and

technology-based assignments increased in usage as instructional methods. Activities requiring intensive collaboration, such as peer tutoring and collaborative projects, were essentially abandoned during remote learning. Additional instructional strategies that saw a significant reduction in use were instructional stations, student-centered discussion, kinesthetic activities, whole group discussion, and small group projects. The current study's findings are consistent with Johnson and Barrett's results (2017) as teachers in this study indicated student retention of the material decreased due to the remote delivery of content.

Uncertainty in the workplace leads to feelings of indifference. In addition to uncertainty, a disengagement from typical teacher practices (greeting students at the door, making personal connections through casual conversation, developing an understanding of challenges students face on a daily basis, celebrating student accomplishments, etc.) can lead to a decrease in job satisfaction (Spilt et al., 2011). Survey results indicate job satisfaction remained somewhat constant throughout the remote learning period. Teachers felt they possessed at least some professional autonomy as state, county, and school-based administrators did not provide clear directives to teachers, leaving them to essentially devise their own remote-only curriculum. Educators indicated their satisfaction in their position remained the same throughout the remote learning period.

While previous research focused on teacher retention and the expeditious departure of educators from the field, a singular part of this study focused on factors relating to why teachers would choose to leave their field. A previous 2021 study found approximately half of the teachers that considered voluntarily leaving their post after the onset of the pandemic did so because of the increased stress levels arising from remote learning (Diliberti et al., 2021). Findings from the current study are consistent with that existing work, indicating an increase in

professional stress as the most frequently reported reason educators would consider leaving their position. While previous work measured a willingness to return to education after the pandemic subsides, this study did not. Additional existing research also agrees, stating teacher stress was based primarily on "navigating immediate demands" during the initial phase of the remote learning period (Kim & Asbury, 2020).

The study confirmed several instances of conventional wisdom, namely, providing training to employees increases their competency in the area in which they were trained. Two areas of proficiency researched in this study – technological competency and self-efficacy – showed statistically significant differences indicating providing relevant training to educators gave them the skills and confidence necessary to succeed in a remote learning environment. As a result, additional periods of remote learning would not need to be the traumatic experience it was if educators were trained in current best practices of virtual instruction. These results should be taken into consideration when developing plans for future inevitable interruptions in traditional education and subsequent transitions to remote learning.

Leadership/Administrative Applications

Numerous respondents identified a lack of clear guidelines from state and county administrators as a major professional challenge during the remote learning period. As a result, West Virginia's public educators were unprepared for the transition to remote learning in March of 2020. As such, safeguards to ensure proper implementation were not in place when the abrupt transition to remote learning occurred. Should the need for remote learning occur, whether it be brief or for an extended period of time, state policy should be written to ensure a loss of education does not take place.

Keeping expectations in place on attendance and assignment protocols should be a priority of school leaders during any prolonged period of remote instruction. Administrators and educational leaders need to stress the importance of instruction during the remote learning period, regardless of its frequency or duration. Many parents, guardians, and students were unprepared for the abrupt transition to remote learning that took place during the early stages of the Covid-19 pandemic. As a result, teachers, administrators, and school system leaders were lenient in grading assignments and typical attendance policies. With the novelty of remote learning waning, district leaders need to hold students and parents accountable when turning in assignments and adhering to attendance guidelines.

Professional development on the latest in remote learning should be offered at the school, county, and state level. Technological competence is necessary to deliver quality remote instruction and, as such, professional development should be offered on the subject. Future periods of remote learning are inevitable as natural disasters, novel coronaviruses, or other unforeseen events close schools locally or nationwide. These events, however abrupt a transition to remote learning they may cause, do not have to negatively impact students as much as the school closures of 2019 – 2020 and 2020 – 2021. Simple practices such as offering professional development to teachers, outlining expectations to parents and students, and incorporating virtual learning into the traditional calendar are all ways to normalize periods of remote instruction. Doing so will alleviate the mass confusion, aggravation, and outright refusal of parents, teachers, and educators experienced throughout the remote learning period of the Covid-19 pandemic.

Recommendations for Future Research

Due to the ongoing nature of the Covid-19 pandemic, recommendations for future research continue to emerge as the pandemic progresses. To better understand how the pandemic impacts a broader spectrum of West Virginia educators, further research may be prudent in the following areas:

1. Current research is limited to public educators currently teaching in West Virginia. Future research could be expanded to include public educators throughout the United States. Important factors discussed in this project (internet capability, previous training, etc.) could yield different results with a broader geographic participant base.

2. The current study is limited to current members of the Facebook group West Virginia Public Employees United. A future study could include all West Virginia teachers by gaining access to the public educator email listserv.

3. The data used in this project were acquired by the use of a survey. Additional research could include a qualitative portion through the use of participant interviews. Investigating participant viewpoints through interviews could shed greater light on teacher's perspectives on their experiences.

4. Due to the ongoing nature of the pandemic, additional research could focus on new challenges public educators have faced throughout the 2021 – 2022 school year (reintegrating students back into full-time in-person instruction, navigating Covid-related protocols, etc.).

