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Student Engagement in Tennessee Ninth Grade Post-COVID Classrooms

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STUDENT ENGAGEMENT IN TENNESSEE NINTH GRADE POST-COVID CLASSROOMS

Dissertation

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by

Rebecca E. Houser

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Dedication

To my children, Wes and Emma, thank you for your endless support and patience during this process. You were my biggest cheerleaders and my safe harbor when I did not know if I could continue one more day. I love you more than you can possibly imagine. You inspire me every day as you pursue your dreams. Thank you for walking so closely with me as I pursued mine.

To my parents, John and Zola, thank you for always supporting me and instilling in me the value of hard work and dedication to excellence. You taught me the importance of an education from an early age, and I will always be grateful for your guidance and unconditional love.

To my sister, Jessica, thank you for always checking on me and for helping me get through some of the tough real-life stuff that happened along the way. I am forever grateful that my sister is also my friend.

To my BB's, who have prayed me through much tougher things than a doctoral degree, but who faithfully prayed for me day in and day out as I pursued my educational aspirations, I can't imagine doing life without you.

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Abstract

During the school closures associated with COVID-19, researchers found student engagement decreased, partially due to the concurrent increase in the number of adolescents diagnosed with problematic internet use and internet addiction. At the time of this study, there was limited research related to student engagement after students returned to face-to-face instruction. Moreover, when students returned to in-person school after the COVID-19 restrictions were lifted, a paradigm shift to internet-based learning occurred, which meant every student had a computer and spent more time learning online than before the pandemic. Unfortunately, this paradigm shift occurred while students were returning to school with increased problematic internet use and internet addiction and decreased student engagement. The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. After collecting and analyzing the data, I found ninth-grade Tennessee teachers thought students faced challenges in emotional, behavioral, and cognitive engagement, and teachers needed support from instructional leaders in a variety of areas related to student engagement. Educators would benefit from this study because it brings awareness to the ways internet-based learning influences student engagement and provides guidance for strategies to increase ninth-grade student engagement in the new internet-based paradigm for instruction and learning.

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Chapter I: Introduction

Researchers agreed student engagement was crucial to academic success and to success later in life (Davis et al., 2022; Fredricks et al., 2004, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Peck, 2013). According to Fredricks et al. (2004), student engagement was a multidimensional construct that described the quality of students' involvement in an educational activity or learning context. Students who were engaged in learning during elementary, middle, and high school were more likely to obtain good grades, graduate from high school, enroll in post-secondary education or training programs, and have successful careers (Davis et al., 2022; Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Although educational experts did not agree on an exact definition of student engagement, many researchers described student engagement as a multidimensional construct consisting of three dimensions: emotional engagement, behavioral engagement, and cognitive engagement (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013).

Many researchers concurred the multidimensional construct Fredricks et al. (2004) described was the most accurate and thorough definition of student engagement (Fredricks et al., 2019; Lam et al., 2014; Li & Lerner, 2011; Salta et al., 2021; H. Wang et al., 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). According to Fredricks et al. (2004), emotional engagement included students' positive or negative reactions to

peers, teachers, school, and academic content. Behavioral engagement concerned students' participation and involvement in academic, social, and extracurricular activities at school (Fredricks et al., 2004). Fredricks et al. (2004) described cognitive engagement as students' willingness and ability to exert the effort necessary for mastering difficult skills and comprehending complex ideas.

Researchers found students' mental health influenced student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). For example, students with increased depression or anxiety often showed signs of decreased student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). Additionally, students often had decreased engagement if they were diagnosed with problematic internet use (PIU [i.e., an overuse of the internet which interfered with certain aspects of life]), or internet addiction (IA [i.e., preoccupation or loss of control over internet use that interfered with certain aspects of a person's life and did not change regardless of negative consequences]; Akin & Iskender, 2011; Buzzai et al., 2021; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018; Yeap et al., 2016; Zhang et al., 2018). Furthermore, researchers found depression, anxiety, PIU, and IA negatively influenced one another and negatively influenced student engagement altogether (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; Servidio et al., 2021; A.

Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018; Zhao et al., 2023).

Student engagement has been a concern for educational researchers since the early twentieth century (Bandura, 1977; Dewey, 1956; Fredricks et al., 2004; Marks, 2000; Schlechty, 2002, 2011; Wang & Eccles, 2012; Wang & Peck, 2013). In the United States, researchers found American students tended to become less engaged as they progressed through the educational system (i.e., from elementary to middle to high school) (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013). According to a 2016 Gallup poll of American students, almost three-quarters of students reported being enthusiastic about school in fifth grade; however, only a third of students were excited about school by twelfth grade (Calderon & Yu, 2017). Comparatively, Wang and Peck (2013) found 37% of students struggled with at least one of the three dimensions of student engagement.

Unfortunately, the school closures associated with the Coronavirus pandemic (COVID-19) further exacerbated the problems with student engagement (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021). The COVID-19 pandemic led to massive societal shutdowns and quarantines including closing school buildings and temporarily eliminating face-to-face instruction (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Harris, 2021; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). During the school closures associated with COVID-19, students were isolated from one another and from their teachers (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Harris, 2021;

Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). The resulting lack of contact students had with their peers and teachers caused a decrease in students' engagement in learning (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Besalti & Satici, 2022; Bray et al., 2021; Buzzai et al., 2021; Domina et al., 2021; Salta et al., 2021; A. Singh & Srivastava, 2021; Wester et al., 2021).

Concurrently, researchers agreed PIU and IA increased dramatically during the school closures, which had a further negative influence on student engagement (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Liu et al., 2022; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). The amount of time students spent on the internet increased dramatically during the school closures (Adibelli & Sumen, 2020; Al Omari et al., 2020; Duan et al., 2020; Khubchandani et al., 2021; Lin, 2020; Servidio et al., 2021; Sun et al., 2020; Zengin et al., 2021). In the United States, adolescents' time spent on the internet increased from 3.8 hours per day before the school closures to 7.7 hours per day during the school closures (Nagata et al., 2022). This increase in internet use, combined with a concurrent increase in depression and anxiety among adolescents, led to significant increases in PIU and IA (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Lin, 2020; Liu et al.,2022; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). As depression caused by pandemic related stress and isolation increased, students turned to the internet to escape; consequently, students felt more depressed, which made them want to escape more (Servidio et al., 2021). This cycle worsened PIU and IA in students, which had a further negative influence on student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Liu et al., 2022; Olivier et al., 2020;

A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018).

Some researchers assumed when students returned to face-to-face schooling, student engagement and students' mental health would return to pre-pandemic levels (Wang et al., 2021). Overtime however, researchers found students' mental health remained the same or worsened after the return to in-person school (Liverpool et al., 2023; Wang et al., 2021; Wang et al., 2022; Zhang et al., 2021). Even after pandemic-related school closures ended and students returned to face-to-face schooling, researchers found students were still struggling with depression, anxiety, PIU, and IA (Liverpool et al., 2023; Onukwuli et al., 2023; Wang et al., 2021; Wang et al., 2022; Zhang et al., 2021; Zhao et al., 2023). Although literature on student engagement after the return to face-to-face instruction remained scant, researchers recommended further research into student engagement in post-COVID classrooms (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022).

In Tennessee, many students returned to face-to-face schooling in the Fall of 2020, and the rest of students returned to face-to-face schooling by the Fall of 2021. In the Fall of 2020, many schools in Tennessee adopted 1:1 technology policies, which meant each student had their own computer or tablet. Consequently, the paradigm shift from traditional instruction and learning to internet-based instruction and learning, which began before 2020 but accelerated due to the need for online education during the COVID-19 pandemic, happened at a time when the number of students suffering from PIU and IA was at an all-time high (Adibelli & Sumen, 2020; Al Omari et al., 2020; C. Y. Chen et al., 2021;

Dong et al., 2020; Duan et al., 2020; Gomez-Galan et al., 2020; Omer et al., 2021; Salzano et al., 2021; Sun et al., 2020; Zengin et al., 2021). As a result, many students struggling with PIU or IA also had increased access to the internet; therefore, more students struggled to stay engaged in learning due to the distractions of other internet-based activities such as gaming, chats, email, music, or social media (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). Another reason for the decrease in student engagement after this paradigm shift was the reduction in student-student and student-teacher interactions during internet-based learning. (Kearney & Maakrun, 2020; Salta et al., 2021;). Researchers found teacher-student relationships and interpersonal interactions were important for engaging students in learning and recommended more research on how teachers engaged students in learning in the digital classroom (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022).

According to Davis et al. (2022), ninth grade was a crucial year for students to be engaged and successful academically. Students who were engaged and academically successful during their ninth grade were much more likely to be successful for the remainder of their academic careers and in their professional lives (Davis et al., 2022). Due to the importance of students' academic success in ninth grade (Davis et al., 2022), I focused on how ninth-grade teachers perceived student engagement in post-COVID classrooms where students and teachers regularly used internet-based learning tools and digital learning platforms. Moreover, I examined how ninth-grade teachers adjusted their teaching strategies

to keep students engaged in classrooms where students regularly used internet-based learning tools or digital learning platforms.

Statement of the Problem

The COVID-19 pandemic in 2020 resulted in government mandated stay-at-home orders in most countries (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Harris, 2021; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). To contain the spread of the virus and protect students, schools all over the world closed their doors, and students and teachers were isolated from one another (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Harris, 2021; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). Educators scrambled to find ways to continue to educate students from home, but the abrupt nature of the closures did not allow for a consistent, well-planned shift to digital learning platforms (Bansak & Starr, 2021; Gonzalez & Bonal, 2021; Singh et al., 2020). Moreover, many students did not have internet access, personal devices, or the training and know-how necessary to learn online (Bansak & Starr, 2021; Gonzalez & Bonal, 2021; Singh et al., 2020). Similarly, many teachers did not have the training or access to digital content necessary to conduct school completely online (Tennessee Commission on Education Recovery and Innovation, 2020). As a result, students were isolated at home with inconsistent and inequitable educational support for the duration of the 2019-20 school year (Bansak & Starr, 2021; Gonzalez & Bonal, 2021; Singh et al., 2020). The isolation and stress caused by the COVID -19 pandemic resulted in a decline in students' sense of wellbeing and mental health and a decrease in student engagement (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina

et al., 2021; Hamatani et al., 2022; Houghton et al., 2022; Jiao et al., 2020; Lee, 2020; Liu et al., 2022; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Singh et al., 2020; Villani et al., 2021; Viner et al., 2020; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). Specifically, researchers found an increase in depression, anxiety, problematic internet use, and internet addiction, which researchers agreed negatively influenced student engagement. (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liu et al., 2022; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). This combination of increased mental health problems and decreased student engagement aligned with what researchers previously discovered: a decline in students' mental health contributed to a decline in student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018).

Researchers confirmed the increase in depression, anxiety, PIU, and IA during the school closure associated with COVID-19 contributed to the decline in student engagement during the same time period; specifically, researchers found a significant negative relationship between IA and online learning satisfaction (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Besalti & Satici, 2022; Salta et al., 2021; A. Singh & Srivastava, 2021; Suldo & Parker, 2022). Additionally, researchers found the instructional strategies some teachers utilized while using

internet-based learning tools negatively affected student engagement (Kearney & Maakrun, 2020; Salta et al., 2021; Walker & Koralesky, 2021).

Research on student engagement after students returned to face-to-face instruction remained scant at the time of this study; however, given the interdependent relationship between mental health issues and student engagement, researchers recommended continued investigation of student engagement in the post-COVID classroom (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022).

Moreover, the school closures in March of 2020 associated with COVID-19 ushered in a paradigm shift in education from traditional, in-person education to internet-based education and greatly increased the use of internet-based learning tools and digital learning platforms (Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; Webb et al., 2021). Although the shift to internet-based education began before COVID-19, the sudden school closures caused educators across the world to accelerate the shift to internet-based instruction and digital learning platforms (Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; Webb et al., 2021). In an attempt to provide education to students during the school closures and while students were quarantined due to COVID-19, legislators and school districts rushed to fund initiatives to provide students with computers and internet access (Tennessee Commission on Education Recovery and Innovation, 2020; Zhao et al., 2023). By the time students returned to face-to-face instruction,

many school districts had 1:1 technology policies in place. As a result, many districts provided teachers with access to internet-based learning tools and digital learning platforms, which many teachers used with their students daily (Haleem et al., 2022; Hews et al., 2022; Suriagiri et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020; Zhao et al., 2023). Although this shift to regular use of internet-based learning tools and daily student use of computers and tablets addressed the problem of educating students from home, Salta et al. (2021) found the shift to internet-based learning resulted in decreased student engagement (Salta et al., 2021). Over time, many researchers credited decreased student engagement during internet-based learning to a lack of teacher-student interaction, a lack of student-student interaction, internet distractions, and a lack of depth of cognitive processing while reading or notetaking online (Fried, 2008; Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021; Uncapher & Wagner, 2018). Research on student engagement after this paradigm shift to internet-based learning remained scant at the time of this study.

Over time, researchers discovered student engagement naturally decreased as students moved from middle to high school (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). Benner (2011) noted in the transition from middle to high school, many students became less involved in extra-curricular activities, missed more days of school, reported more academic struggles, and were disruptive more often. M.-T Wang and Eccles (2012) found all three components of student engagement declined from seventh to eleventh grade. Other researchers found student engagement dropped sharply for students moving from middle to high school, making understanding student engagement in

the ninth-grade transition year particularly important (Allensworth, 2013; Benner, 2011; Davis et al., 2022).

Interestingly, Allensworth (2013) found students did not report ninth grade as being more academically rigorous; instead, students reported a decrease in adult monitoring and support compared to eighth grade (Allensworth, 2013). Researchers agreed ninth grade teachers needed to closely monitor students and provide support for students who were falling behind in a timely manner (Allensworth, 2013; Davis et al., 2022). Researchers also acknowledged ninth grade was a critical year for student engagement because students who earned enough credits to move on to tenth grade were 80% more likely to graduate than students who did not (Allensworth, 2013; Davis et al., 2022). Therefore, keeping students engaged in ninth grade was crucial to future academic success (Davis et al., 2022). Since students' academic performance in ninth grade predicted students' likelihood of high school graduation, further study of teachers' perceptions of student engagement in ninth grade and the instructional practices they used to positively influence student engagement was especially pertinent (Davis et al., 2022).

The problems that prompted this study were the lack of available research on student engagement after students returned to face-to face instruction from the COVID-19 school closures and the documented decrease in ninth grade students' engagement (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022; Wang & Eccles, 2012). Considering the shift to internet-based instruction; the documented decrease in student engagement during the school closures associated

with COVID-19 and in ninth grade; and the increase in adolescents' mental health issues such as depression, anxiety, PIU, and IA, this study was warranted (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Haleem et al., 2022; Hamatani et al., 2022; Hews et al., 2022; Jiao et al., 2020; Kansal et al., 2021; Kostaki & Karayianni, 2022; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Naqvi & Sahu, 2020; Orgilés et al., 2020; Salta et al., 2021; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; Wang et al., 2021; Webb et al., 2021; Wester et al., 2021; Zhou et al., 2020). The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

Research Questions

Merriam and Tisdell (2016) noted the purpose of research questions was to focus the study on the researcher's thinking on the factors that most influenced the problem and to determine the data collection method. Creswell and Creswell (2018) stated the central research questions should be broad, exploratory questions about the concept or phenomenon most central to the study. Therefore, I designed the research questions for this study to focus on ninth grade teachers' perceptions of students' engagement in classrooms where teachers and students regularly used internet-based learning tools and digital learning platforms. I utilized three research questions.

Research Question 1

What were Tennessee ninth-grade teachers' perceptions of students' emotional, behavioral, and cognitive engagement in classrooms where students regularly used internet-based learning tools and digital learning platforms?

Research Question 2

What strategies did Tennessee ninth-grade teachers use to emotionally, behaviorally, and cognitively engage students who regularly used internet-based learning tools and digital learning platforms?