References

Adams, S. A. &2021, January 30). *West Virginia Governor Jim Justice addresses rumors, concerns about educator vaccine status*. The Intelligencer. https://www.theintelligencer.net/news/top-headlines/2021/01/west-virginia-governor-jim-justice-addresses-rumors-concerns-about-educator-vaccine-status/

Allen, B., & Vacca, J. S. (2010). Frequent moving has a negative effect on the school achievement of foster children makes the case for reform. *Children and Youth Services Review*, *32*(6), 829–832. https://doi.org/10.1016/j.childyouth.2010.02.001

Anderson, M., & Perrin, A. (2018, October 26). *Nearly one-in-five teens can't always finish their homework because of the digital divide.* Pew Research Center. https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish-their-homework-because-of-the-digital-divide/

Ayllón, S., Alsina, Á., & Colomer, J. (2019). Teachers' involvement and students' self-efficacy: Keys to achievement in higher education. *PLOS ONE*, *14*(5), e0216865. https://doi.org/10.1371/journal.pone.0216865

Baker, J. A. (2006). Contributions of teacher–child relationships to positive school adjustment during elementary school. *Journal of School Psychology*, *44*(3), 211–229. https://doi.org/10.1016/j.jsp.2006.02.002

Balachandran, A., Voelker, G. M., & Bahl, P. (2005). Mobile hotspots: Current challenges and future directions. *Mobile Networks and Applications*, *10*(3), 265–274. https://doi.org/10.1007/s11036-005-6421-5

Baldwin, L. (2018). *Research concepts for the practitioner of educational leadership*. Brill Publishers. https://doi.org/10.1163/9789004365155_008

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, *28*(2), 117–148. https://doi.org/10.1207/s15326985ep2802_3

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Bjørnstad, O. N., & Viboud, C. (2016). Timing and periodicity of influenza epidemics. *Proceedings of the National Academy of Sciences*, *113*(46), 12899–12901. https://doi.org/10.1073/pnas.1616052113

Blackstone, A. (2012). *Principles of sociological inquiry: Qualitative and quantitative methods*. Minneapolis: Open Textbook Library. https://open.umn.edu/opentextbooks/textbooks/139

Bohnenkamp, J. H., Stephan, S. H., & Bobo, N. (2015). Supporting student mental health: The role of the school nurse in coordinated student mental health care. *Psychology in the Schools*, *52*(7), 714–727. https://doi.org/10.1002/pits.21851

Borko, H., Jacobs, J., & Koellner, K. (2010). Contemporary approaches to teacher professional development. In E. Baker, P. Peterson, & B. McGaw (Eds.), *International Encyclopedia of Education* (3rd ed). Elsevier Ltd. https://doi.org/10.1016/b978-0-08-044894-7.00654-0

Briesch, A. M., Ferguson, T. D., Volpe, R. J., & Briesch, J. M. (2012). Examining teachers' perceptions of social-emotional and behavioral referral concerns. *Remedial and Special Education*, *34*(4), 249–256. https://doi.org/10.1177/0741932512464579

Center for Disease Control and Prevention. (1998, September 11). *Preventing emerging infectious diseases: A strategy for the 21st century.* https://www.cdc.gov/mmwr/preview/mmwrhtml/00054779.htm

Clunies-Ross, P., Little, E., & Kienhuis, M. (2008). Self-reported and actual use of proactive and

reactive classroom management strategies and their relationship with teacher stress and

student behaviour. *Educational Psychology*, *28*(6), 693–710.

https://doi.org/10.1080/01443410802206700

Cohan, A., & Honigsfeld, A. (2017). Students with interrupted formal education (SIFEs):

Actionable practices. *NABE Journal of Research and Practice*, *8*(1), 166–175.

https://doi.org/10.1080/26390043.2017.12067802

Crisafulli, T. P. (2006). No educator left unscathed: How No Child Left Behind threatens

educators' careers. *Brigham Young University Education and Law Journal*. 7(2), 613-

637. https://digitalcommons.law.byu.edu/cgi/viewcontent.cgi?article=1223&context=elj

Darling-Hammond, L. (2010). Recruiting and retaining teachers: Turning around the race to the

bottom in high-need schools. *Journal of Curriculum and Instruction*, *4*(1), 16–32.

https://doi.org/10.3776/joci.2010.v4n1p16-32

Darling-Hammond, L., Hyler, M., & Gardner, M. (2017). *Effective teacher professional

development.* Learning Policy Institute.

https://learningpolicyinstitute.org/sites/default/files/product-

files/Effective_Teacher_Professional_Development_REPORT.pdf

DeCapua, A. (2016). Reaching students with limited or interrupted formal education through

culturally responsive teaching. *Language and Linguistics Compass*, *10*(5), 225–237.

https://doi.org/10.1111/lnc3.12183

DeCapua, A., & Marshall, H. W. (2009). Students with limited or interrupted formal education in

US classrooms. *The Urban Review*, *42*(2), 159–173. https://doi.org/10.1007/s11256-009-

0128-z

Desimone, L. M. (2011). A primer on effective professional development. *Phi Delta Kappan*, *92*(6), 68–71. https://doi.org/10.1177/003172171109200616

Diliberti, M. K., Schwartz, H. L., & Grant, D. (2021). *Stress topped the reasons why public school teachers quit, even before Covid-19*. Rand Corporation. https://doi.org/10.7249/rra1121-2

Durlak, J. A., & Wells, A. M. (1997). Primary prevention mental health programs for children and adolescents: A meta-analytic review. *American Journal of Community Psychology*, *25*(2), 115–152. https://doi.org/10.1023/a:1024654026646

Englehart, J. M. (2009). Teacher-student interaction. L. J. Saha & A. G. Dworking (Eds.). *International Handbook of Research on Teachers and Teaching*. (Vol. 21, 711-722). Springer International Handbooks of Education https://doi.org /10.1007/978-0-387-73317-3_44

Ertmer, P. A., Ottenbreit-Leftwich, A., & York, C. S. (2006). Exemplary technology-using teachers: Perceptions of factors influencing success. *Journal of Computing in Teacher Education*, *23*(2), 55-61. https://files.eric.ed.gov/fulltext/EJ876918.pdf

Executive Office of the President of the United States. (2016). *Playbook for early response to high-consequence emerging infectious disease threats and biological incidents*. https://stacks.stanford.edu/file/druid:hy459js4845/Pandemic-Playbook.pdf

Fauci, A. S., Lane, H. C., & Redfield, R. R. (2020). Covid-19 — Navigating the uncharted. *New England Journal of Medicine*, *382*(13), 1268-1269. https://doi.org/10.1056/nejme2002387

Fauci, A., Folkers, G., & Morens, D. (2009). What is a pandemic? *The Journal of Infectious Diseases*, *200*(7), 1018-1021. https://doi.org/10.1086/644537

Federal Communications Commission. (2019). *Federal communications 2019 broadband deployment report*. https://docs.fcc.gov/public/attachments/FCC-19-44A1.pdf

Feng, S., Shen, C., Xia, N., Song, W., Fan, M., & Cowling, B. J. (2020). Rational use of face masks in the Covid-19 pandemic. *The Lancet Respiratory Medicine*, *8*(5), 434-436. https://doi.org/10.1016/s2213-2600(20)30134-x

Ferreira, L. (2013). *Managing change: The measurement of teacher self-efficacy in technology-enhanced student-centered learning environments*. [Master's thesis, Royal Roads University]. ProQuest Dissertation Publishing. https://viurrspace.ca/bitstream/handle/10170/639/ferreira_lucy.pdf?sequence=1

Fimian, M. J., & Blanton, L. P. (1987). Stress, burnout, and role problems among teacher trainees and first-year teachers. *Journal of Occupational Behavior, 8*(2), 157-165. https://www.jstor.org/stable/3000368?seq=1

Fink, A. (2017). *How to conduct surveys: A step-by-step guide*. Los Angeles: Sage. https://us.sagepub.com/en-us/nam/how-to-conduct-surveys/book244349

Graetz, B., Littlefield, L., Trinder, M., Dobia, B., Souter, M., Champion, C., … Cummins, R. (2008). KidsMatter: A population health model to support student mental health and well-being in primary schools. *International Journal of Mental Health Promotion*, *10*(4), 13-20. https://doi.org/10.1080/14623730.2008.9721772

Graham-Clay, S. (2005). Communicating with parents: Strategies for teachers. *School Community Journal*. *15*(1), 117-129. https://eric.ed.gov/?id=EJ794819

Grayson, J. L., & Alvarez, H. K. (2008). School climate factors relating to teacher burnout: A mediator model. *Teaching and Teacher Education*, *24*(5), 1349-1363. https://doi.org/10.1016/j.tate.2007.06.005

Guan, W., Ni, Z., Hu, Y., Liang, W., Ou, C., He, J., … Li, S. (2020). Clinical characteristics of

    coronavirus disease 2019 in China. *New England Journal of Medicine*, *382*(18), 1708-

    1720. https://doi.org/10.1056/nejmoa2002032

Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks: Corwin Press.

    http://www.artsintegrationpd.org/wp-content/uploads/2017/07/Evaluating-Professional-

    Development-Guskey.pdf

Hagenauer, G., Hascher, T., & Volet, S. E. (2015). Teacher emotions in the classroom:

    Associations with students' engagement, classroom discipline and the interpersonal

    teacher-student relationship. *European Journal of Psychology of Education*, *30*(4), 385-

    403. https://doi.org/10.1007/s10212-015-0250-0

Hajovsky, D. B., Oyen, K. A., Chesnut, S. R., & Curtin, S. J. (2019). Teacher–student

    relationship quality and math achievement: The mediating role of teacher self-efficacy.

    Psychology in the Schools, *57*(1), 111-134. https://doi.org/10.1002/pits.22322

Hardy, I. (2010). Critiquing teacher professional development: Teacher learning within the field

    of teachers' work. *Critical Studies in Education*, *51*(1), 71-84.

    https://doi.org/10.1080/17508480903450232

Harmsen, R., Helms-Lorenz, M., Maulana, R., & van Veen, K. (2018). Measuring general and

    specific stress causes and stress responses among beginning secondary school teachers in

    the Netherlands. *International Journal of Research & Method in Education*, *42*(1), 91-

    108. https://doi.org/10.1080/1743727x.2018.1462313

Herman, K. C., Hickmon-Rosa, J., & Reinke, W. M. (2017). Empirically derived profiles of

    teacher stress, burnout, self-efficacy, and coping and associated student outcomes.

    Journal of Positive Behavior Interventions, *20*(2), 90-100.

https://doi.org/10.1177/1098300717732066

Hirsh, Å., Nilholm, C., Roman, H., Forsberg, E., & Sundberg, D. (2020). Reviews of teaching

methods – which fundamental issues are identified? *Education Inquiry*, *4*(1), 1-20.

https://doi.org/10.1080/20004508.2020.1839232

Hirsh-Pasek, K., Zosh, J. M., Golinkoff, R. M., Gray, J. H., Robb, M. B., & Kaufman, J. (2015).

Putting education in "educational" apps. *Psychological Science in the Public Interest*,

16(1), 3-34. https://doi.org/10.1177/1529100615569721

Holshue, M. L., DeBolt, C., Lindquist, S., Lofy, K. H., Wiesman, J., Bruce, H., … Pillai, S. K.

(2020). First case of 2019 novel coronavirus in the United States. *New England Journal

of Medicine, 382*(2), 929-936. https://doi.org/10.1056/nejmoa2001191

Howard, S., & Johnson, B. (2004). Resilient teachers: Resisting stress and burnout. *Social

Psychology of Education*, *7*(4), 399-420. https://doi.org/10.1007/s11218-004-0975-0

Jenkins, J. (2021, February 23). *State BOE mandates return to full-time in-person instruction for

state schools.* WV MetroNews. https://wvmetronews.com/2021/02/23/state-boe-

mandates-return-to-full-time-in-person-instruction-for-state-schools/

Johnson, H. A., & Barrett, L. C. (2017). Your teaching strategy matters: How engagement

impacts application in health information literacy instruction. *Journal of the Medical

Library Association*, *105*(1), 44-48. https://doi.org/10.5195/jmla.2017.8

Jones, S. M., & Bouffard, S. M. (2012). Social and emotional learning in schools: From

programs to strategies and commentaries. *Social Policy Report*, *26*(4), 1-33.

https://doi.org/10.1002/j.2379-3988.2012.tb00073.x

Jones, S. M., Zaslow, M., Darling-Churchill, K. E., & Halle, T. G. (2016). Assessing early

childhood social and emotional development: Key conceptual and measurement issues.