Research Question 3

What further support did Tennessee ninth grade teachers need for increasing students' emotional, behavioral, and cognitive engagement in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis?

Conceptual Framework

According to Merriam and Tisdell (2016), researchers chose a Conceptual Framework through which to view their study and a lens through which the researcher viewed the problem (Creswell and Creswell, 2018). Researchers used the Conceptual Framework to guide them through the process of identifying the relevant concepts, key variables, and questions the researcher needed to investigate (Merriam & Tisdell, 2016). Furthermore, the Conceptual Framework affected all aspects of the research process including selection of a research design, data collection and analysis procedures, and data interpretation (Merriam & Tisdell, 2016). For my study, I chose to view the problem of student engagement in the post-COVID classroom through the framework of a

multidimensional construct of student engagement as defined by Fredricks et al. (2004).

Student Engagement: A Multidimensional Construct

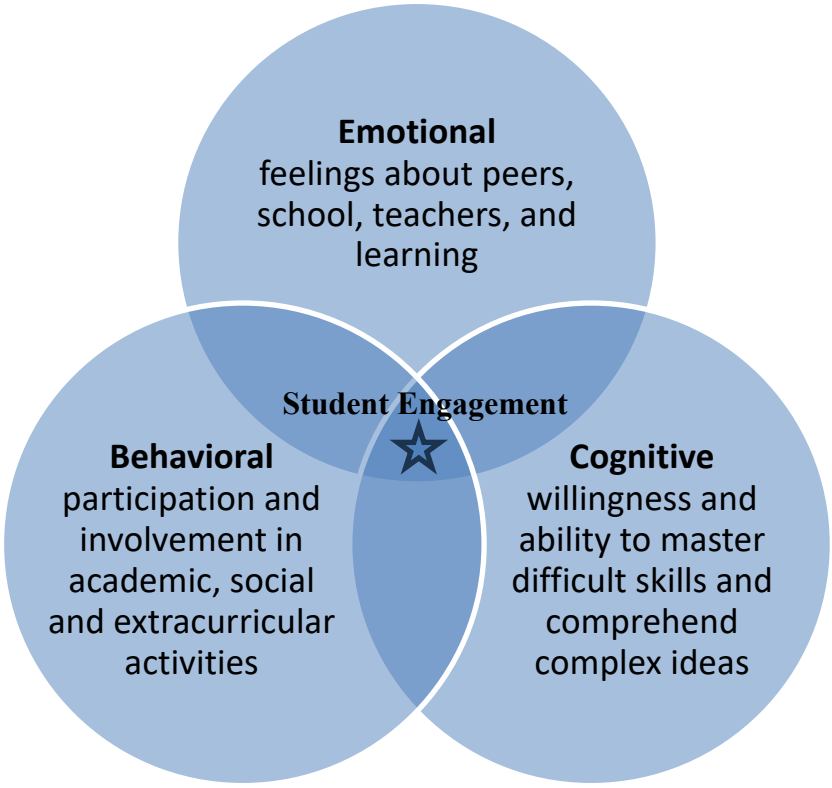
According to educational researchers, student engagement had the potential to address many of the persistent problems in education, such as student boredom and alienation, rising dropout rates, and low academic achievement (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Y. Li et al., 2019; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Moreover, researchers found high student engagement resulted in positive academic and psychological outcomes, such as curiosity; resilience; positive self-image; and positive feelings toward school, peers, and teachers (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Salta et al., 2021; Skinner & Belmont, 1993; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Specifically, researchers found engaged students demonstrated interest and curiosity in educational lessons, attended and participated in school, and exerted persistent effort – even when faced with difficult or complex problems (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013).

While educational scholars debated the exact definition of student engagement, many researchers agreed with how Fredricks et al. (2004) described student engagement (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Li & Lerner, 2011; Salta et al., 2021; Wang et al., 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Fredricks et

al. (2004) described student engagement as a multidimensional construct and identified three dimensions of engagement: emotional, behavioral, and cognitive (Fredricks et al., 2004, 2019). Researchers explained all three dimensions – emotional, behavioral, and cognitive – were interrelated and at times dependent on one another but together comprised the overall concept of student engagement (see Figure 1) (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Fredricks et al. (2004) reviewed the literature on student engagement and discussed the definition of each dimension of student engagement (see Figure 1).

Figure 1

Three Dimensions of Student Engagement



Note. Figure created to demonstrate the multidimensional construct of student engagement as described by Fredricks et al. (2004).

Emotional Engagement

Researchers described emotional engagement as a student's emotional reactions to academics, teachers, peers, and school (Fredricks et al., 2004; Lam et al., 2014; Salta et al., 2021; Wang et al., 2011). Researchers' definition of emotional engagement encompassed a wide array of students' emotional reactions to school including learning, teachers, peers, interests, boredom, sadness, anxiety about peers or testing, a sense of belonging, a sense of isolation, emotions about relationships with peers and teachers, and emotions about self-efficacy (Connell

& Wellborn, 1991; Fredricks et al., 2004, 2019; Skinner & Belmont, 1993). Skinner and Belmont (1993) conducted a longitudinal study of white, middle-class students in grades 3–5 who attended suburban and rural schools. Skinner and Belmont (1993) used regression analyses of survey results and found a correlation between teacher involvement and emotional engagement. The researchers found students' perceptions of whether their teachers liked them affected not only students' feelings about school and relationships but also students' feelings of self-competence and self-determination (Skinner & Belmont, 1993). Similarly, Connell and Wellborn (1991) studied white, middle-class students in grades 3–5 attending suburban and rural schools and found students' positive emotions toward classmates resulted in higher student engagement in learning. According to Fredricks et al. (2004), a student's emotional reaction to school, teachers, and peers influenced a student's willingness to participate in learning.

Comparatively, in more recent studies, researchers found a positive association between supportive relationships and emotional engagement and between students' sense of belonging and emotional engagement (Gillen-O'Neel, 2019; Havik & Westergard, 2020; Margolius et al., 2020). For example, Margolius et al. (2020) found supportive relationships with adults at school, peers, and adults outside of school accounted for 40% of the variance in emotional engagement. The number of supportive relationships students reported correlated with changes in their emotional engagement (Margolius et al., 2020). Specifically, Margolius et al. (2020) found each additional supportive relationship a student reported resulted in a 10% increase in the emotional engagement score for that

student. Furthermore, Margolius et al. (2020) found students who reported both supportive relationships and a sense of belonging at school had 27% higher levels of emotional engagement than other students. Echoing the results found by Margolius et al. (2020), Havik and Westergard (2020) conducted a study of 1,769 Norwegian students (grades 5 – 9) and reported a significant association between teachers' emotional support of students and students' emotional engagement.

In addition to teacher support, students' sense of belonging was also crucial to emotional engagement. Gillen-O'Neel (2019) conducted a study of 280 college students to determine whether students' sense of belonging at school – both in general and on a daily basis – changed their feelings about academic self-efficacy and their feelings toward school. According to Gillen-O'Neel (2019), as students' sense of belonging increased, there was also a significant increase in students' self-efficacy (p <.001) and in students' positive feelings toward school (p <.001*).* Moreover, Gillen-O'Neel (2019) found even daily shifts in students' sense of belonging significantly affected students' self-efficacy (p <.001) and feelings toward school (p <.001). Thus, a sense of belonging and relationships with peers and teachers both influenced students' emotional engagement (Connell & Wellborn, 1991; Gillen-O'Neel, 2019; Havik & Westergard, 2020; Margolius et al., 2020).

Behavioral Engagement

The second dimension of student engagement was behavioral engagement (Fredricks et al., 2004, 2019; Lam et al., 2014). Researchers defined behavioral engagement in terms of attendance, participation, persistence, attentiveness, and conduct (Fredricks et al., 2004, 2019; Lam et al., 2014). Fredricks et al. (2004),

defined behavioral engagement as having three components (e.g., positive student conduct, regular attendance, participation in academic and social events). First, Fredricks et al. (2004) asserted positive student conduct and regular attendance reflected behavioral engagement. Behaviorally engaged students followed the rules, adhered to classroom norms, and avoided skipping school (Finn et al., 1995; Finn & Rock, 1997; Fredricks et al., 2004, 2019). Second, researchers defined behavioral engagement in terms of involvement in learning and academic tasks (Fredricks et al., 2004). Behaviorally engaged students demonstrated persistence, concentration, curiosity, consistent effort, and class involvement (Birch & Ladd, 1997; Finn et al., 1995; Fredricks et al., 2004; Skinner & Belmont, 1993). According to Fredricks et al. (2004), a third definition of behavioral engagement involved student attendance and participation in academic and social events.

In contrast, Lam et al. (2014) disagreed with Fredricks et al. (2004) about part of the definition of behavioral engagement. Lam et al. (2014) believed behavioral engagement concerned students' attendance and participation combined with students' involvement in learning. Lam et al. (2014) distinguished between the outcomes and indicators of engagement and categorized attendance and conduct as outcomes rather than indicators of behavioral engagement. Like Fredricks et al.'s (2004) second and third definitions of behavioral engagement, Lam et al. (2014) defined behavioral engagement as a student's effort and persistence in schoolwork and participation in extracurricular activities.

Engels et al. (2016) studied behavioral engagement in 1116 adolescents. The researchers investigated the relationships between teacher-student relationships and behavioral engagement and peer status and behavioral

engagement. Engels et al. (2016) found a significant positive correlational relationship between positive teacher-student relationships and behavioral engagement (rs = .13 to .33, $p < .001$). Conversely, Engels et al. (2016) found a significant negative correlational relationship between negative teacher-student relationships and behavioral engagement (rs = -.16 to -.19, $p < .001$). Engels et al. (2016) measured two dimensions of peer status: popularity and likeability. Surprisingly, both likeability (rs = -.07, $p < .001$) and popularity (rs = -.10 to -.19, $p < .01$) negatively correlated with behavioral engagement. The more well-liked a student was, the lower their behavioral engagement was (Engels et al., 2016). This finding contrasted with researchers' findings about emotional engagement. As mentioned earlier, a students' positive relationships with peers increased emotional engagement (Margolius et al., 2020); however, Engels et al. (2016) found positive peer status correlated with decreased behavioral engagement.

Engels et al. (2016) hypothesized more popular students expressed less engaged behavior to maintain their popular status. Comparatively, students who were well liked conformed to pressure to behave according to social norms, which may have been expressed in ways that decreased behavioral engagement (Engels et al., 2016). Engels et al. (2016) found students with lower behavioral engagement expressed less effort, persistence, concentration, and attention over time than students with higher behavioral engagement. Researchers also found low behavioral engagement was the most crucial predictor of a students' likelihood of dropping out of school (Olivier et al., 2020).

Cognitive Engagement

Researchers found students' cognitive engagement included the ability and willingness to be a self-directed learner and exert the necessary effort required to understand complex concepts (Fredricks et al., 2004, 2019; Lam et al., 2014). Researchers defined the third dimension of engagement, cognitive engagement, as the effort required for a student to understand complex ideas or master difficult skills (Fredricks et al., 2004; Lam et al., 2014; Salta et al., 2021; Wang et al., 2011). Similarly, other researchers defined cognitive engagement as the amount of effort students willingly invested in learning and how persistent students were during learning (Corno & Mandinach, 1983; Richardson & Newby, 2006; Rotgans & Schmidt, 2011; Walker et al., 2006). Researchers found cognitively engaged students preferred a challenge and desired to go beyond the requirements (Connell & Wellborn, 1991; Fredricks et al., 2004; Rotgans & Schmidt, 2011). Additionally, Wang and Eccles (2012) found cognitive engagement was the most significant dimension of student engagement for predicting GPA ($\beta = 0.43$, $p < .001$), and behavioral engagement was also a significant predictor of GPA ($\beta = 0.36$, $p < .01$). Moreover, Wang and Eccles (2012) also found cognitive engagement was the most significant dimension of student engagement for predicting future educational aspirations ($\beta = 0.47$, $p < .001$). In other words, the more cognitively engaged a student was, the more likely they were to have educational aspirations like college or other post-secondary education (Wang & Eccles, 2012).

Pentaraki and Burkholder (2017) studied student engagement in online learning and found cognitive engagement was often an antecedent of emotional

engagement. According to Pentaraki and Burkholder (2017), for students to feel positive emotions about learning and school, they first needed to have a positive view of their own self-efficacy and ability to be self-directed. In other words, students' cognitive engagement influenced their emotional engagement; both types of engagement then worked together to improve their overall engagement (Pentaraki & Burkholder., 2017).

Fredricks et al. (2004) described the multidimensional construct of student engagement as three components of student engagement which were dynamically interrelated. While emotional, behavioral, and cognitive engagement each had different antecedents and outcomes, the three types of engagement were not independent of one another (Fredricks et al., 2004). Instead, each component of student engagement was both dependent and influential on the other two components (Fredricks et al., 2004).

Most importantly, Fredricks et al. (2004) found student engagement was malleable, meaning students' engagement could change based on the changes in the educational environment and changes in the factors that influenced student engagement. This malleability was important for educators to understand because student engagement was so crucial to students' success in school and in life (Davis et al., 2022; Fredricks et al., 2004). Researchers agreed educators should understand student engagement to create the ideal environment for students to thrive and successfully engage in learning (Davis et al., 2022; Engels et al., 2016; Fredricks et al., 2004, 2016, 2019; Gillen-O'Neel, 2019; Havik & Westergard, 2020; Lam et al., 2014; Y. Li et al., 2019; Li & Lerner, 2011; Margolius et al.,

2020; Olivier et al., 2020; Pentaraki & Burkholder., 2017; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013).

Significance of the Study

During and after the school closures associated with COVID-19, educators experienced an abrupt paradigm shift from traditional, in-person education to internet-based education where students and teachers regularly used internet-based learning tools and digital learning platforms (Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; Webb et al., 2021). For example, in Tennessee, where I conducted this study, by the time students returned to face-to-face instruction in the Fall of 2020, most districts had provided every student with a computer or tablet, and teachers began to use internet-based learning tools and digital learning platforms more regularly (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). This paradigm shift happened at the same time students were returning to school with increased mental health issues and decreased engagement (Adibelli & Sumen, 2020; Al Omari et al., 2020; C. Y. Chen et al., 2021; Dong et al., 2020; Duan et al., 2020; Gomez-Galan et al., 2020; Omer et al., 2021; Salzano et al., 2021; Sun et al., 2020; Zengin et al., 2021). While researchers clearly indicated a decrease in student engagement during the school closures associated with COVID-19 (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021), the literature on student engagement after the return to school was limited. Researchers agreed, however, that mental health factors which influenced student engagement – students' depression, anxiety,

PIU, and IA – increased during the school closures and were still elevated after the return to school (Liverpool et al., 2023; Onukwuli et al., 2023; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Researchers associated all four of these mental health issues with decreased student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018).

Although there were studies on the teaching strategies that teachers used during the school closures to improve student engagement during online instruction, I could not find literature addressing the state of student engagement years after the return to face-to-face instruction. Since researchers found student engagement was malleable and higher teacher involvement correlated with higher student engagement (Fredricks et al., 2004; Skinner & Belmont, 1993), I wanted to learn how teachers influenced students' engagement in the post-COVID classroom.

Considering the importance of teacher-student relationships for student engagement, both face-to-face and online instruction (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021), I wanted to investigate teachers as witnesses in the post-COVID classroom in terms of student engagement and what strategies kept students engaged during internet-based learning. Given that researchers know increased access to the internet worsened PIU and IA (Blasi et al., 2019; King et al., 2020; Servidio et al., 2021), and PIU and IA negatively influenced student engagement (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018), the increase in students

with PIU and IA likely negatively influenced student engagement in learning when those students had increased access to the internet (King et al., 2020; Servidio et al., 2021). This study was beneficial for understanding what teachers and educational leaders needed to do to ensure students were engaged in learning after the shift to internet-based education that happened concurrently with a rapid increase in the number of students with PIU and IA. At the time of this study, I found limited research on student engagement in the post-COVID classroom where teachers and students regularly used internet-based learning tools and digital learning platforms. I aimed to fill this gap in the literature by understanding ninth grade teachers' perceptions of student engagement because researchers found student engagement decreased drastically between middle and high school and was a crucial during that time (Allensworth, 2013; Benner, 2011; Davis et al., 2022).