Journal of Applied Developmental Psychology, *45,* 42-48.

https://doi.org/10.1016/j.appdev.2016.02.008

Joo, Y. J., Park, S., & Lim, E. (2018). Factors influencing preservice teachers' intention to use

technology. *Journal of Educational Technology & Society*, *21*(3), 48-59.

https://www.jstor.org/stable/26458506

Justice, J. (2020, March 13). *Covid-19 update: Gov. Justice announces closure of West Virginia*

schools [Press Release]. https://governor.wv.gov/News/press-

releases/2020/Pages/COVID19-UPDATE-Gov.-Justice-announces-closure-of-West-

Virginia-schools.aspx

Justice, J. (2020, March 16). *Covid-19 update: We're trying to be ready in every way we can*

possibly be [Press Release]. https://governor.wv.gov/News/press-

releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-We-are-trying-to-be-ready-in-

every-way-we-can-possibly-be.aspx

Justice, J. (2020, August 5). *Covid-19 update: Gov. Justice announces reopening plan for West*

Virginia schools [Press Release]. https://governor.wv.gov/News/press-

releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-announces-reopening-plan-for-

West-Virginia-schools.aspx

Justice, J. (2020, August 14). *Covid-19 update: Gov. Justice announces West Virginia school re-*

entry metrics and protocols [Press Release]. https://governor.wv.gov/News/press-

releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-announces-West-Virginia-

School-Re-entry-Metrics-and-Protocols.aspx

Justice, J. (2020, August 17). *Covid-19 update: Gov. Justice revises West Virginia school re-*

entry metrics and protocols [Press Release]. https://governor.wv.gov/News/press-

releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-announces-adjustments-to-West-Virginia-School-Re-entry-Metrics-and-Protocols.aspx

Justice, J. (2020, September 15). *Covid-19 update: Gov. Justice adds "gold" category to color-coding scale; introduces several adjustments to school alert system map* [Press Release]. https://governor.wv.gov/News/press-releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-adds-Gold-to-color-coding-scale;-introduces-several-adjustments-to-school-re-entry-map-system.aspx

Justice, J. (2020, December 30). *Covid-19 update: Gov. Justice announces most schools to return to in-person classes; school employees and elderly population next in line for vaccine* [Press Release]. https://governor.wv.gov/News/press-releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice-announces-most-schools-to-return-to-in-person-classes;-more-vaccinations.aspx

Kabler, P. (2021, April 16). *Governor frustrated over WV's plunging Covid-19 vaccination rate.* WV Gazette Mail. https://www.wvgazettemail.com/news/governor-frustrated-over-wvs-plunging-covid-19-vaccination-rate/article_08062057-2c7d-5fcc-b3f5-d7cf115b83b4.html

Kaur, S. P., & Gupta, V. (2020). Covid-19 vaccine: A comprehensive status report. *Virus Research*, *288,* 168-172. https://doi.org/10.1016/j.virusres.2020.198114

Kennedy, M. M. (2016). How does professional development improve teaching? *Review of Educational Research*, *86*(4), 945-980. https://doi.org/10.3102/0034654315626800

Kilbourne, E. D. (2006). Influenza pandemics of the 20th century. *Emerging Infectious Diseases*, *12*(1), 9-14. https://doi.org/10.3201/eid1201.051254

Kim, L. E., & Asbury, K. (2020). "Like a rug had been pulled from under you": The impact of

Covid-19 on teachers in England during the first six weeks of the UK lockdown. *British Journal of Educational Psychology*, *90*(4), 1062-1083. https://doi.org/10.1111/bjep.12381

Kingston, K. (2013). *The impact of high-speed internet connectivity at home on eighth-grade student achievement* [Doctoral dissertation, University of Nebraska – Omaha]. ProQuest Dissertation Publishing.

Koehler, C. (2017). *Continuity of learning for newly arrived refugee children in Europe*. NESET II. https://nesetweb.eu/wp-content/uploads/2019/06/Continuity-of-learning-for-newly-arrived-refugee-children-in-Europe.pdf

Koehler, C., & Schneider, J. (2019). Young refugees in education: The particular challenges of school systems in Europe. *Comparative Migration Studies*, *7*(1), 1-20. https://doi.org/10.1186/s40878-019-0129-3

Koh, H. K., Geller, A. C., & VanderWeele, T. J. (2020). Deaths from Covid-19. *JAMA Network*, *325*(2), 133-134. https://doi.org/10.1001/jama.2020.25381

Kokkinos, C. M. (2007). Job stressors, personality, and burnout in primary school teachers. *British Journal of Educational Psychology*, *77*(1), 229-243. https://doi.org/10.1348/000709905x90344

Krach, S. K., McCreery, M., & Rimel, H. (2016). Examining teachers' behavioral management charts: A comparison of Class Dojo and paper-pencil methods. *Contemporary School Psychology, 21,* 267-275. http://dx.doi.org/10.1007/s40688-016-0111-0

Krane, N. K., Kahn, M. J., Markert, R. J., Whelton, P. K., Traber, P. G., & Taylor, I. L. (2007). Surviving Hurricane Katrina: Reconstructing the educational enterprise of Tulane University School of Medicine. *Academic Medicine*, *82*(8), 757-762.

https://doi.org/10.1097/acm.0b013e3180cf6ee5

Kroll, K. (2021, January 31). *Enraged West Virginia educators speak out after vaccine distribution changes.* WV News. https://www.wvnews.com/news/wvnews/enraged-west-virginia-educators-speak-out-after-vaccine-distribution-changes/article_dfb5fbc9-2e8d-5a27-b123-693e2d6d1daf.html

KVC West Virginia. (2020, May 6). *How many children are in foster care?* https://westvirginia.kvc.org/2020/05/06/how-many-children-are-in-foster-care

Kwon, K., Ottenbreit-Leftwich, A. T., Sari, A. R., Khlaif, Z., Zhu, M., Nadir, H., & Gok, F. (2019). Teachers' self-efficacy matters: Exploring the integration of mobile computing devices in middle schools. *TechTrends*, *63*(6), 682-692. https://doi.org/10.1007/s11528-019-00402-5

Kyriacou, C., & Sutcliffe, J. (1978). A model of teacher stress. *Educational Studies*, *4*(1), 1-6. https://doi.org/10.1080/0305569780040101

Lambert, R. G., & McCarthy, C. J. (2006). *Understanding teacher stress in an age of accountability*. Greenwich (Conn.): Information Age. https://eric.ed.gov/?id=ED529597

Lavrakas, P. J. (2008). *Encyclopedia of survey research methods* (Vol. 1–0). Thousand Oaks, California: Sage Publications, Inc. https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods

Marshall, D., Shannon, D., & Love, S. (2020). How teachers experienced the Covid-19 transition to remote instruction. *Phi Delta Kappan*, *102*(3), 46-50. https://doi.org/10.1177%2F0031721720970702

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370-396. https://doi.org/10.1037/h0054346

Mauldin, R. (2020, January 26). *Foundations of social work research*. University of Texas at

Arlington Libraries: Mavs Open Press. https://rc.library.uta.edu/uta-

ir/bitstream/handle/10106/29081/Foundations-of-Social-Work-Research-

1586972770.pdf?sequence=1&isAllowed=y

Maxwell, L. A. (2020, July 13). *Reopening schools: Here are some districts' plans for the fall*.

Education Week. https://www.edweek.org/leadership/reopening-schools-here-are-some-

districts-plans-for-the-fall/2020/07

Mervosh, S. (2021, January 25). How West Virginia became a U.S. leader in vaccine rollout. *The*

New York Times. https://www.nytimes.com/2021/01/24/us/west-virginia-vaccine.html

Michel, N., Cater, J. J., & Varela, O. (2009). Active versus passive teaching styles: An empirical

study of student learning outcomes. *Human Resource Development Quarterly*, *20*(4),

397-418. https://doi.org/10.1002/hrdq.20025

Mitchell, S. I. (2020). Ethical concerns of school closures for low-income school aged children.

Voices in Bioethics, *6,* 1-6.

https://journals.library.columbia.edu/index.php/bioethics/article/view/7057

Mizell, H. (2010). *Why professional development matters*. Learning Forward.

https://learningforward.org/wp-content/uploads/2017/08/professional-development-

matters.pdf

Moffitt, T. E., Arseneault, L., Belsky, D., Dickson, N., Hancox, R. J., Harrington, H., … Caspi,

A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety.

Proceedings of the National Academy of Sciences, *108*(7), 2693-2698.

https://doi.org/10.1073/pnas.1010076108

Moomaw, W., & Pearson, L. C. (2005). The relationship between teacher autonomy and stress,

work satisfaction, empowerment, and professionalism. *Educational Research Quarterly*, *29*(1), 38-54. https://eric.ed.gov/?id=EJ718115

National Science and Technology Council. (2016). *Towards epidemic prediction: Federal efforts and opportunities in outbreak modeling.* Obama White House Archives. https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/NSTC/towards_e pidemic_prediction-federal_efforts_and_opportunities.pdf

Noddings, N. (2012). The caring relation in teaching. *Oxford Review of Education*, *38*(6), 771-781. https://doi.org/10.1080/03054985.2012.745047

O'Dwyer, L., Russell, M., Bebell, D., & Tucker-Seeley, K. (2008). Examining the relationship between students' mathematics test scores and computer use at home and at school. *The Journal of Technology, Learning, and Assessment*, *6*(5), 1-46. https://files.eric.ed.gov/fulltext/EJ838615.pdf

Office of the Governor. (2020, March 14). *Covid-19 update: Gov. Justice, Department of Education issue updated guidance on school closures in West Virginia* [Press Release]. https://governor.wv.gov/News/press-releases/2020/Pages/COVID-19-UPDATE-Gov.-Justice,-Department-of-Education-issue-updated-guidance-on-school-closures-in-West-Virginia.aspx

Palmer, S., Cunniffe, N., & Donnelly, R. (2021). Covid-19 hospitalization rates rise exponentially with age, inversely proportional to thymic T-cell production. *Journal of the Royal Society Interface*, *18*(176), 1-6. https://doi.org/10.1098/rsif.2020.0982

Patterson, T., & Han, I. (2019). Learning to teach with virtual reality: Lessons from one elementary teacher. *TechTrends*, *63*(4), 463-469. https://doi.org/10.1007/s11528-019-00401-6

Pechenkina, E., Laurence, D., Oates, G., Eldridge, D., & Hunter, D. (2017). Using a gamified

    mobile app to increase student engagement, retention, and academic achievement.

    International Journal of Educational Technology in Higher Education, *14*(1), 38-47.

    https://doi.org/10.1186/s41239-017-0069-7

Pesnell, B. (2020). *Elementary teachers' experiences with remote learning and its impact on*

    science instruction: Multiple cases from the early response to the Covid-19 pandemic

    [Doctoral dissertation, University of Arkansas]. ProQuest Dissertation Publishing.

    https://scholarworks.uark.edu/cgi/viewcontent.cgi?article=5443&context=etd

Pew Research Center. (2021, April 7). *Mobile fact sheet: Internet, science & tech*.

    https://www.pewresearch.org/internet/fact-sheet/mobile/

Picou, J. S., & Marshall, B. K. (2007). Social impacts of Hurricane Katrina on displaced K–12

    students and educational institutions in coastal Alabama counties: Some preliminary

    observations. *Sociological Spectrum*, *27*(6), 767-780.

    https://doi.org/10.1080/02732170701534267

Pike, B. L., Saylors, K. E., Fair, J. N., LeBreto, M., Tamoufe, U., Djoko, C. F., … Wolfe, N. D.