Description of the Terms

Creswell and Creswell (2018) stated researchers should identify and define terms readers needed to understand the research problem. Furthermore, Creswell and Creswell (2018) emphasized the need to ensure people outside the field of study understood the language used in the study. I defined the terms necessary for understanding this study as they were defined in the literature.

Behavioral Engagement

According to Fredricks et al. (2004), behavioral engagement was a students' participation and involvement in academic, social, and extracurricular activities at school. Behavioral engagement includes students' attendance,

participation, persistence, attentiveness, and conduct at school (Fredricks et al., 2004).

Cognitive Engagement

Researchers defined cognitive engagement as the effort required for a student to understand complex ideas or master difficult skills (Fredricks et al., 2004; Lam et al., 2014; Salta et al., 2021; Wang et al., 2011). Cognitive engagement was the amount of effort students willingly invested in learning and how persistent students were during learning (Corno & Mandinach, 1983; Richardson & Newby, 2006; Rotgans & Schmidt, 2011; Walker et al., 2006). Researchers found cognitively engaged students preferred a challenge and desired to go beyond the requirements (Connell & Wellborn, 1991; Fredricks et al., 2004; Rotgans & Schmidt, 2011).

Digital Learning Platform

According to the United States Department of Education Office of Educational Technology (n. d.), digital learning was any instructional practice that effectively used technology to enhance or support learning and encompassed a variety of software and tools. A digital learning platform was the software which provided integrated online content and educational services to teachers, trainers, and learners to support or enhance learning through online delivery and management of information, resources, and tools (Besalti & Satici, 2022; Kansal et al., 2021; Mulenga & Maraban, 2020; Pentaraki & Burkholder, 2017; Webb et al., 2021). Researchers used a variety of terms to describe the tools used for digital learning such as e-learning tools, learning management systems, digital learning platforms, and online learning platforms (Besalti & Satici, 2022; Kansal

et al., 2021; Mulenga & Maraban, 2020; Pentaraki & Burkholder , 2017; Webb et al., 2021). Some researchers differentiated between learning management systems such as Canvas and Google Classroom and digital learning platforms such as Coursera and Study Sync. For the purposes of this study, I considered learning management systems as a type of digital learning platform. References to digital learning platforms included any software which integrated online instructional tools, curriculum and content, communication, and feedback tools, and organizational or learning management tools (Besalti & Satici, 2022; Kansal et al., 2021; Mulenga & Maraban, 2020; Pentaraki & Burkholder, 2017; Webb et al., 2021). Researchers agreed after the school closures associated with COVID-19, there was a paradigm shift from in-person education to digital learning that included a dramatic increase in the use of digital learning platforms (Besalti & Satici, 2022; Haleem et al., 2022; Kansal et al., 2021; Mulenga & Maraban, 2020; Naqvi & Sahu, 2020; Stefanile, 2022).

Emotional Engagement

Emotional engagement included students' positive or negative emotional reactions to peers, teachers, school, and academic content (Fredricks et al., 2004). Emotional engagement included how students felt about a variety of things: learning, teachers, peers, interests, boredom, sadness, anxiety about peers or testing, a sense of belonging, a sense of isolation, emotions about relationships with peers and teachers, and emotions about self-efficacy (Connell & Wellborn, 1991; Fredricks et al., 2004, 2019; Skinner & Belmont, 1993).

Internet-based learning tools

Internet-based learning tools included a variety of online tools educators used to instruct students including educational games, online communication tools, and online research tools. Internet-based learning tools such as Kahoot, Quizlet, Ed Puzzle, Pear Deck, Google Meets, Zoom, and Google Scholar were tools teachers used to deliver instruction, feedback, or content to students. For the purposes of this study, internet-based learning tools were differentiated from digital learning platforms because digital learning platforms integrated the delivery of content and instruction with the communication, feedback, and curriculum all in one software platform.

Post-COVID

The Coronavirus of 2019 (COVID-19) led to a worldwide pandemic and massive societal shutdowns and quarantines. In March of 2020, the COVID-19 pandemic resulted in government mandated stay-at-home orders in most countries (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Harris, 2021; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). The term post-COVID was defined in several different ways. According to the Center for Disease Control (CDC), the official post-COVID era began in the Spring of 2023 when the CDC officially declared the COVID-19 pandemic was over in The United States (Centers for Disease Control and Prevention, 2023). Alternately, medical experts used the term, post-COVID, to refer to prolonged medical symptoms that lasted months and even years after a person recovered from COVID-19. For the purposes of this study, I did not use either of those

definitions; I defined post-COVID as the return to face-to-face instruction, which, in Tennessee, occurred in the Fall of 2020 (TN Department of Education, 2020).

Regular Use

For the purposes of this study, regular use referred to using internet based instructional tools or digital learning platforms at least three times a week. While many schools switched to digital learning platforms and increased the use of internet-based learning tools after schools reopened, many teachers may not have relied solely on internet-based education. Rather than limiting the study to classrooms where students used internet-based learning tools and digital learning platforms every day, I included classrooms where students used these tools at least three days a week.

Student Engagement

Student engagement refers to a students' enjoyment of learning, participation in learning, and depth of learning (Fredricks et al., 2004). Fredricks et al. (2004) described student engagement as a multidimensional construct and identified three dimensions of engagement: emotional, behavioral, and cognitive (Fredricks et al., 2004, 2019). Researchers explained all three dimensions – emotional, behavioral, and cognitive – comprised the overall concept of student engagement (Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). According to Fredricks et al. (2004), emotional engagement included students' positive or negative reactions to peers, teachers, school, and academic content. Behavioral engagement concerned students' participation and involvement in academic, social, and extracurricular activities at school

(Fredricks et al., 2004). Fredricks et al. (2004) described cognitive engagement as students' willingness and ability to exert the effort necessary for mastering difficult skills and comprehending complex ideas.

Organization of the Study

In Chapter I, I introduced the concept of student engagement, the benefits of student engagement, the multidimensional nature of student engagement and the way mental health influenced student engagement. Additionally, I explained the concern educators, particularly American educators, had about student engagement dropping over time for American students – especially in the transition from middle to high school (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013) and after the COVID-19 pandemic (Liverpool et al., 2023; Naff et al., 2022; Nakach et al., 2021; Olivier et al., 2020; Orgilés et al., 2020; Wang et al., 2021; Zhou et al., 2020). After an overview of the paradigm shift in education to internet-based education (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021), I included a statement of the problem and research questions for this qualitative, interpretive study on student engagement in post-COVID classrooms where teachers and students regularly used internet-based learning tools and digital learning platforms(Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). I reviewed the conceptual framework of student engagement as defined by Fredricks et al. (2004). I then discussed the importance of the study and defined the terms essential for understanding the study.

In Chapter II, I included a thorough review of the literature on student engagement. I began with a synthesis of literature on the relationship between

students' mental health and student engagement. Specifically, I discussed the literature on how depression, anxiety, problematic internet use (PIU) and internet addiction (IA) influenced one another and how they influenced student engagement. Next, I explained student engagement and how students' mental health influenced student engagement before, during, and after the COVID-19 pandemic. Furthermore, I reviewed the literature concerning the paradigm shift to more internet-based education ushered in after the school closures associated with COVID-19 (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). At the end of Chapter II, I reviewed the literature concerning the possible solutions for how teachers engaged students during internet-based learning.

Following the review of the literature, in Chapter III, I described the qualitative, interpretive study of Tennessee ninth-grade teachers' perceptions of student engagement in post-COVID classrooms where teachers and students used internet-based learning tools and digital learning platforms on a regular basis. The qualitative, interpretive research design was most appropriate for understanding the experiences of ninth grade teachers when their students used internet-based tools to learn. I described the Google Forms Questionnaire and interview protocol used to collect the data, as well as the snowball sampling I used to access participants for the study. I also described the analysis methods I used, which included coding the data collected to find answers to the research questions. Next, I discussed the trustworthiness of the study and how I mitigated potential bias by collecting data to saturation, triangulated the data, and used the same data collection tools for all participants. Next, I discussed the limitations and

delimitations of the study. Specifically, I limited the study to Tennessee, ninth grade teachers whose students use internet-based learning tools or digital learning platforms at least three out of five days of the week. Lastly, I discussed any assumptions I made about the study or during the research process.

In Chapter IV, I described the results of my study of Tennessee ninth grade teachers' perceptions of student engagement in classroom where students used internet-based learning tools and digital learning platforms on a regular basis. Sixteen teachers provided responses about their perceptions of students' emotional, behavioral, and cognitive engagement, the strategies those teachers used to increase students' engagement, and the further training and support they needed related to student engagement when students were using internet-based learning tools. I reported the findings based on these responses and organized the report by research question. Then I summarized the results of the findings including the selective codes for each of the three research questions.

In the final Chapter V, I discussed the findings of my study and the implications of those findings for teachers and instructional leaders. I provided evidence that the paradigm shift to internet-based instruction following the COVID-19 related school closures drastically influenced student engagement. I discussed specific negative influences on each dimension of student engagement and the strategies teachers used to try to negate those influences. Additionally, I discussed what teachers and instructional leaders needed to do to further address the problems with student engagement in post-COVID ninth grade classrooms. I made recommendations for further research related to student engagement during internet-based learning. Finally, I concluded with an explanation of the findings,

their importance to the field of education, and how educators could use the findings to increase student engagement. I ended the chapter with an impact statement encouraging educators at every level to live up to their duty to discover new teaching strategies and diagnose barriers to student engagement in the new paradigm of internet-based learning.

Chapter II: Review of the Literature

According to extant literature, researchers found student engagement was crucial to student learning and academic success (Davis et al., 2022; Fredricks et al., 2004, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Peck, 2013). Researchers agreed there was an important link between student engagement, academic achievement, graduation rates, and college enrollment (Davis et al., 2022; Fredricks et al., 2004, 2016, 2019; Lam et al., 2014; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). According to Davis et al. (2022), in the United States, high school success often determined students' success in college or trade school, which in turn, influenced their future salaries, career paths, and life trajectory. Researchers concurred success in high school was dependent upon student engagement (Davis et al., 2022; Fredricks et al., 2016; Wang & Peck, 2013).

Through this literature review, I focused on student engagement and the factors that influenced student engagement in educational settings before, during, and after the school closures associated with Coronavirus disease of 2020 (COVID-19). Researchers found student engagement, which was already a problem before the COVID-19 pandemic-related school closures, declined even more during the time schools were closed (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Marks, 2000; Salta et al., 2021; Wang & Eccles, 2012; Wang & Peck, 2013; Wester et al., 2021). After the sudden school closures in March of 2020, educational researchers noticed the increase in stress, depression, and anxiety associated with isolation and pandemic-related fears negatively influenced student engagement (Acosta-Gonzaga & Ruiz-

Ledesma, 2022; Besalti & Satici, 2022; Bray et al., 2021; Buzzai et al., 2021; Domina et al., 2021; Salta et al., 2021; A. Singh & Srivastava, 2021; Wester et al., 2021). Researchers agreed the decrease in student engagement could cause problems for students that lasted years into the future (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Davis et al., 2022; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021).

Just as other mental health disorders influenced student engagement, researchers more recently agreed internet addiction (IA) and problematic internet use (PIU) negatively influenced student engagement (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018). Additionally, researchers understood PIU and IA increased dramatically during the school shutdowns associated with COVID-19 (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Lin, 2020; Onukwuli et al., 2023; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020), worsening students' mental health (Zhao et al., 2023) and contributing to a further decline in student engagement (Besalti & Satici, 2022). Unfortunately, internet addictions that students developed during the COVID-19 school closures did not just disappear when students returned to school (King et al., 2020; Onukwuli et al., 2023).

In response to the school closures during the COVID-19 pandemic, many school districts in the United States and other developed nations funded 1:1 technology initiatives, which meant schools gave each student a laptop or tablet to use, so students could continue to learn online while schools were closed (Haleem et al., 2022). As schools reopened, districts continued to increase students' access to technology so students who chose to continue to learn from home and students

who were quarantined could continue their education to the best extent possible (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). As a result, an educational paradigm shift to internet-based learning, which began before the COVID-19 pandemic, was widely adopted by school districts across the United States and in other developed nations after the COVID-19 pandemic (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). Unfortunately, this shift occurred while PIU and IA were at an all-time high, particularly among adolescents (Adibelli & Sumen, 2020; Al Omari et al., 2020; C. Y. Chen et al., 2021; Dong et al., 2020; Duan et al., 2020; Gomez-Galan et al., 2020; Omer et al., 2021; Salzano et al., 2021; Sun et al., 2020; Zengin et al., 2021). Consequently, students who were struggling with PIU and IA had increased access to the internet during the school day. Researchers found increased access to the internet worsened PIU and IA (Blasi et al., 2019; King et al., 2020; Servidio et al., 2021).

Furthermore, PIU and IA negatively influenced student engagement (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018); therefore, the shift to internet-based educational tools and digital learning platforms, and the increased access to the internet, may have caused students' engagement to decline even further (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022). The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where

students used internet-based learning tools and digital learning platforms on a regular basis.

In this literature review, I analyzed peer-reviewed journal articles and books on student engagement before, during, and after the school closures associated with COVID-19. I used online databases through the Lincoln Memorial University library, Google Scholar, ERIC, SAGE, Taylor and Francis, ProQuest (Coronavirus Research Database-Open Access), ProQuest Education Database, Psychology and Behavioral Sciences Collection, PubMed, and Psychology Collection. I used key word searches including word combinations such as student engagement, student engagement and COVID-19, mental health and student engagement, and problematic internet use and internet addiction and student engagement. I reviewed the journal articles resulting from these searches, which addressed student engagement and the mental health of students before, during, and after the school closures associated with COVID-19, both in the United States and around the world.

Next, I provided an overview of how PIU and IA were on the rise even before the school closures associated with COVID-19 (Akin & Iskender, 2011; Awan & Khan, 2017; Buzzai et al., 2021; Haleem et al., 2022; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). I also described how the move to online education, which started before the COVID-19 pandemic, influenced student engagement. I followed this with a discussion of how the school closures associated with COVID-19 influenced students' mental health and engagement. Moreover, I discussed research showing the increase in depression, anxiety, PIU, and IA continued even after students

returned to school. I also explained how the Tennessee legislature and Tennessee Department of Education (TDOE) changed policies and provided funding to encourage school districts in Tennessee to provide computers or tablets for students on a one-to-one basis (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). I reviewed how this paradigm shift in education meant students had increased access to the internet each day, particularly in classrooms where teachers used digital learning platforms or internet-based learning tools (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). I included research which showed the increased access to the internet combined with the drastic increase in PIU and IA exacerbated the problems with student engagement caused by the increase in depression and anxiety during and after the school closures (Akin & Iskender, 2011; Awan & Khan, 2017; Buzzai et al., 2021; Haleem et al., 2022; Y. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). Finally, I discussed the possible solutions for increasing student engagement during internet-based learning.

Student Engagement and Mental Health

According to the extant literature, educational researchers observed an inverse relationship between student engagement and mental health: as mental health problems increased, student engagement decreased (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). For the purposes of this study, I focused on four mental health issues that negatively influence students' engagement: anxiety,

depression, problematic internet use, and internet addiction. Researchers who studied student engagement indicated an association between all four of these mental health issues and decreased student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018).