    (2010). The origin and prevention of pandemics. *Clinical Infectious Diseases*, *50*(12),

    1636-1640. https://doi.org/10.1086/652860

Plano Clark, V., & Creswell, J. (2015). *Understanding research: A consumer's guide*. Boston:

    Pearson.

Reed, L. (2020). *Teacher unrest in West Virginia, 2018-2019* [Doctoral dissertation, Marshall

    University]. ProQuest Dissertation Publishing.

Robacker, C. M., Rivera, C. J., & Warren, S. H. (2016). A token economy made easy through

    ClassDojo. *Intervention in School and Clinic*, *52*(1), 39-43.

https://doi.org/10.1177/1053451216630279

Ross-Hain, L. (2020). *Transitions in tumultuous times: Teachers' experiences with distance learning amidst the Covid-19 pandemic* [Doctoral dissertation, University of North Dakota]. ProQuest Dissertation Publishing.

Rutledge, P. E. (2020). Trump, Covid-19, and the war on expertise. *The American Review of Public Administration*, *50*(6-7), 505-511. https://doi.org/10.1177/0275074020941683

Ryan, S. V., von der Embse, N. P., Pendergast, L. L., Saeki, E., Segool, N., & Schwing, S. (2017). Leaving the teaching profession: The role of teacher stress and educational accountability policies on turnover intent. *Teaching and Teacher Education*, *66,* 1-11. https://doi.org/10.1016/j.tate.2017.03.016

Sen, A., & Tucker, C. E. (2020). Social distancing and school closures: Documenting disparity in internet access among school children. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3572922

Sophia, S., Nisbet, K., & Opp, A. (2017). *Effects of the Remind app on parent-teacher communication at a mixed-income middle school.* [Master's thesis, St. Catherine University]. ProQuest Dissertation Publishing. https://sophia.stkate.edu/cgi/viewcontent.cgi?article=1235&context=maed

Spilt, J. L., Koomen, H. M. Y., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*, *23*(4), 457-477. https://doi.org/10.1007/s10648-011-9170-y

Stanton, H. E. (1974). Teaching methods and student personality: The search for an elusive interaction. *Instructional Science*, *2*(4), 477-501. https://doi.org/10.1007/bf00123463

T-Mobile. (2020, June 5). *Bridging the digital divide: How the CARES Act enables distance*

learning. T-Mobile for Education. https://www.t-mobile.com/content/dam/tfb/pdf/T-

Mobile-Education-CARESAct-Whitepaper-

June2020.pdf?icid=TFB_TMO_P_20CARESACT_WQ00R5MDJLLDZ2NJT21041

Tay, H. Y. (2016). Longitudinal study on impact of iPad use on teaching and learning. *Cogent Education*, *3*(1), 1-7. https://doi.org/10.1080/2331186x.2015.1127308

Tharayil, S., Borrego, M., Prince, M., Nguyen, K. A., Shekhar, P., Finelli, C. J., & Waters, C.

(2018). Strategies to mitigate student resistance to active learning. *International Journal of STEM Education*, *5*(1), 17-21. https://doi.org/10.1186/s40594-018-0102-y

The National Academies of Science, Engineering, and Medicine. (2020). *Reopening K-12 schools during the Covid-19 pandemic*. https://doi.org/10.17226/25858

Thibodeaux, A. K. (2014). *The effects of leadership and high-stakes testing on the retention of teachers* [Doctoral dissertation, University of Southern Mississippi]. ProQuest

Dissertation Publishing.

Thomas, I., & Green, R. (2015). Using instructional strategies to enhance student achievement. *National Forum of Teacher Educational Journal, 25*(3).

http://www.nationalforum.com/Electronic%20Journal%20Volumes/Thomas,%20Ingrid%

20A%20Using%20Instructional%20Strategies%20NFTEJ%20V25%20N%203%202015.

pdf

Tierney, B. (2021, January 29). *Changes to W.Va. teacher vaccination process announced.* WSAZ. https://www.wsaz.com/2021/01/30/changes-to-wva-teacher-vaccination-process-announced/

Van Norman, G. A. (2020). "Warp Speed" operations in the Covid-19 pandemic. *JACC: Basic to Translational Science*, *5*(7), 730-734. https://doi.org/10.1016/j.jacbts.2020.06.001

Voris, B. (2011). *Teacher efficacy, job satisfaction, and alternate certification in early career special education teachers* [Doctoral dissertation, University of Kentucky]. ProQuest Dissertation Publishing.

West Virginia Broadband Enhancement Council. (2019). *West Virginia state broadband plan 2020-2025*. https://broadband.wv.gov/wp-content/uploads/2020/01/West_Virginia_State_Broadband_Plan_2020-2025.pdf

West Virginia Department of Education. (2020). *West Virginia remote learning framework for the Covid-19 emergency*. https://wvde.us/wp-content/uploads/2020/04/WV-Remote-Learning-040320.pdf

Winthrop, R. (2020, March 31). *Covid-19 and school closures: What can countries learn from past emergencies?* Brookings Institution. https://www.brookings.edu/research/covid-19-and-school-closures-what-can-countries-learn-from-past-emergencies/

World Health Organization. (2020, January 5). *Pneumonia of unknown cause – China*. https://www.who.int/emergencies/disease-outbreak-news/item/2020-DON229

Appendix A: Institutional Review Board Approval Letter

MARSHALL UNIVERSITY
www.marshall.edu

Office of Research Integrity
Institutional Review Board
One John Marshall Drive
Huntington, WV 25755

FWA 00002704

IRB1 #00002205
IRB2 #00003206

July 19, 2021

Ronald Childress, EdD
Leadership Studies - COEPD

RE: IRBNet ID# 1751110-1
At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Childress:

Protocol Title:	[1751110-1] Experiences in Remote Learning: Perceptions of West Virginian Educators During the Covid-19 Pandemic
Site Location:	MU
Submission Type:	New Project APPROVED
Review Type:	Exempt Review

In accordance with 45CFR46.104(d)(2), the above study was granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair. No further submission (or closure) is required for an Exempt study **unless** there is an amendment to the study. All amendments must be submitted and approved by the IRB Chair/Designee.

This study is for student Craig Arch.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Anna Robinson at (304) 696-2477 or robinsonn1@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

- 1 -

Generated on IRBNet

Appendix B: Study Invitation and Consent Form

Anonymous Survey Consent

You are invited to participate in a research project designed to analyze the perceptions of West Virginia teachers as they endeavored to teach remotely during the Covid-19 pandemic. The study is being conducted by Ronald Childress (Principal Investigator) and Craig Arch (Co-Investigator) as part of the program requirements for completing the Ed.D program in Leadership Studies at Marshall University. This has been approved by the Marshall University Institutional Review Board (IRB).

Your participation in this study involves completion of a self-reported survey which will require approximately eight minutes. Your replies will be anonymous, so do not put your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty or loss of benefits if you choose to not participate in this research study or to withdraw. If you choose not to participate after opening the web page, you may close the browser without penalty. You may choose to not answer any question by simply leaving it blank. Consent is provided by selecting the "Proceed to Survey" choice at the bottom of the consent form, indicating your consent for use of the answers you supply.

If you have any questions concerning your rights as a research participant, you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey and returning it you are also confirming that you are **18 years** of age or older.

A summary of the study's results will be posted on the WV Public Employees UNITED Facebook group's page at the discretion of the page's administrator.

Thank you in advance for your willingness to assist with this project.

If you have any questions about the study, you may contact Ronald Childress (Principal Investigator) at rchildress@marshall.edu or Craig Arch (Co-Investigator) at arch@marshall.edu.

The survey can be accessed using the following link:

https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_9RHY4NK3GdXOEke

You may print this page for your records.

Appendix C: Survey Instrument

Q1 SQ1. Were you a West Virginia teacher during the Covid-19 pandemic?

○ Yes

○ No

Q2 SQ2. What sex do you identify as?

○ Male

○ Female

○ Other _____

○ Prefer not to answer

Q3 SQ3. How many years of teaching experience do you have?

○ Less than 5

○ 6 - 10

○ 11 - 15

○ 16 - 20

○ More than 20

Q4 SQ4. What level do you teach? (Select only one)

○ Preschool/Kindergarten

○ Elementary School

○ Middle/Junior High School

○ High School

○ Other (Please specify:) _____

Q5 SQ5. Did you participate in any county or state training regarding the delivery of remote instruction before March 2020?

☐   Yes

☐   No

☐   If yes, what type of county or state assigned did you receive?
_____

Q6 SQ6. How much experience did you have in online/remote teaching prior to the Covid-19 pandemic?

○ Little or no experience

○ Some experience

○ Considerable experience

Q7 SQ7. What technology devices were provided during the pandemic? (Check all that apply)

    ○ Laptop or Chromebook

    ○ iPad/tablet

    ○ Other technology (Please list:) _____

Q8 SQ8. What impact did the lack of face-to-face instruction have on student retention of instructional material during the remote learning period?

    ○ Student retention of material increased

    ○ Student retention remained the same as face-to-face

    ○ Student retention of material decreased

Q9 SQ9. How did teaching remotely affect your ability to elicit more thoughtful student responses through teacher actions (employ pauses, open-ended questions) from your students?

    ○ Thoughtful student responses increased

    ○ Thoughtful student responses remained about the same as face-to-face

    ○ Thoughtful student responses decreased

Q10 SQ10. When compared to pre-pandemic face-to-face instruction, how did remote learning effect your *interaction with* students?

○ Interaction with students increased

○ Interaction with students remained about the same as face-to-face

○ Interaction with students decreased

Q11 SQ11. When compared to pre-pandemic face-to-face instruction, how did remote learning affect the time spent *instructing* your students?

○ Instructional time increased during remote instruction

○ Instructional time remained about the same as pre-pandemic

○ Instructional time decreased during remote instruction

Q12 SQ12. When compared to pre-pandemic face-to-face instruction, indicate the extent to which your use of the following instructional strategies was affected by the transition to remote learning:

	Used less frequently during remote learning	Used with about the same frequency during remote learning	Used more frequently during remote learning
Direct Instruction	○	○	○
Small Group Work	○	○	○
Whole Class Discussion	○	○	○
Kinesthetic Activities	○	○	○
Collaborative Projects	○	○	○
Technology-Based Assignments	○	○	○
Flipped Classroom	○	○	○
Peer Tutoring	○	○	○
Instructional Stations	○	○	○
Student Centered Discussion	○	○	○

Q13 SQ13. Compared to pre-pandemic levels, how would you rate your current level of technological competence on the following skills?

	Less competence than pre-pandemic		About the same competence as pre-pandemic		Greater competence than pre-pandemic
Grading work completed virtually	○	○	○	○	○
Troubleshooting technological concerns	○	○	○	○	○
Delivering remote instruction	○	○	○	○	○
Creating virtual activities	○	○	○	○	○
Communicating with peers	○	○	○	○	○
Conducting virtual meetings	○	○	○	○	○

Q14 SQ14. Which of the following products or tools do you use now as a result of your remote

learning experience during the pandemic? (Check all that apply)

- ☐ Microsoft Teams

- ☐ Zoom

- ☐ Class Dojo

- ☐ Remind

- ☐ Google Classroom

- ☐ Schoology

- ☐ Edmodo

- ☐ Classloom

- ☐ Blackboard Learn

- ☐ Seesaw

- ☐ Other (Please list below) _____

Q15 SQ15. To what extent did each of the following act as a source of stress during the

transition to remote learning?