Depression, Anxiety, and Student Engagement

Researchers agreed increased depression or anxiety in students was often accompanied by decreased student engagement (Gumora & Arsenio, 2002; Olivier et al., 2020; Roeser et al., 2002; Totura et al., 2014; Wang & Peck, 2013). Researchers found students suffering from depression were less likely to be interested in school and were less likely to have positive emotions about their peers and teachers (Gumora & Arsenio, 2002; Olivier et al., 2020; Roeser et al., 2002; Totura et al., 2014). For example, Totura et al. (2014) studied 469 sixth, seventh, and eighth graders from a large southeastern U.S. school district and found a significant correlation between psychological distress (e.g., depression and anxiety) and student engagement (r (466) = -.27). Totura et al. (2014) found students who were victims of their peers developed negative feelings toward themselves and school, which contributed to feelings of depression and loneliness. Moreover, researchers understood peer victimized adolescents were more likely to be depressed than non-victimized students (Gumora & Arsenio, 2002; Roeser et al., 2002; Totura et al., 2014). This depression impaired the victimized students' ability to engage in and succeed in school (Gumora & Arsenio, 2002; Roeser et al., 2002; Totura et al., 2014).

Similarly, Olivier et al. (2020) studied 1,036 elementary school students and 1,011 secondary students. The researchers investigated the relationship between global behavioral problems (e.g., internalizing or inwardly focused and externalizing or interactions involving others), specific behavioral problems (e.g., hyperactivity/inattention, opposition/defiance, anxiety, and depression) and the three dimensions of student engagement (Olivier et al., 2020). Researchers found specific depressive symptoms were associated with increased global and specific behavior problems and lower emotional engagement in secondary students (Olivier et al., 2020). Olivier et al. (2020) also found an association between specific anxiety, increased global and specific behavior problems, and decreased emotional engagement in elementary students (Olivier et al., 2020). Conversely, other researchers showed enhanced student engagement reduced depressive symptoms and increased student well-being (Bang et al., 2020; Bowden et al., 2021).

Wang and Peck (2013) found comparative information and established the connection between decreased emotional engagement and depression. Wang and Peck (2013) studied a group of 1,025 African American and European American students from diverse socioeconomic backgrounds. Wang and Peck (2013) studied the same group of participants from their ninth-grade year through one-year post-college enrollment. The researchers investigated how behavioral, emotional, and cognitive engagement worked together simultaneously to result in different academic and psychological outcomes (Wang & Peck, 2013). The researchers observed five different profiles of student engagement (e.g., moderately engaged, highly engaged, minimally engaged, emotionally

disengaged, and cognitively disengaged) by grouping students with unique behavioral, emotional, and cognitive engagement patterns (Wang & Peck, 2013). Then, Wang and Peck (2013) observed each profile group to see if adolescent developmental outcomes varied as a function of the different combinations of engagement (Wang & Peck, 2013). The researchers found the five profiles had varying influences on the following outcomes: GPA, educational aspirations, drop-out rates, college enrollment, and depression (Wang & Peck, 2013). Wang and Peck (2013) categorized the five profiles of student engagement as follows:

1. Moderately Engaged – moderate levels of behavioral, emotional, and cognitive engagement (46% of the sample)
2. Highly Engaged – high levels of behavioral, emotional, and cognitive engagement (17% of the sample)
3. Minimally Engaged – low levels of behavioral, emotional, and cognitive engagement (14% of the sample)
4. Emotionally disengaged – low levels of emotional engagement, moderate levels of behavioral engagement, and high levels of cognitive engagement (10% of the sample)
5. Cognitively disengaged – low levels of cognitive engagement, moderate levels of behavioral and emotional engagement (13% of the sample)

Wang and Peck (2013) found students who fit the emotionally disengaged profile reported the highest rates of depression. Students categorized as emotionally disengaged displayed the lowest levels of emotional engagement and the highest risk of depression (Wang & Peck, 2013). In contrast, students with

high levels of all three types of engagement were categorized as highly engaged and reported the lowest levels of depression (Wang & Peck, 2013).

Problematic Internet Use, Internet Addiction, and Depression or Anxiety

Other mental health issues researchers agreed influenced depression and anxiety were problematic internet use (PIU) and internet addiction (IA) (G. Li et al., 2019; Liang et al., 2016; Ostovar et al., 2016; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Younes et al., 2016). Researchers found the percentage of students suffering from anxiety or depression was higher among students who were internet addicted than among students who were not addicted (Besalti & Satici, 2022; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Seyrek et al., 2017; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016). Most researchers defined IA as loss of control of internet use over an extended period regardless of negative consequences (Akin & Iskender, 2011; Buzzai et al., 2021; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). Researchers defined loss of control as an overuse of the internet or an emotional preoccupation with the internet, which interfered with daily life (A. Singh & Srivastava, 2021). PIU was not as severe as IA but was still an increasing overuse of the internet, which interfered with a person's social life, academic life, wellness, mental health, or work life (Buzzai et al., 2021; Casale & Fioravanti, 2015; Christakis et al., 2011; King et al., 2020; Wang et al., 2011). IA and PIU resulted in many adverse outcomes for adolescents, including: depression; anxiety; social and relational problems with peers, teachers, and parents; sleep disturbances; inattentiveness; and a loss of interest in school

(Besalti & Satici, 2022; Buzzai et al., 2021; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Seyrek et al., 2017; A. Singh & Srivastava, 2021; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016).

According to researchers, PIU and IA were often associated with psychological distress, such as anxiety and depression (Besalti & Satici, 2022; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Seyrek et al., 2017; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016). Several researchers conducted studies examining the relationship between anxiety, depression, and IA (G. Li et al., 2019; Liang et al., 2016; Ostovar et al., 2016; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Younes et al., 2016). The researchers found a positive relationship between anxiety and IA and between depression and IA (G. Li et al., 2019; Liang et al., 2016; Ostovar et al., 2016; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Younes et al., 2016).

For instance, Younes et al. (2016) studied 600 medical students from Saint Joseph University in Lebanon and analyzed the relationship between IA and depression and anxiety. Younes et al. (2016) found a significant ($p < .001$) correlation between IA and anxiety and depression. The percentage of students suffering from anxiety or depression was higher among students who were internet-addicted than among students who were not addicted (Younes et al., 2016). Likewise, in a larger and more widespread study, Tang et al. (2018) examined the risks of depression or anxiety among internet-addicted students in the United States, Singapore, Hong Kong/Macau, China, South Korea, Taiwan,

and Japan. Across all eight locations, the percentage of internet-addicted students who also suffered from depression ranged from 72.6% in Taiwan to 89.6% in China (Tang et al., 2018). In the United States, 79.8% of internet-addicted students also suffered from depression (Tang et al., 2018). Comparatively, the percentage of students suffering from anxiety was high among internet-addicted students, ranging from 88% in Taiwan to 97.9% in Hong Kong/Macau (Tang et al., 2018). In the United States, the percentage of internet-addicted students who also suffered from anxiety was 91.2% (Tang et al., 2018).

In another study of 129 adolescent patients at the P & A Kyriakou Children's Health Hospital, Tsitsika et al. (2011) found the percentage of participants who presented with IA and psychiatric conditions, including depression, was significantly higher than the control group of participants who did not present with IA (52.3% vs. 14.0%, $p < .001$). Some researchers hypothesized adolescents used the internet as a coping strategy to alleviate anxiety or depression issues (Tang et al., 2018; Yen et al., 2014; Young, 1998); however, Romano et al. (2013) found internet users' moods decreased after using the internet, which suggested the coping mechanism did not work. Moreover, both Adibelli and Sumen (2020) and Al Omari et al. (2020) found a significant association between the amount of time spent on the internet and depression, anxiety, and stress.

Servidio et al. (2021) also described the association between depression and IA as "a vicious cycle in which depression and IA increase each other" (p. 5). Researchers found evidence of a correlation between IA and anxiety and depression but stopped short of assigning a causal relationship and suggested

more research to determine causation (G. Li et al., 2019; Ostovar et al., 2016; Tang et al., 2018; Xin et al., 2018; Yen et al., 2014). Most importantly, researchers linked PIU and IA to increased depression and anxiety and to decreased student engagement (Besalti & Satici, 2022; Buzzai et al., 2021; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Seyrek et al., 2017; A. Singh & Srivastava, 2021; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016).

Problematic Internet Use, Internet Addiction, and Student Engagement

Beyond the relationship between depression or anxiety and PIU or IA, researchers agreed PIU and IA had a negative influence on student engagement (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018). For example, A. Singh and Srivastava's (2021) studied 152 students and found IA negatively impacted all three dimensions of student engagement. While the researchers used the word vigor to describe cognitive and behavioral engagement and dedication to describe emotional engagement, they defined student engagement in a similar way to the three-dimensional construct described earlier (Fredricks et al., 2004; A. Singh & Srivastava, 2021). Students' vigor or cognitive and behavioral engagement decreased with an increased preoccupation with the internet (A. Singh & Srivastava, 2021). Similarly, dedication or emotional engagement also decreased as students lost control over internet use (A. Singh & Srivastava, 2021).

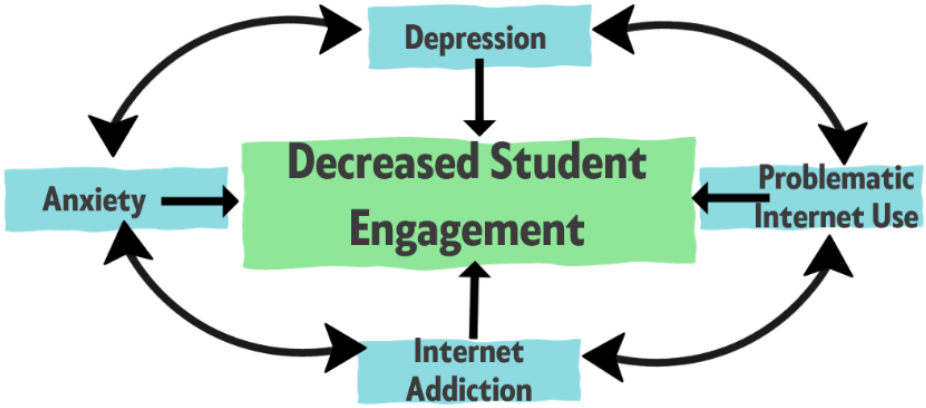
Comparatively, Buzzai et al. (2021) studied 515 undergraduate students and examined the relationship between unmet needs of autonomy, competence, or belonging; PIU; and student engagement. Buzzai et al. (2021) found a significant

negative effect of PIU on students' academic engagement ($p < .001$). Furthermore, the researchers concluded students used the internet to try to fulfill unmet needs of autonomy, competence, or belonging, resulting in PIU or IA (Buzzai et al., 2021). The PIU or IA, in turn, negatively affected students' engagement (Buzzai et al., 2021).

In summary, the interrelated factors of depression, anxiety, PIU, and IA all negatively influenced student engagement to some degree (Besalti & Satici, 2022; Buzzai et al., 2021; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Seyrek et al., 2017; A. Singh & Srivastava, 2021; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016). I combined the findings of several researchers to create Figure 2, which demonstrated how each of these factors influenced the other and influenced student engagement (Besalti & Satici, 2022; Buzzai et al., 2021; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Servidio et al., 2021; Seyrek et al., 2017; A. Singh & Srivastava, 2021; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016).

Figure 2

Influence of Interrelated Mental Health Factors on Student Engagement



Note. Figure created to demonstrate the influence depression, anxiety, IA, and PIU have on one another and on student engagement (Besalti & Satici, 2022; Buzzai et al., 2021; Casale & Fioravanti, 2015; Jang et al., 2008; Kaess et al., 2014; Liang et al., 2016; Servidio et al., 2021; Seyrek et al., 2017; A. Singh & Srivastava, 2021; Stavropoulos et al., 2017; Tang et al., 2018; Tsitsika et al., 2011; Yen et al., 2014; Younes et al., 2016).

Pre-COVID Years: Student Engagement, Mental Health, and Online Learning

Student engagement was a challenge educators faced in America even before COVID-19 (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013.). Researchers acknowledged student engagement in America declined each year from elementary through high school (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013). In 2016, a Gallup poll of U.S. students indicated only about half of U.S. students reported feeling involved and enthusiastic about school (Calderon

& Yu, 2017). Moreover, the number of students reporting enthusiasm for school dropped drastically as students got older, dropping each year from 74% in fifth grade to only 34% in twelfth grade (Calderon & Yu, 2017). Although a Gallup poll alone was not a reliable academic source, the data from the poll corroborated the findings of educational researchers (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013). For instance, in the Wang and Peck (2013) study discussed earlier, the researchers studied student engagement in America and found only 17% of students qualified as highly engaged. Wang and Peck (2013) defined highly engaged as obtaining high levels of all three dimensions of student engagement. Moreover, 14% qualified as minimally engaged, meaning they had low engagement in all three dimensions (Wang & Peck, 2013). Thirty-seven percent of students in the study scored as having low engagement in at least one of the three dimensions (Wang & Peck, 2013).

According to Davis et al. (2022), student engagement dropped sharply for students moving from middle to high school, which made understanding student engagement in the ninth-grade transition year particularly important (Davis et al., 2022). Researchers found ninth grade to be a critical year for student engagement because students who earned enough credits in ninth grade to move on to tenth grade were 80% more likely to graduate than students who did not (Davis et al., 2022). Therefore, keeping students engaged in ninth grade was crucial to future academic success. Because students' academic performance in the first year of high school (ninth grade) predicted whether they graduated, further study of influences on student engagement in ninth grade was especially pertinent (Davis et al., 2022). Other researchers found PIU and IA were increasingly a problem

that negatively influenced student engagement, especially as internet-based learning and digital learning tools grew in popularity (Awan & Khan, 2017; Buzzai et al., 2021; Haleem et al., 2022; Y. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018).

Internet Addiction and Problematic Internet Use

Researchers noticed increases in PIU and IA before the COVID-19 school closures. Researchers also agreed the prevalence of PIU and IA was increasing as social media, gaming, and other online communication became more common, especially in adolescence (Akin & Iskender, 2011; Awan & Khan, 2017; Buzzai et al., 2021; Haleem et al., 2022; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). As the prevalence of PIU and IA increased, researchers began to measure the severity of the problem using one of three tools: the Young Diagnostic Questionnaire (YDQ), The Internet Addiction Test (IAT), or the Chin Internet Addiction Scale (CIAS-R) (Lai et al., 2013). Researchers used the YDQ to measure PIU and IA by determining the number of criteria a person met for internet addiction (Lai et al., 2013). The IAT was similar to the YDQ but had eighteen questions to measure PIU and IA instead of eight (Lai et al., 2013). Researchers used the CIAS-R specifically for measuring PIU in Chinese populations (Lai et al., 2013). The IAT was the most commonly used assessment tool in IA research and measured the degree to which a person's internet use affected their daily routine, social life, and sleeping habits (Lai et al., 2013; Young, 1998). Researchers were slightly inconsistent with the IAT cut scores used to label internet users as addicted or problematic internet users, but generally, researchers labeled a person who scored above 70 as IA and

those who scored between 40 and 70 as PIU (Akin & Iskender, 2011; Buzzai et al., 2021; Lai et al., 2013; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018).

Researchers used the YDQ, IAT, and CIAS-R to evaluate adolescents' internet use in many countries (Christakis et al., 2011; Mak et al., 2014; A. Singh & Srivastava, 2021; Tang et al., 2018; Wang et al., 2011; Xin et al., 2018). For example, using the IAT, Wang et al. (2011) studied 14,296 high school students in China and found 12.2% had PIU. In a similar study, Mak et al. (2014) used both the IAT and CIAS-R and found 2.2% of adolescents in China were IA. In the same study, Mak et al. (2014) found similar or higher percentages of adolescents from other Asian cultures scored as internet addicted on the IAT. In a more recent study, Xin et al. (2018) conducted a study of 6,468 Chinese adolescents using the IAT and found 26.5% of those studied were at least mildly internet addicted, and 0.96% of participants were severely addicted. In the United States, researchers used the CIAS-R and the YDT and found as many as 25.6% of adolescents were problematic internet users (Durkee et al., 2012; Ko et al., 2012; Phillips et al., 2012). The percentage of adolescents in Europe with PIU was similar to percentages in China and the United States, ranging from 7.9% to 25.6% (Durkee et al., 2012; Ko et al., 2012; Phillips et al., 2012).

Awan and Khan (2017) studied IA in South Korean college students and found 10% of students were highly addicted compared to only 3.1% in earlier studies. According to Pan et al. (2020) who conducted a meta-analysis of the epidemiology of IA, the prevalence rates of IA were increasing yearly. In the United States, researchers using the IAT found the number of internet-addicted

users doubled from 4% in 2011 to 8% in 2018 (Christakis et al., 2011; Tang et al., 2018). Comparatively, Twenge et al. (2019) studied the rise of digital media use among adolescents in the United States and discovered the average twelfth grader spent approximately six hours online each day in 2016, which was double the amount of time twelfth graders spent online each day in 2006. Though statistics vary depending on location, researchers agreed the rate of IA was increasing over time (Awan & Khan, 2017; Christakis et al., 2011; Pan et al., 2020; Tang et al., 2018).

Online Learning and Student Engagement During Pre-COVID Years

When educators first began to use internet-based learning tools, researchers found the use of technology in the classroom increased student engagement (Kearney & Maakrun, 2020; Salta et al., 2021). Researchers found the increase in student engagement was due to the immediate feedback students received, the gamification of learning, and the autonomy students had over their own learning (Harper, 2009; Neumann & Hood, 2009). In contrast, other researchers found overtime the opposite was true. As educators increasingly integrated more technology into the classroom, researchers began to find technology use in the classroom sometimes resulted in disengaged students (Kearney & Maakrun, 2020; Salta et al., 2021). This decrease in engagement was mainly due to the students' inability to resist the distractions of social media, games, and other online activities while they were supposed to be focused on learning (Kearney & Maakrun, 2020; Salta et al., 2021). Kearney and Maakrun (2020) explained students using internet-based learning tools were often

distracted by the temptation to multitask and look at social media, Google chats or emails, or games.

Additionally, researchers found the way many teachers used media and technology disengaged students from learning and negatively affected cognitive engagement (Kearney & Maakrun, 2020; Salta et al., 2021; Walker & Koralesky, 2021). The researchers cited three specific causes of disengagement:

1) a lack of teacher-student and student-student interaction (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021)

2) the number of distractions students encountered by multitasking while participating in online learning (e.g., having multiple tabs open and switching back and forth, checking social media and text messages) (Fried, 2008; Kearney & Maakrun, 2020; Uncapher & Wagner, 2018).

3) a lack of depth in cognitive processing when students read online or took notes on a lap-top rather than by hand (Kearney & Maakrun, 2020; Mueller & Oppenheimer, 2014; Uncapher & Wagner, 2018).

Moreover, Kearney and Maakrun (2020) found when students were required to use technology in their learning, the temptation to multi-task increased exponentially, which limited students' cognitive engagement (Kearney & Maakrun, 2020).

Even prior to the COVID-19 school closures, teachers noticed students were distracted during online learning. Researchers found in a survey of 2,272 teachers in Canada, 67% of educators surveyed believed technology was a growing distraction in the classroom (Gonski Institute for Education, 2020). Researchers at the Gonski Institute in Australia also found 84% of teachers and

principals believed technology was increasingly a distraction in the learning environment (Gonski Institute for Education, 2020).

As previously mentioned, one possible explanation for this decrease in engagement was the lack of personal interactions in an online learning environment (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021). Researchers studying student engagement agreed teacher-student interaction and student-student interaction were crucial to positive student engagement (Bray et al., 2021; Fredricks et al., 2004, 2019; Lam et al., 2014; Skinner & Belmont, 1993; Wang & Peck, 2013). Salta et al. (2021) found evidence indicating student-instructor and student-student interactions were more crucial for promoting students' emotional engagement than student-tool interactions. As dependence on internet-based instruction and digital learning platforms increased, researchers found teachers had to be intentional about how they implemented the technology into lessons to keep students from disengaging from learning (Kearney & Maakrun, 2020; Salta et al., 2021; Walker & Koralesky, 2021). Consequently, Salta et al. (2021) cautioned educators, pointing out low emotional engagement caused by a lack of student-teacher or student-student interaction during online learning could result in academic failure.

Before the COVID-19 school closures, some students were already struggling with PIU and IA and the negative influence of both on student engagement (Akin & Iskender, 2011; Awan & Khan, 2017; Buzzai et al., 2021; Haleem et al., 2022; G. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). When schools closed in 2020 because of the COVID-19 pandemic, many schools rapidly switched to

online learning. As a result of the isolation, stress, and increased internet use among students, PIU and IA increased at alarming rates which exacerbated the issue of decreased student engagement (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020).

During COVID-19 School Closures

Although students' mental health and engagement in learning was already a concern for educators before 2020, the school closures during the COVID-19 pandemic resulted in increased depression, anxiety, PIU, and IA, causing further concern about student engagement among educators (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). In March of 2020, countries all over the world closed schools in response to the COVID-19 pandemic (Bansak & Starr, 2021; Bird et al., 2022; Gonzalez & Bonal, 2021; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021). As a result, more than one billion students across the world had to adapt quickly to staying at home and learning from home (Bansak & Starr, 2021; Singh et al., 2020; UNESCO, 2020; Villani et al., 2021). Some school systems implemented digital learning classrooms and required students to meet virtually every day to continue their lessons, providing at least some online socialization for students (Bansak & Starr, 2021; Domina et al., 2021; Gonzalez & Bonal, 2021). Other districts sent paper and pencil work packets home with students to complete and return to the schools, providing little or no social interaction during

the shutdown (Bansak & Starr, 2021; Gonzalez & Bonal, 2021; Singh et al., 2020).

In all scenarios, regardless of how each school district handled the closures, students of all ages were at home for months and experienced decreased contact with teachers and peers (Bansak & Starr, 2021; Gonzalez & Bonal, 2021; Singh et al., 2020). The combination of home confinement and pandemic-related fears caused children of all ages to experience feelings of isolation and a variety of adverse psychological outcomes, ranging from clinginess and irritability to severe anxiety and depression (Houghton et al., 2022; Jiao et al., 2020; Lee, 2020; Singh et al., 2020; Villani et al., 2021; Viner et al., 2020). Houghton et al. (2022) studied 785 10–17-year-old adolescents to examine the impact of the COVID-19 school closures and the resulting isolation from peers and teachers on adolescents' mental health. According to Houghton et al. (2022), adolescents had increased symptoms of isolation, loneliness, and depression during the COVID-19 school shutdowns. Houghton et al. (2022) defined isolation as "prolonged periods of physical and social isolation from friends and family" and loneliness as "a subjective and distressing psychological or emotional state [which] arises from a perceived deficit in the quality or quantity of an individual's meaningful social relationships" (p. 192). Houghton et al. (2022) discussed how the extreme change in routine during the COVID-19 school closures resulted in social isolation and loneliness; especially for adolescents. Students went from spending eight or more hours a day at school and engaging in extracurricular activities and social outings with friends and extended family to being limited to close contact with only immediate family for an extended period (Houghton et al., 2022). Among the

adolescents in the study, negative attitudes towards being alone and the quality of friendships were significantly associated with depression symptoms ($p = .001$) (Houghton et al., 2022).

Students' Mental Health Influenced by COVID-19 School Closures

Researchers found adolescents' mental health was even more affected by the stay-at-home orders than adults. During the 2020 school closures, researchers from all over the world found a concerning decrease in the mental health of students (Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Wang et al., 2021; Zhou et al., 2020). Two of the most common symptoms of declining mental health during the school closures associated with COVID-19 were anxiety and depression (Dewa et al., 2021; Hamatani et al., 2022; Hussong et al., 2021; Leeb et al., 2020; Orgilés et al., 2020; Zhou et al., 2020). Furthermore, researchers found the prevalence of adolescent mental health problems increased during the COVID-19 pandemic regardless of culture or location (Dewa et al., 2021; Hamatani et al., 2022; Hussong et al., 2021; Leeb et al., 2020; Orgilés et al., 2020; Zhou et al., 2020).

Using longitudinal data from a study researchers conducted on the overall mental health of youth in the southeastern U. S., Hussong et al. (2021) examined the mental health of adolescents. Hussong et al. (2021) found a dramatic increase in adolescents ages 12 –13 with mental health symptoms like depression and anxiety during the COVID-19 pandemic (22.9%) compared to before the COVID-19 pandemic (3.3%). In another study, Leeb et al. (2020) compared the number of mental health related emergency room visits for individuals in the U.S. from

March to October of 2019 (pre-pandemic) to the number from March to October of 2020 (during pandemic) and found a 44% increase. Adolescents ages 12-17 made up the majority of the mental health related emergency room visits (31%) while children ages 5-11 made up 24% of those visits in 2020 as compared to 2019.

On the other side of the world, Zhou et al. (2020) conducted a large-scale, cross-sectional epidemiological study of 8,079 Chinese students ages 12-18 years old. Zhou et al. (2020) found the prevalence of depressive and anxiety symptoms in Chinese middle and high school students during the school shutdown was much higher than those of students measured before the school closures. Researchers found comparable results in Italy, Spain, the United Kingdom, and France (Dewa et al., 2021; Monnier et al., 2021; Orgilés et al., 2020). In six Middle Eastern countries, Al Omari et al. (2020) studied 1,057 students, ages 15 –24, using a demographic questionnaire and the Depression, Anxiety, and Stress Scale to measure depression, anxiety, and stress during the COVID-19 pandemic. Prior to the COVID-19 pandemic, most of the participants had never been diagnosed with mental illness (Al Omari et al., 2020), but Al Omari et al. (2020) found during the pandemic, 57% of participants showed symptoms of depression, 40% showed symptoms of anxiety, and 38.1% showed symptoms of stress.

Not only were more students depressed and anxious during the COVID-19 school closures, but the prevalence of PIU and IA among adults and students also increased (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). Because of the COVID-19 pandemic and stay-at-home orders, many people began to spend more time on

social media, watch movies, play more online games, and shop online more often than before (Besalti & Satici, 2022). L. Chen et al. (2021) used data collected during the Health, Ethnicity, and Data study to analyze the online habits of over 2,709 Americans and found the number of people spending more than four hours online a day increased from 59.5% of participants pre-pandemic to 79.8% during the pandemic. This increased internet use combined with increased depression and anxiety resulted in an increase in PIU and IA.

For example, Khubchandani et al. (2021) conducted a study of 1,305 adults in the United States during the COVID-19 pandemic. The researchers found 41% had a probable IA or risk of addiction, and 14% had a definite or severe addiction (Khubchandani et al., 2021). Khubchandani et al. (2021) compared the results to the few studies of IA in the U.S. (between 1% and 10%) before the pandemic and found an increase in IA during the pandemic (14%) which was a substantial increase (Cheng & Li, 2014; Khubchandani et al., 2021; Kuss et al., 2014; Sussman et al., 2011). Similarly, in a study of 6,416 people in China, Sun et al. (2020) found 46.8% of participants reported increased dependence on the internet during the COVID-19 pandemic. Moreover, Sun et al. (2020) found a 23% increase in the prevalence of severe IA during the COVID-19 pandemic as compared to prevalence levels before the pandemic. Likewise, Siste et al. (2020) found online duration in Indonesian adults increased by 52% during the COVID-19 pandemic, and 14.4 % of the 4,734 participants in the study were IA. Additionally, Siste et al. (2020) found a particular association between social media use, gaming, and IA.

Researchers agreed excessive internet use could lead to an increased risk of IA (Blasi et al., 2019; King et al., 2020; Servidio et al., 2021). Moreover, researchers found using the internet to cope with pandemic-related stress or anxiety may have done the opposite and resulted in the development of IA (Gao et al., 2020; Kiraly et al., 2020; Servidio et al., 2021). Servidio et al. (2021) studied IA during COVID-19 among 454 Italian students and found a significant relationship between fear of COVID-19, anxiety, and development of IA ($p <$ .001). Servidio et al. (2021) found fear of COVID-19 mediated the relationship between IA and anxiety during the pandemic.

Students were especially affected by increased internet use because many were online for school most of the day in addition to the other online activities previously mentioned (Dong et al., 2020). Nagata et al. (2022) analyzed data from the May 2020 COVID-19 Rapid Response Research Release of the Adolescent Brain Cognitive Development (ABCD) Study including 5,412 adolescents in the United Sates. Nagata et al. (2022) compared the average daily screen time of the same cohort of the ABCD study and found during the COVID-19 pandemic, average daily screen time was 7.7 hours per day compared to 3.8 hours per day before the pandemic (Nagata et al., 2022). In another study, Duan et al. (2020) reported among children and adolescents in China, 29.6% spent more than five hours a day online during the school closures, and 6.03% reported IA. Al Omari et al. (2020) found adolescents in Middle Eastern countries reported an even higher average number of hours on the internet, reporting a pre-pandemic average of 5.64 hours a day, which increased to 9.74 hours a day after the onset of the pandemic. Lin (2020) found a 24% prevalence rate of IA among junior high

students during school closures in Taiwan. Comparatively, in a study of adolescents in Nigeria, Ilesanmi et al. (2021) found PIU increased from 7.7% before the COVID-19 pandemic to 64.3% during the pandemic. As a result of this increased time spent online, IA increased substantially during the COVID-19 pandemic as compared to before the pandemic (Adibelli & Sumen, 2020; Al Omari et al., 2020; Duan et al., 2020; Khubchandani et al., 2021; Lin, 2020; Servidio et al., 2021; Sun et al., 2020; Zengin et al., 2021).

Researchers from many different countries concurred internet use increased dramatically during the school closures associated with COVID-19 (Adibelli & Sumen, 2020; Al Omari et al., 2020; Duan et al., 2020; Khubchandani et al., 2021; Lin, 2020; Servidio et al., 2021; Sun et al., 2020; Zengin et al., 2021). This increase in internet use combined with the increase in depression and anxiety resulted in a cyclical decline in mental health, which caused an increase in PIU and IA in adults, but more specifically in adolescents around the world (Ilesanmi et al., 2021; Khubchandani et al., 2021; Lin, 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). The increases in depression, anxiety, PIU, and IA during the school closures associated with COVID-19 had a negative influence on student engagement during COVID-19 (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020).

Student Engagement Influenced by COVID-19 School Closures

During the pandemic-related school closures, Besalti and Satici (2022) examined the effect of IA on online learning satisfaction and found a significant negative relationship between IA and online learning satisfaction (B = -0.16, p < .001), which showed IA predicted decreased online learning satisfaction over time. Besalti and Satici's (2022) findings aligned with research from before the COVID-19 pandemic. As discussed earlier, researchers consistently found as students' mental health declined, student engagement declined (Gumora & Arsenio, 2002; Naff et al., 2022; Olivier et al., 2020; Roeser et al., 2002; Totura et al., 2014). The sudden shift to online learning in March 2020, accompanied by quarantine conditions, considerably increased mental health issues and decreased student engagement (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). Researchers investigated students from various places around the globe and found students' emotional engagement declined most during the COVID-19 school closures (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021).

Wester et al. (2021) conducted a study of 73 undergraduate STEM students from across the United States. The researchers found an overall negative shift in student engagement after students suddenly changed from in-person classes to at-home schooling in the spring of 2020 (Wester et al., 2021). The researchers identified shifts in behavioral and cognitive engagement, but the

overall engagement score for those two dimensions remained relatively the same (Wester et al., 2021). Wester et al. (2021) concluded the negative shift in overall student engagement was primarily driven by decreased emotional engagement.

In a similar study, Acosta-Gonzaga and Ruiz-Ledesma (2022) found a decrease in the emotional engagement of college students in Mexico City but linked the change to the negative emotions students experienced because of decreased self-efficacy. Acosta-Gonzaga and Ruiz-Ledesma (2022) found students felt less capable of learning content at home, making them feel anxious, stressed, distracted, and bored. These negative emotions caused students to feel less engaged in their learning (Acosta-Gonzaga & Ruiz-Ledesma, 2022).