	Little Stress	Somewhat Stressful	Stressful	Very Stressful
If my home internet access was sufficient to complete my job duties	○	○	○	○
My technological equipment at home was sufficient to teach effectively from home	○	○	○	○
If I possessed the technological skills necessary to execute my job duties	○	○	○	○
My students' mental health as a result of transitioning to remote learning	○	○	○	○
My mental health as a result of transitioning to remote learning	○	○	○	○
My students' physical well being during the remote learning period	○	○	○	○
My physical well being during the remote learning period	○	○	○	○
Others (Please list below)	○	○	○	○

Q16 SQ16. Use the following scale to indicate the extent in which you agree with each statement when considering your experience throughout the transition to remote learning:

	Strongly Agree	Agree	Disgaree	Strongly Disagree
I felt satisfied as a teacher.	○	○	○	○
I felt valued as a teacher.	○	○	○	○
I had personal autonomy as a teacher.	○	○	○	○
I maintained interpersonal relationships with colleagues.	○	○	○	○
I was able to adequately maintain my workload.	○	○	○	○

Q17 SQ17. During the pandemic and subsequent remote learning period, how confident were you that you were able to effectively perform each of the following tasks:

	Not Confident	Somewhat Confident	Confident	Very Confident
Teach remotely from your home using available technology	○	○	○	○
Use the technology at your disposal to deliver instruction	○	○	○	○
Communicate effectively with parents	○	○	○	○
Communicate effectively with students	○	○	○	○
Engage students in learning	○	○	○	○
Reach unmotivated students	○	○	○	○
Encourage students to return assignments	○	○	○	○
Foster a collaborative environment	○	○	○	○

Q18 SQ18. As a result of my experience teaching throughout the remote learning period, I am:

○ Less likely to remain in public education than before the pandemic

○ As likely to remain in public education as before the pandemic

○ More likely to remain in public education than before the pandemic

Q19 SQ19. If you are likely to leave public education because of the pandemic and remote learning experience, indicate the extent to which each of the following factors contributes to your position:

	Does Not Contribute	Contributes Somewhat	Contributes	Major Contributor
The abrupt nature of the transition to remote learning in March 2020	○	○	○	○
Lack of clear communication from governing/administrative bodies	○	○	○	○
Lack of access to a vaccine for my age group	○	○	○	○
Inconsistent application of statewide COVID map guidelines	○	○	○	○
Lack of personal protective equipment in my classroom/school	○	○	○	○
Larger class size during pandemic	○	○	○	○
Lack of social distancing	○	○	○	○
Increase in professional stress	○	○	○	○
Fear for my own safety	○	○	○	○
Fear for the safety of my family members	○	○	○	○
Fear of receiving a Reduction-in-Force notification	○	○	○	○
Professional evaluation metrics	○	○	○	○
Increased workload	○	○	○	○
Other (Please specify)	○	○	○	○

Q20 SQ20. What were the greatest challenges you faced during the transition to remote learning?

_____

Appendix D: Permission to Access Population

M Gmail   Craig Arch <arch93086@gmail.com>

Permission to Access Survey Population

Jay O'Neal <jayoneal@hotmail.com>   Fri, May 7, 2021 at 9:59 AM
To: Craig Arch <arch93086@gmail.com>

Hey Craig,

Sorry I'm so slow to reply. Absolutely it's fine to share. Do you want to send me the main link and I can share it out? If you have any text that needs to go with it, let me know and I can share that in the post too.

--Jay

From: Craig Arch <arch93086@gmail.com>
Sent: Thursday, May 6, 2021 10:21 AM
To: jayoneal@hotmail.com <jayoneal@hotmail.com>
Subject: Permission to Access Survey Population

Good morning Mr. O'Neal,

Thank you so much for allowing me to message you regarding the survey for my dissertation. The title of the survey is *Arch Survey of Teachers' Perceptions of Remote Learning during Covid-19*. I've attached a draft copy to this email for your review.

If you'd be willing to share it to your Facebook group, WV Public Employees UNITED, please respond to this email granting permission to do so. Again, thank you sincerely for considering allowing me access to your group. Without it, my study would be impossible.

Please have an amazing day,

Craig Arch

Craig Arch
122 Clemson Ln. Falling Waters, WV 25419 | 304-279-0362 | carch@k12.wv.us

EDUCATION

West Virginia State University, Institute, W.V. Superintendent/Principal/Director Certification	2019

West Virginia University, Morgantown, W.V. Master of Arts in Multi-Categorical Special Education	2011

American InterContinental University, Hoffman Estates, Illinois Bachelor of Arts in Business Administration	2007

PROFESSIONAL EXPERIENCE

Opequon Elementary School, Martinsburg, W.V. Assistant Principal	2020 – Present

Spring Mills High School, Martinsburg, W.V. Intellectual Disabilities Special Education Teacher	2018 – 2020

Spring Mills High School, Martinsburg, W.V. Mild Mental Impairment Special Education Teacher	2013 – 2018

Musselman Middle School, Inwood, W.V. Behavioral Disorders Special Education Teacher	2010 – 2013

CERTIFICATIONS

National Board Certification
Exceptional Needs Specialist Early Childhood to Young Adulthood

Professional Administrative Certificate
Superintendent/Principal/Director

Permanent Professional Teaching Certificate
LD, MI, BD endorsements

ASSOCIATIONS

National Association of Elementary/Middle School Principals