Much like the previous studies mentioned above, Salta et al. (2021) conducted a study of 347 undergraduate students during the school closures associated with COVID-19. Researchers used two student engagement scales (emotional and behavioral) and six interaction scales to examine if student engagement and interactions in a traditional learning environment differed from those in an online learning environment (Salta et al., 2021). The researchers reported a statistically significant decrease in students' emotional engagement ($p < .001$) after the shift from in-person schooling to online classes (Salta et al., 2021). Salta et al. (2021) concluded what was consistent with other researchers; online instruction and teaching methods caused increased feelings of isolation and decreased emotional engagement.

Other researchers concluded students' feelings of isolation during the school closures contributed to the decline in student engagement (Bray et al., 2021; Chiu, 2022; Domina et al., 2021). Domina et al. (2021) found student

engagement was significantly lower for students whose parents reported having no contact with classmates' parents during the shutdown than for students whose parents reported having contact with classmates' parents. Specifically, students whose parents reported no communication with classmates' parents measured ".07 standard deviations less student enjoyment of remote instruction ($p < .05$) and .09 standard deviation less success in completing and submitting work remotely ($p < .01$)" (Domina et al., 2021, p. 11).

Comparatively, Bray et al. (2021) studied student engagement in Irish students during school closures from both the teacher and student perspectives. Teachers in the study perceived a drop in student engagement during remote learning (Bray et al., 2021). Specifically, teachers in the study reported a drop in student engagement of 40% for students considered regular attendees and 70% for reluctant attendees (Bray et al., 2021). Teacher participants identified a lack of student interest, lack of support from home, and limited availability of technology as the key barriers to student engagement during school closures (Bray et al., 2021). Other researchers concluded low levels of student well-being and poor student-teacher relationships were predictive of low engagement scores during the school closures associated with COVID-19 (Bray et al., 2021).

During the school closures associated with COVID-19, depression, anxiety, PIU, and IA increased in students all over the world (Hamatani et al., 2022; Ilesanmi et al., 2021; Jiao et al., 2020; Khubchandani et al., 2021; King et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020; Wang et al., 2021; Zhou et al., 2020). As a result of this increase in mental

health problems caused by isolation, pandemic-related stress, and increased internet use during the school closures, student engagement decreased (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021). Some researchers hypothesized as soon as schools reopened, students' mental health and engagement would return to pre-COVID levels; however, students continued to struggle even after schools reopened (Wang et al., 2021).

The Return to School and Post COVID

Researchers agreed student engagement, specifically emotional engagement, declined during the COVID-19 school closures (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021). Since anxiety over the COVID-19 pandemic and feelings of isolation increased depression and anxiety and decreased emotional engagement, some researchers hypothesized as soon as students returned to in-person schooling, student engagement and student mental health would return to normal levels (Wang et al., 2021); however, this was untrue. As mentioned in Chapter I, for the purposes of this study, post-COVID refers to the time when students returned to face-to-face instruction and in-person schooling, which in Tennessee was in the Fall of 2020. Research related to student engagement once students returned to in-person school was limited, but researchers found students' mental health was still suffering (Liverpool et al., 2023; Wang et al., 2021; Zhou et al., 2020).

Student Engagement and Mental Health in the Post-COVID Classroom

Wang et al. (2021) conducted a study of 11,072 primary, intermediate, and secondary students in China during the first two months of their return to school. Wang et al. (2021) compared two groups of students: one group of students who had not yet returned to school and continued to homeschool and one group of students who returned to school. Wang et al. (2021) found students who returned to school showed more depression, compulsive behavior, hyperactivity, and aggressive behavior than students who remained home school students. Wang et al. (2021) suggested the sudden shift back to organized in-person schooling introduced new psychological stressors caused by students' resistance to increased academic pressure and the sudden return to a more structured environment.

Liverpool et al. (2023) also found students' mental health was a lingering problem after the return to school. As students returned to in-person classes, Liverpool et al. (2023) investigated the state of the mental health and well-being of 1,160 undergraduate students from the U.K., Europe, South Africa, Mexico, Australia, Barbados, and Chile. Researchers used the Depression, Anxiety, and Stress Scale (DASS-21) to assess participants' mental health (Liverpool et al., 2023). The researchers reported the prevalence of anxiety and depression among students in the study was higher than some other studies conducted during the COVID-19 pandemic and higher than some pre-pandemic studies (Liverpool et al., 2023). Similarly, Zhou et al. (2020) found even after the infection rates dropped in China and social limitations eased, the rate of depressive and anxiety symptoms among adolescents was still high. These studies confirmed even when

students returned to in-person classes, mental health issues associated with the COVID-19 pandemic persisted (Liverpool et al., 2023; Wang et al., 2021; Zhou et al., 2020).

Comparatively, the increased rates of PIU and IA researchers observed during the COVID-19 school closures remained high after schools reopened, and students continued to struggle with PIU and IA (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). In India, A. Singh and Srivastava (2021) studied 152 college business students using the IAT and found 63% of participants were moderately addicted to the internet, 30% were mildly addicted, and 6% were severely addicted to the internet. Similarly, Zengin et al. (2021) used an online questionnaire and examined the effects of the COVID-19 pandemic on the lifestyle and anxiety levels of 309 Turkish children ages 9 – 12. Zengin et al. (2021) found 71.8% of children reported increased internet use.

Soon after the schools reopened from COVID-19 shutdowns, Onukwuli et al. (2023) examined IA among 851 secondary school students and found 59.6% of participants had moderate IA, and 3.6% had severe IA. Onukwuli et al. (2023) noted students were still addicted to the internet and had not reversed internet use habits practiced during the shutdowns. Onukwuli et al. (2023) also concluded adolescents were more vulnerable to IA than college students and adults. King et al. (2020) also found extended periods of isolation, like the COVID-19 lockdowns, combined with increased technology-based activity, had the danger of solidifying unhealthy internet use. King et al. (2020) concluded technology-related disorders and lifestyle patterns developed during the shutdowns continued

to be a problem, leading to difficulties readapting after the COVID-19 crisis passed. Although researchers disagreed about whether mental health would continue to be a problem after schools reopened, many researchers warned educators should not ignore the psychological health of young people just because the epidemic was over and schools had reopened (Jiao et al., 2020; Omer et al., 2021; Orgilés et al., 2020; Wang et al., 2021). For instance, Omer et al. (2021) studied children during the COVID-19 pandemic, ages 10–15, and found multiple physical, emotional, and social changes that made them vulnerable to mental health problems, which could continue undetected into adulthood.

Influence of Mental Health on Student Engagement Post-COVID

Despite the limited research on student engagement after the return to school (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022), the increased depression, anxiety, PIU, and IA after the return to school had important implications for students' engagement (Liverpool et al., 2023; Omer et al., 2021; Wang et al., 2021). As made evident, researchers established these mental health issues often resulted in decreased emotional engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). Moreover, due to the increase in depression, anxiety, PIU, and IA – all factors which negatively influenced student engagement – researchers recommended continued research on student engagement after students returned to school (Hamatani et al., 2022; Ilesanmi et al., 2021; Jiao et al., 2020; Kearney & Maakrun, 2020; Khubchandani et al., 2021; Y. Li et al., 2019; Liverpool et al.,

2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Olivier et al., 2020; Orgilés et al., 2020; Salta et al., 2021; A. Singh & Srivastava, 2021; Siste et al., 2020; Spitzer et al., 2021; Sun et al., 2020; Wang et al., 2021; Zhou et al., 2020).

Servidio et al.'s (2021) description of the cycle of depression and IA increasing one another demonstrated what happened to many students during and after the school closures. As depression increased, students turned to the internet to escape; consequently, students felt more depressed, which made them want to escape more (Servidio et al., 2021). This cycle was relevant to student engagement because both variables negatively influenced student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). Moreover, researchers said the increases in PIU and IA during the school closures were likely to continue to increase even after schools reopened (King et al., 2020; Onukwuli et al., 2023).

The addictive behavior patterns which students developed during the school closures continued to be a problem after students returned to school and the COVID-19 pandemic was over (King et al., 2020; Onukwuli et al., 2023). This increase in PIU and IA was especially likely because technology played a bigger role in the post-pandemic classroom than it might otherwise have played if the COVID-19 pandemic had not happened (Kearney & Maakrun, 2020). Even three years after schools reopened, most schools still used primarily internet-based instruction and learning platforms (Haleem et al., 2022; Zhao et al., 2023).

As a result, when the number of adolescents struggling with PIU and IA were at an all-time high, those same adolescents were given increased internet access (Kearney & Maakrun, 2020).

Upon the return to school, most school districts provided each student with a laptop or tablet, and many schools shifted to regularly using internet-based learning tools and digital learning platforms (Kearney & Maakrun, 2020). This meant students had increased access to and use of the internet during the school day (Kearney & Maakrun, 2020). A. Singh and Srivastava (2021) found the risk of PIU and IA was higher among students who spent more time on the internet or internet-enabled devices. Since students were spending more time using internet-enabled devices after the return to school, IA could have increased and furthermore resulted in a decline in student engagement (Besalti & Satici, 2022; Buzzai et al., 2021; A. Singh & Srivastava, 2021). Moreover, as discussed earlier, using internet-based learning devices and digital learning platforms increased the temptation for students to multi-task, and increased levels of PIU and IA made student disengagement due to multitasking even more likely in the post-COVID classroom (Kearney & Maakrun, 2020). Teachers and students all over the world faced difficulties caused by increased PIU and IA in conjunction with increased internet-based learning (Besalti & Satici, 2022; Buzzai et al., 2021; A. Singh & Srivastava, 2021).

Post-COVID Internet-based Instruction and Student Engagement

After students returned to school, educators across the world shifted to internet-based learning tools and digital learning platforms as the primary educational model (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). Educational leaders defended the move to digital resources citing pre-pandemic research which showed internet-based learning tools increased student engagement and better prepared students for post-secondary education and careers in a world increasingly driven by technology (Haleem et al., 2022; Kansal et al., 2021; Naqvi & Sahu, 2020; Stefanile, 2022; Webb et al., 2021). Unfortunately, the shift to internet-based learning came at a time when problematic internet use (PIU) and internet addiction (IA) were at all-time high (Adibelli & Sumen, 2020; Al Omari et al., 2020; C. Y. Chen et al., 2021; Dong et al., 2020; Duan et al., 2020; Gomez-Galan et al., 2020; Omer et al., 2021; Salzano et al., 2021; Sun et al., 2020; Zengin et al., 2021). As a result, students who were struggling more than ever with PIU and IA were suddenly given increased access to the internet.

Policies and Post-COVID Instruction in Tennessee Concerning Return to School

Tennessee educators and students experienced the paradigm shift to internet-based education after the return to school (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). On July 28, 2020, Governor Lee released a plan for safely reopening Tennessee schools in August 2020 (TN Department of Education, 2020). Governor Lee referenced the findings of the Centers for Disease Control and Prevention, the American Academy of Pediatrics,

and the National Academies of Sciences, Mathematics, and Engineering, which all stressed the importance of in-person learning for students (TN Department of Education, 2020). The plan gave parents the choice of allowing their children to return to school in August 2020 or continuing to keep students home to attend class virtually (TN Department of Education, 2020). To support schools in implementing virtual classrooms for the 2020-21 school year, Governor Lee announced the $81 million Coronavirus Relief Grants for K-12 (TN Office of the Governor, 2020). Part of the grant package, The District Technology Grant, provided $50 million to increase student access to one-to-one instructional devices such as laptops or tablets (TN Office of the Governor, 2020). The TDOE also supported districts and schools by providing additional technology and Wi-Fi for 250,000 devices (Shelton, 2020). Furthermore, the TDOE offered free professional development classes for teachers on remote learning, including classes on relationship building, instructional materials, and virtual classroom setup (Shelton, 2020). In addition to the funding for 1:1 devices, the Federal Communications Commissions' Affordable Connectivity Program provided all families who were approved for free or reduced school meals the opportunity to receive $30 per month to help cover the cost of internet connectivity.

Some students attended in-person classes for the 2020-21 school year, and others attended virtually (DeGennaro & Kookogey, 2020; Tennessee Commission on Education Recovery and Innovation, 2020; TN Department of Education, 2020). In response to the requirement to provide virtual schooling and to the additional funding for electronic devices for students, districts in Tennessee started to implement 1:1 initiatives for the 2020 school year if they had not

already implemented them prior to the COVID-19 school closures (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). For instance, a local school board in East Tennessee approved a 1:1 plan that made a Chromebook available to every student in grades K-12 beginning in August 2020. The school board asserted the move to 1:1 technology which allowed the district more flexibility to continue teaching during the remainder of the COVID-19 pandemic, weather-related closures, or other sickness-related closures.

Additionally, the same school board in East Tennessee announced the 1:1 initiative would provide new learning opportunities and better prepare students for the world after high school. Although some districts in Tennessee had already begun a 1:1 initiative as early as 2015 (Graydon, 2015), the COVID-19 school closures accelerated the process for the rest of the districts in Tennessee as they worked to comply with Governor Lee's reopening plan (Tennessee Commission on Education Recovery and Innovation, 2020; TN Department of Education, 2020). By affording each student with a personal device, teachers could provide a consistent education for students whether they attended virtually or in person (TN Department of Education, 2020). Moreover, because each student had a personal device, quarantined students switched to virtual learning when absent from in-person school (Lohman, 2021). This arrangement allowed students who contracted the Coronavirus to continue learning from home and avoid missing instruction and getting behind on their schoolwork while they were quarantined.

The drastic educational changes due to the COVID-19 school closures continued even after most students returned to in-person schooling (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020).

Educators shifted instructional models to rely on more internet-based tools and instructional strategies (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020). During the first year of returning to the classroom after COVID-19, educators used online tools such as Zoom, Teams, and Google Meet during instruction so students who chose to remain at home could continue their education (DeGennaro & Kookogey, 2020; Tennessee Commission on Education Recovery and Innovation, 2020; TN Department of Education, 2020).

Concurrently, many districts in Tennessee shifted to internet-based textbooks and digital learning platforms, such as Google Classroom, Canvas, Study Sync, Amplify, and IXL. Students received instruction, completed work, and received feedback within these online platforms. A school district in Middle Tennessee and another district in East Tennessee used Class Link, a platform that allowed students and teachers to access digital learning resources with a single sign-on. In another East Tennessee school district, students and teachers used another single sign-on platform called Canvas. Like many other districts in Tennessee, students accessed digital textbooks and other digital resources each day to learn, study, and complete their daily work. In the post-COVID classroom, the use of internet-based learning and digital learning platforms were quickly becoming the norm, but PIU and IA were still an increasing problem (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). Since student engagement decreased during COVID-19, and PIU and IA increased concurrently, teachers in the post-COVID classroom needed to know

how to engage students in learning and keep them from disengaging (Hews et al., 2022).

Possible Solutions for Engaging Students in Internet-based Education

Teachers and instructional coaches had to adapt and find ways to increase student engagement enough to not only help students stay excited and passionate about what they were learning (Hews et al., 2022; Senn & Wessner, 2021) but to also find ways to hold students' attention to prevent distractions caused by other accessible internet-based activities (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). During the COVID-19 pandemic, researchers studied ways to increase student engagement during internet-based education. Some researchers looked at the problem during the school closures and made recommendations for ways to improve student engagement. For instance, Domina et al. (2021) concluded student engagement increased with each additional mode of communication parents reported receiving from school. Each additional mode of communication from the school increased all three measures of student engagement (Domina et al., 2021). Alternatively, Bray et al. (2021) found a positive correlation between student engagement and higher levels of teacher feedback (r (532) = 0.14, p=.001), peer feedback (r (531) = 0.10, p = .018), and teaching approaches that encouraged critical thinking and creativity (r (611) = 0.25, $p < .001$; r (610) = 0.25, $p < .001$) (Bray et al., 2021). These results were consistent with the findings of other researchers who concluded a sense of connectedness to one's peers directly influenced emotional engagement (Chiu, 2022; Furrer & Skinner, 2003; Wang et al., 2012; Wentzel et al., 2010). For example, Chiu (2022) studied 200 Hong Kong Chinese students in grades eight

and nine during school closures. Chiu (2022) found perceived relatedness (i.e., feeling connected and loved) was the primary predictor of behavioral and emotional engagement during online learning while schools were closed.

Hews et al. (2022) questioned students about their experiences during COVID-19 and used the data to make recommendations for increasing student engagement in the post-COVID classroom. Hews et al. (2022) recommended three areas where educators should focus their attention for increasing engagement in the post-COVID classroom. First, educators and instructional designers needed to take the time to discover what students knew how to do and what they did not, as related to developing digital competencies (Hews et al., 2022). Part of the introduction of new digital learning platforms needed to include scaffolding to build students' digital competencies (Hews et al., 2022; Kostaki & Karayianni, 2022). The more comfortable students were with digital learning platforms, the more engaged they were (Hews et al., 2022).

Second, Hews et al. (2022) found both teacher care (i.e., how much the students perceived the teacher cared about their well-being) and teacher enthusiasm about what students were learning were crucial to student engagement. Students identified teacher enthusiasm as an influencing factor on their engagement (Hews et al., 2022). The more teachers were excited about what they were teaching, the more interested and curious students were (Hews et al., 2022). Most importantly, students needed to know teachers cared about their well-being and success, and they needed time to interact with caring teachers to successfully engage in learning (Hews et al., 2022).

Not only was the quality of teacher-student interactions important for student engagement, but also the quantity of teacher-student interactions influenced student engagement (Hews et al., 2022; Kostaki & Karayianni, 2022). Hews et al. (2022) recommended teachers allocate sufficient time for answering questions, giving feedback, and developing relationships with students. Hews et al. (2022) noted administrators also needed to recognize students needed more pastoral care from teachers and needed to support teachers by providing training in building relationships and by adjusting teacher workload to allow time for building relationships (Hews et al., 2022).

Senn and Wessner (2021) also investigated strategies for improving student engagement in online classes. Senn and Wessner (2021) found creating thematic units about topics that were relevant to students' lives and included real-world examples which students could relate to increased student engagement. Additionally, providing students with introductory background material like an introductory video on the concepts to be covered during the unit, increased students' feelings of competence and helped students engage in the learning (Senn & Wessner, 2021). Furthermore, students needed time to interact with one another and with the instructor about the lesson to stay emotionally engaged, so providing breakout sessions and discussion forums was crucial for keeping students engaged during online learning (Senn & Wessner, 2021).

Researchers recognized the need for further investigation into how educators could increase student engagement in the new internet-based instructional model that most educational institutions adopted as a result of COVID-19 (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner,

2021; Suriagiri et al., 2022). After the return to school, teachers in Tennessee needed to employ strategies to address student engagement during internet-based education due to the statewide shift to 1:1 technology initiatives and regular use of internet-based learning tools and digital learning platforms. Research specific to Tennessee was limited concerning solutions to the problem of student engagement in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

Summary of Review of Literature

Educational researchers found student engagement was crucial to academic success and success later in life (Fredricks et al., 2004, 2016; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Fredricks, 2014; Wang & Holcombe, 2010; Wang & Peck, 2013). Experts also understood there was a concerning decline in student engagement and a concurrent increase in depression, anxiety, PIU, and IA among students during the school closures associated with COVID-19 (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). Researchers found depression, anxiety, PIU, and IA remained high even after schools reopened (Ilesanmi et al., 2021; Khubchandani et al., 2021; Liverpool et al., 2023;

Onukwuli et al., 2023; Siste et al., 2020; Sun et al., 2020; Wang et al., 2021; Zhou et al., 2020). Furthermore, researchers understood all four of these factors negatively influenced student engagement (Bowden et al., 2021; Buzzai et al., 2021; Y. Li et al., 2019; Olivier et al., 2020; A. Singh & Srivastava, 2021; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Yeap et al., 2016; Zhang et al., 2018). Moreover, researchers found mental health issues and addictive behaviors adolescents developed during the school closures would likely continue to cause problems throughout the school years and into their adult lives (King et al., 2020; Onukwuli et al., 2023).

Additionally, education changed because of the school closures associated with COVID-19 (Haleem et al., 2022). Most Tennessee school districts shifted to a 1:1 model in which every student had their own computer or tablet (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020). Accordingly, many teachers shifted to internet-based learning tools and digital learning platforms, and students had access to digital textbooks and learning software (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020). This shift to internet-based learning occurred at a time when PIU and IA among adolescents were at an all-time high (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Lin, 2020; Onukwuli et al., 2023; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). As discussed earlier, researchers found adolescents who spent more time on the internet were more likely to develop IA (Blasi et al., 2019; King et al., 2020; Servidio et al., 2021), meaning as more students spent all day at school with internet access, more students were likely to develop IA. Consequently, more students were likely

to have decreased engagement due to problems controlling their internet use (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018).

Moreover, increased IA and depression acted in a continuous cycle worsening both conditions (Servidio et al., 2021; Zhao et al., 2023). Not only did both disorders get worse, but as they worsened, both negatively influenced student engagement, causing students to fall into a descending cycle that had lasting consequences affecting not only their academic performance but also their success later in life (King et al., 2020; Onukwuli et al., 2023; Servidio et al., 2021).

In conclusion, researchers agreed on the following:

1. Student engagement was crucial for academic success (Davis et al., 2022; Fredricks et al., 2004, 2019; Lam et al., 2014; Li & Lerner, 2011; Wang & Eccles, 2012; Wang & Peck, 2013).
2. Student engagement declined during the school closures associated with COVID-19 (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021).
3. Student engagement declined as students moved from middle school to high school (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013).
4. Factors that influence student engagement – depression, anxiety, PIU, and IA – increased during school closures and remained elevated after students returned to school (Liverpool et al., 2023; Onukwuli et al., 2023; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020).

5. PIU, IA, anxiety, and depression worked in a cyclical way in which each negatively influenced the other (Servidio et al., 2021; Zhao et al., 2023).
6. Students who spent more time online were more likely to develop IA (Blasi et al., 2019; King et al., 2020; Servidio et al., 2021).
7. Education shifted from traditional instructional tools to internet-based learning tools and digital learning platforms during and after the COVID-19 school closures, further complicating the issues of PIU and IA (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020).

As a result, educational researchers needed to continue to monitor students' engagement once students returned to face-to-face instruction due to the documented decrease in student engagement during the school closures due to the increase in PIU, IA, anxiety, and depression (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022). Moreover, researchers needed to pay particular attention to student engagement in the ninth-grade, post-COVID classroom, given the previously documented drop in student engagement from middle to high school (Marks, 2000; Wang & Eccles, 2012; Wang & Peck, 2013) and the importance of students' academic performance during the ninth-grade year for success in the rest of high school and even later in life (Davis et al., 2022). According to researchers, teachers held the key to improving student engagement in classrooms where students use internet-based learning tools and digital learning platforms (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022). Researchers

recommended further investigation into what teaching strategies improved student engagement in the post-COVID classroom where internet-based learning was the norm (Hews et al., 2022; Kostaki & Karayianni, 2022; Senn & Wessner, 2021; Suriagiri et al., 2022). The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

Chapter III: Methodology

While conducting my literature review, I identified a gap in the literature relating to student engagement in post-COVID classrooms where students regularly used internet-based learning tools or digital learning platforms. Specifically, I identified ninth grade as an especially crucial grade level for student engagement during internet-based learning because researchers agreed students who succeeded academically in ninth grade were more likely to succeed in the rest of high school, college, and even in their careers (Davis et al., 2022). Additionally, researchers found students' engagement decreased between eighth and ninth grade, so understanding ninth-grade teachers' perceptions of student engagement and the strategies they used to increase student engagement was important (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

In Chapter III, to provide clarity of the methods utilized in this qualitative, interpretive study, I described the qualitative, interpretive design, the Google Forms questionnaire, and the interview protocol I used to conduct my study. I also described my role as the researcher, how my role as a ninth-grade teacher might introduce bias, and how I mitigated that bias through triangulating the data, collecting the data to saturation, coding the data for each research question, and using consistent questionnaire and interview items for all

participants. I also explained why I chose to limit my participants to ninth grade teachers in Tennessee who regularly used internet-based learning tools. I went on to explain how I used snowball sampling via email, including social via a Facebook post, to distribute my Google Forms questionnaire and find participants for the follow-up interviews. Next, I described the coding process I used to analyze the data from the questionnaires and interviews. Lastly, I described the limitations and delimitations of the study and any assumptions I made about the study.

Research Design

According to Roberts and Hyatt (2019), the researcher needed to describe the research design used and explain why the research design was appropriate for the study. In the Spring of 2024, I used a qualitative, interpretive design to study ninth-grade teachers' perceptions of student engagement in classrooms where teachers regularly used internet-based learning tools and digital learning platforms. According to Merriam and Tisdell (2016), qualitative researchers sought to understand the experiences of people in specific circumstances, how those people assigned meaning to their experiences, and how they constructed the world around them considering their experiences. The qualitative research design allowed me to better understand the experiences of the people involved in the sudden changes to education precipitated by the COVID-19 school closures and gave important insights into how teachers coped with the changes in students emotional, behavioral, and cognitive engagement influenced by the shift to internet-based learning. Furthermore, Creswell and Creswell (2018) noted qualitative researchers investigated the complexity of specific problems or

situations, the experiences of the people involved in the problem or situation, and how those people used their experiences to make sense of the world around them.

By using a qualitative, interpretive approach, I used the experiences of ninth grade teachers in post-COVID classrooms in Tennessee to investigate student engagement where students regularly used internet-based learning tools and digital learning platforms. The paradigm shift in education from traditional education to internet-based education, combined with the known increase in PIU and IA, resulted in a situation in which teachers were uniquely qualified to observe, experience, and assign meaning to what they experienced concerning student engagement in the post-COVID classroom (Haleem et al., 2022; Liverpool et al., 2023; Onukwuli et al., 2023; Tennessee Commission on Education Recovery and Innovation, 2020; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Only teachers were positioned in the classrooms every day with students, which allowed teachers to observe how internet-based education and changes in students' mental health influenced students' engagement in learning. For this qualitative, interpretive study, I used a Google Forms questionnaire and online, synchronous, semi-structured interviews conducted via Google Meet to collect teachers' perceptions about student engagement when students used internet-based learning tools or digital learning platforms.

I used questionnaires for the first phase of research for several reasons. First, the asynchronous nature of the questionnaires allowed participants time to reflect on their answers, so they were more likely to provide thoughtful, accurate responses. The questionnaire items asked participants to differentiate between students' emotional, behavioral, and cognitive engagement. Since participants

needed to be able to refer back to the definitions I provided of the three types of engagement and reflect on students' engagement in each of the three dimensions, the questionnaire made the most sense for allowing for the time needed for reflection. Additionally, the questionnaire allowed participants to answer on their own schedule with as little disruption to class time and work schedule as possible (Merriam & Tisdell, 2016). Furthermore, participants were more likely to take the time to fully complete the questionnaire if they could do it when it was most convenient for them. Lastly, the questionnaire made the most sense for reaching a wider geographic region. Since I was trying to investigate teachers' perceptions of students' engagement from across the state of Tennessee, using a questionnaire sent out via email and Facebook removed any geographical constraints (Merriam & Tisdell, 2016).

I chose to conduct online, synchronous interviews via Google Meet for the second phase of my research. Creswell and Creswell (2018) noted researchers often used online synchronous interviews to gain a more in-depth understanding of the problem because researchers could ask clarifying questions as participants responded to queries. Furthermore, using synchronous online interviews allowed me to build a rapport with the participants, which made participants more comfortable and elicited more honest and thoughtful responses (Merriam & Tisdell, 2016). I chose to use Google Meet for the online interviews because the video component allowed me to observe nonverbal cues as well as verbal answers for data analysis purposes (Merriam & Tisdell, 2016). The online nature of the interviews made interviewing participants from all parts of Tennessee more feasible and made scheduling the interview more convenient for the participants

(Merriam & Tisdell, 2016). The participants could feel more secure because they did not have to meet with me, a stranger, in person. Additionally, using online interviews somewhat protected participants' confidentiality because I did not necessarily know what districts they taught in unless their email address revealed that information. Since I was not traveling to meet them near their home and school, I had less chance of connecting the participants to a particular district or school. Lastly, I differentiated the interview items from the questionnaire items. The questionnaire focused on asking questions about the three dimensions of student engagement. In contrast, I designed the interview items to elicit responses about specific strategies mentioned in the literature for improving student engagement during internet-based instruction and what teachers were seeing in their classrooms related to those strategies. I also used the interview to elicit narrative answers about further support teachers needed for helping them to keep students engaged during internet-based learning.

Role of the Researcher

According to Merriam and Tisdell (2016), in qualitative research, the primary source of data collection and interpretation was the researcher. Since I was the only researcher involved in this study, I was solely responsible for collecting the data through questionnaires and interviews of ninth grade teachers in post-COVID classrooms where teachers and students regularly used internet-based learning tools and digital learning platforms. Additionally, I developed the questionnaire and interview protocol for the study and conducted a pilot study of both to ensure the questions elicited sufficient data to answer the research questions (Creswell & Creswell, 2018).

As the sole researcher, I conducted a pilot study of both the questionnaire and the interview protocol and procedures. I asked teachers for feedback about the questionnaire instructions, wording, and questions. Additionally, I noted which interview items elicited new information, which ones needed to be reworded for clarification, and whether questions needed to be added or eliminated. After making the necessary adjustments to the questionnaire and interview protocol, I sent the questionnaires to six initial participant teachers via email and made a social media post on Facebook.

I scheduled an interview with any Tennessee, ninth-grade teachers who answered yes to questionnaire item 10 and were willing to participate in the interview portion of the study. My role as an interviewer was to ask questions about teachers' perceptions of the possible influences on student engagement in the post-COVID classroom. Additionally, I asked a follow-up question about what further support teachers felt they needed from instructional leaders to help them keep students engaged during internet-based learning. I recorded each interview using Google Meet. After each interview, I transcribed the interview word for word, which helped me to mitigate any potential bias because I only used the exact words of the participants as data. As the sole interviewer, I also refrained from influencing the participants answers through verbal or non-verbal reactions to their answers; rather, I sat with a neutral facial expression and listened attentively to their answers.

According to Creswell and Creswell (2018), qualitative researchers should include a description of their past experiences with the research problem and an explanation of how those experiences might influence the data analysis and

interpretation. At the time of this study, I was a ninth-grade English teacher in a rural junior high school in Tennessee. I recognized my experiences in the ninth-grade classroom could potentially cause bias in the interpretation of the data. Since I was the sole researcher, I mitigated any potential bias by collecting data from participants across the state of Tennessee using both a questionnaire and online, synchronous interviews. According to Merriam and Tisdell (2016), using multiple sources of data to cross-check data collected at different times, from different participants in a variety of locations, via more than one instrument adds credibility and helps the researcher to mitigate bias when reporting data. Merriam and Tisdell (2016) suggested using multiple sources of data collected from people with different perspectives to triangulate the data and improve trustworthiness. Additionally, I used direct quotations of participants to most accurately reflect the perspectives of participants. To further mitigate bias, each participant answered the same questionnaire items, and I used the same interview protocol for every participant (Merriam & Tisdell, 2016).

Additionally, I collected data to the point of saturation to ensure I reported the data accurately and represented the viewpoints of the participants as fairly and exactly as possible (Creswell & Creswell, 2018). I also provided rich descriptions of the teachers' experiences and of the methods used during the study, which helped to provide more accurate representations of the teachers' experiences and perceptions (Creswell & Creswell, 2018). I also referred frequently to the conceptual framework of Fredricks et al.'s (2004) multidimensional model of student engagement to guide my interpretation of the data (Merriam & Tisdell,

2016). Lastly, I accounted for the limitations and delimitations of the study and explained any assumptions I had about the problem and study.

Participants in the Study

Roberts and Hyatt (2019) recommended the researcher describe who participated in the study and what procedures the researcher used to select the participants. Roberts and Hyatt (2019) also noted the number of participants in qualitative research was often small, "due to the depth and breadth of data collected" (p. 147). Experts in qualitative research recommend selecting a representative sample of the overall population when the researcher could not study the total group (Creswell & Creswell, 2018; Merriam & Tisdell, 2016; Roberts & Hyatt, 2019). Creswell and Creswell (2018) emphasized the importance of protecting participants' confidentiality. I protected the confidentiality of the participants by assigning a participant code to each questionnaire participant (i.e., Q1) and each interview participant (i.e., interview participant 1). Additionally, I only collected email addresses, not names, and I only collected emails from participants who wished to enter a drawing for one of the Amazon gift cards I offered as incentives to recommend other potential participants or for participating in the interview portion of the research. I did not match up email addresses with questionnaire or interview responses in any way.

Questionnaire Participants

For this qualitative, interpretive study, I used snowball sampling, the most common form of purposeful sampling (Merriam & Tisdell, 2016). As Merriam and Tisdell (2016) recommended, I selected key participants who met the qualifications of my study to start the snowball sampling process. I selected six

initial participants who were ninth-grade teachers in Tennessee: two participants from West Tennessee, two from Middle Tennessee, and two from East Tennessee. The initial participants were teachers whose students used internet-based learning tools or digital learning platforms at least three days a week. I varied the location of the initial participants to ensure the data collected included ninth grade teachers across the state of Tennessee to provide more generalizable research data.

I asked each of these initial participants to fill out the questionnaire and to provide emails for other potential participants who met the qualifications of the study (Merriam & Tisdell, 2016). Then, I emailed the questionnaire and participant invitation letter to each person the initial participants recommended. Those participants responded with further recommendations for other potential participants, and I emailed the questionnaire to those potential participants. I continued this process with each subsequent response that included emails for recommended potential participants. Additionally, I made a social media post of the questionnaire on Facebook. I used social media to increase the likelihood that I would reach participants in each region of Tennessee. Using a Facebook post allowed me to reach a wider audience of people and reach out to any teacher in Tennessee who taught ninth grade and regularly used internet-based learning tools or a digital learning platform. Just as I asked the initial participants to provide email addresses of other qualifying participants, the questionnaire included a request for each person who filled out the questionnaire to provide emails for additional qualifying participants. For each additional qualifying email a participant provided, I entered that participants name one time into a drawing for

a $100 Amazon gift card. The drawing served as an incentive for providing emails for more questionnaire participants.

According to Merriam and Tisdell (2016), researchers needed to spell out the criteria they used to select their participants and why the criteria were important. To qualify for this study, participants had to meet all three of the following criteria:

1. Taught in Tennessee
2. Regularly used internet-based learning tools or digital learning platforms with their students. As mentioned in Chapter I, I defined regular use as using internet-based learning tools and digital learning platforms at least three days a week.
3. Taught ninth grade.

I conducted my study with Tennessee teachers because, according to the literature, many districts in Tennessee shifted from traditional, in-person education to more internet-based education after the school closures associated with COVID-19 (Haleem et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020). As discussed in Chapter II, Tennessee schools closed in March 2020 and did not return to face-to-face instruction until Fall of 2020 or later (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). As a result, many students and teachers in Tennessee experienced the isolation, pandemic-related stress and increased access to the internet researchers described, all of which contributed to a significant decrease in student engagement and a significant increase in PIU and IA during the school closures (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021;

Hamatani et al., 2022; Houghton et al., 2022; Jiao et al., 2020; Lee, 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Singh et al., 2020; Villani et al., 2021; Viner et al., 2020; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020).

After schools reopened, many Tennessee schools shifted to 1:1 computer policies and increased use of internet-based learning tools and digital learning platforms (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). Tennessee legislators used money provided by the federal Coronavirus Aid, Relief, and Economic Security (CARES) fund to establish the District Technology Grant (TN Office of the Governor, 2020; United States Department of the Treasury, n.d.) Many Tennessee school districts used the money from the District Technology Grant to provide all students with computers and to purchase internet-based learning tools and digital learning platforms for teachers and students to use (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). Consequently, teachers in Tennessee were qualified to speak about student engagement in post-COVID classrooms where students regularly used internet-based learning tools and digital learning platforms.

Furthermore, I also wanted to investigate Tennessee, ninth-grade teachers' perceptions of support they needed from instructional leaders to further help them engage students in learning after the shift from traditional education to internet-based education. When schools closed due to the COVID-19 pandemic, many teachers had to shift to online instruction almost overnight (Bansak & Starr, 2021; Domina et al., 2021; Gonzalez & Bonal, 2021). When teachers and students returned to school, the shift to more internet-based education continued to spread

as school districts tried to cope with the need to educate students who chose to continue learning from home and students who were quarantined for several weeks at a time (Haleem et al., 2022; Hews et al., 2022; Tennessee Commission on Education Recovery and Innovation, 2020). Since many teachers had to learn to teach a completely new way, they were uniquely qualified to explain what support they needed, making them valuable participants in my study.

I limited the sample to teachers who regularly used internet-based learning tools and digital learning platforms with their students. I placed this limit on the sample of participants because researchers agreed part of the reason student engagement declined during and after the school closures was due to the increase in PIU and IA during that same time period, combined with the increased access to the internet during the school day (Hews et al., 2022; Kostaki & Karayianni, 2022; Liverpool et al., 2023; Onukwuli et al., 2023; Senn & Wessner, 2021; Suriagiri et al., 2022; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Consequently, I wanted to include participants who were able to provide insight into students' engagement in learning when students had access to the internet during class and regularly used internet-based learning tools and digital learning platforms.

Additionally, I limited my sample to ninth-grade teachers in Tennessee who taught in classrooms where students regularly used internet-based learning tools and digital learning platforms. As discussed in Chapter II, ninth grade was a crucial year for student engagement (Davis et al., 2022). First, researchers found student engagement decreased as students transitioned from eighth to ninth grade (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012).

More importantly, researchers found students' academic success in ninth grade predicted their likelihood of graduating, enrolling in post-secondary education, and succeeding in post-secondary education and in their adult life (Davis et al., 2022). Since student engagement influenced academic success, student engagement in ninth grade was particularly pertinent to study (Davis et al., 2022). Ninth-grade teachers' experiences and observations about student engagement in their classrooms were crucial for understanding how the shift to internet-based education was influencing students' engagement at a time when increased numbers of adolescents were experiencing problematic internet use and internet addiction.

In total, I sent out 77 emails, but I had no way of knowing how many potential participants saw my Facebook post. As a result, I could not accurately assess the total population size for the study. After sending emails and making the Facebook post to recruit participants, 16 qualified participants answered the questionnaire.

Interview Participants

The questionnaire and interview criteria were the same: ninth grade teachers in Tennessee whose students regularly used internet-based learning tools or digital learning platforms. Interview participants were any respondent who completed the questionnaire and volunteered to participate in the interview portion. Using the interview protocol, I asked interview participants to go into more depth about specific research-based strategies they used to improve student engagement during internet-based learning and how often participants exposed their students to those strategies. Interview participants also had the opportunity to

elaborate on what further supports they felt they needed to help them successfully engage students who regularly used internet-based learning tools. Out of the 16 participants who completed the questionnaire, five agreed to allow me to interview them. I interviewed five Tennessee ninth-grade teachers regarding student engagement when their students regularly used internet-based learning tools and digital learning platforms.

Data Collection

I utilized a qualitative, interpretive methodology, and used a Google Forms questionnaire and online synchronous interviews via Google Meet to collect data for the study. Merriam and Tisdell (2016) identified questionnaires and online synchronous interviews as valid tools for collecting data in a qualitative study. Questionnaires allowed participants to reflect on their answers and complete the questionnaire at a convenient time and place (Creswell and Creswell, 2018). Online synchronous interviews allowed me to develop a rapport with participants and ask clarifying follow-up questions about teachers' perceptions of student engagement in classrooms where students regularly used internet-based learning tools and digital learning platforms (Merriam & Tisdell, 2016). Using both questionnaires and synchronous interviews allowed me to triangulate the data collected and increased the trustworthiness of the study (Creswell & Creswell, 2018; Merriam & Tisdell, 2016).

Instrumentation

I created two separate instruments for data collection, each with a different purpose. First, I created a questionnaire to elicit general participant knowledge regarding the influence that regular use of internet-based learning

tools had on students' emotional, behavioral, and cognitive engagement. Additionally, the questionnaire elicited participant knowledge regarding distractions which negatively influence students' engagement during internet-based learning. In contrast, I developed the interview protocol to elicit general participant knowledge regarding which research-based strategies teachers used to increase student engagement during internet-based learning. The interview protocol also elicited narrative descriptions of what further support participants felt they needed to help them keep students engaged when they used internet-based learning tools and digital learning platforms.

During the first phase of data collection, I used a Google Forms questionnaire to collect data. Creswell and Creswell (2018) considered questionnaires sent via email as text-based interviews, which allowed researchers to understand the participants thoughts, feelings, and experiences. Moreover, the asynchronous nature of the questionnaire allowed participants to answer the questions on their own schedule with little to no interruption of their routine (Merriam & Tisdell, 2016). Some questionnaire participants indicated their willingness to participate in a second phase of the research and allowed me to interview them via Google Meet. Merriam and Tisdell (2016) noted conducting online interviews synchronously had the advantage of allowing researchers to develop a rapport with the participants, leading participants to be more willing to answer questions thoroughly and honestly. Furthermore, conducting interviews via Google Meet removed any geographical constraints, which was helpful since my participants were from all over the state of Tennessee (Merriam & Tisdell, 2016).

Merriam and Tisdell (2016) went on to explain researchers used data obtained during follow-up synchronous, online interviews to triangulate data collected via questionnaire. To use the instruments, I emailed a letter explaining the study (see Appendix A) and attached a link to the Google Forms questionnaire (see Appendix B) to each participant. As participants agreed to be interviewed, I emailed them a request to schedule a Google Meet (see Appendix C) and used the interview protocol (see Appendix D) to conduct online, synchronous interviews.

Questionnaire. I developed the online questionnaire using extant research and literature on student engagement, mental health, and the paradigm shift to internet-based education to guide the creation of each questionnaire item (Bowden et al., 2021; Buzzai et al., 2021; Fredricks et al., 2004; Haleem et al., 2022; Kansal et al., 2021; Y. Li et al., 2019; Naqvi & Sahu, 2020; Olivier et al., 2020; A. Singh & Srivastava, 2021; Stefanile, 2022; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang & Peck, 2013; Webb et al., 2021; Yeap et al., 2016; Zhang et al., 2018). Merriam and Tisdell (2016) noted questions, which were more open-ended, allowed for respondents to communicate their unique experiences and viewpoints. I designed my questionnaire using Google Forms and included primarily open-ended questions in hopes of eliciting descriptive and thoughtful responses from participants. I used Google Forms due to the widespread familiarity with the format of Google tools and products (Fenton, 2017; Singer, 2017). Merriam and Tisdell (2016) noted using questionnaires allowed researchers to collect data asynchronously, which allowed participants to complete the questionnaire at their convenience with minimal interruption of the instructional time for both teachers and students.

Additionally, the online format allowed me to collect data from teachers across the state of Tennessee. The asynchronous format also prevented any facial reactions or body language on my part from influencing the participants' answers to the questions (Merriam & Tisdell, 2016). By using a questionnaire for the participants, I allowed them time to provide thoughtful insights into their experiences in the post-COVID classroom concerning their students' engagement in learning when using internet-based learning tools or digital learning platforms. The questionnaire format allowed participants to answer questions on their own schedule and, if necessary, to reflect on their experiences before answering.

I designed the questionnaire to answer all three research questions. Questionnaire items 1-6 addressed Research Question 1. Questionnaire items 2-4 and 6-7 were based on the conceptual framework of Fredricks et al.'s (2004) Multidimensional Construct of Student Engagement. I based questionnaire item 5 on the fact researchers agreed internet distractions caused by IA and PIU caused decreased student engagement (Fried, 2008; Kearney & Maakrun, 2020; Uncapher & Wagner, 2018).

In questionnaire item 7, I asked teachers what strategies they used to engage students emotionally, behaviorally, and cognitively in learning when they were using internet-based learning tools or digital learning platforms. I used participant responses to questionnaire item 7 to answer Research Question 2. Literature on strategies to improve student engagement during internet-based learning remained scant at the time of the study. I designed questionnaire item 7 to elicit data that would add to the body of research on strategies to improve each

dimension of student engagement during internet-based learning and address the gap in the literature.

I used questionnaire item 8 to answer Research Question 3. In questionnaire item 8, I asked teachers what support and training they needed to help them engage students in internet-based learning and further addressed the gap in the literature concerning student engagement during internet-based learning. In questionnaire item 9, I asked for emails of other Tennessee ninth grade teachers who might qualify for the study. In questionnaire item 10, I asked if teachers were willing to allow me to interview them synchronously via Google Meet about teaching using internet-based learning tools and digital learning platforms. Of the eight content related questionnaire items, six questionnaire items were open ended questions. One questionnaire item was multiple choice, and one questionnaire item was multiple select.

Interview Protocol. I developed the interview protocol using extant research and literature on strategies researchers agreed positively influenced student engagement during internet-based learning before and during COVID (Bray et al., 2021; Chiu, 2022; Domina et al., 2021; Furrer & Skinner, 2003; Hews et al., 2022; Senn & Wessner, 2021; Wang et al., 2012; Wentzel et al., 2010). I conducted follow-up online, synchronous interviews of teachers who indicated their willingness to participate in questionnaire item 10. Qualitative researchers often paired synchronous interviews with questionnaires to gain a more in-depth understanding of the problem, ask clarifying follow-up questions, and to triangulate findings (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Merriam and Tisdell (2016) noted synchronous interviews allowed

researchers to build a rapport with the participants, making them more comfortable and more likely to answer questions honestly. Furthermore, I conducted the interviews via Google Meet, which had a video component that allowed me to observe nonverbal cues as well as verbal answers for data analysis purposes (Merriam & Tisdell, 2016). Conducting the interviews online rather than in-person removed any geographical constraints and made interviewing participants across the state of Tennessee more attainable (Merriam & Tisdell, 2016). I used the synchronous interviews to

- answer Research Question 1 and compare teacher perceptions of influencing factors on student engagement to those factors mentioned in the literature: teacher enthusiasm, teacher-student relationships and interactions, student-student interactions, and lessons that include opportunities for critical thinking and creativity.
- answer Research Question 2, specifically focusing on strategies mentioned in the literature.
- answer Research Question 3 by asking a more open-ended query, allowing participants to provide a more narrative and descriptive answer than the multiple select question in questionnaire item 8.

Creswell and Creswell (2018) recommended developing an interview protocol prior to conducting the interview to aid the researcher in recording data during the interview. Creswell and Creswell (2018) noted researchers could record data by making handwritten notes, audiotaping, or videotaping. By using

Google Meet, I was able to record video and audio of the interviews, which allowed me to fully focus on the participants' answers during the interview rather than try to make notes.

Creswell and Creswell (2018) recommended researchers develop and use an interview protocol to better equip the researcher to focus on gathering relevant data about factors associated with the study and the research questions. I developed an interview protocol (see Appendix D) to define exactly what questions I would ask during the interview, as well as provide a consistent introduction outlining what the participants could expect and provide closing instructions (Creswell and Creswell, 2018). To improve consistency and mediate potential bias, I used a semi-structured interview protocol design in which I asked each participant the same interview items.

Following the advice of Creswell and Creswell (2018), the interview protocol opened with a request for the participants' permission to record the interview and basic information about the interview. The protocol included the time, date, and location of the interview, the names of the interviewer and interviewee pseudonym or number, and a projection of the approximate length of the interview so that the interviewees knew what to expect (Creswell & Creswell, 2018).

The next section of the interview protocol was the introduction, in which I provided instructions for the interview including a brief explanation of the purpose of the study (Creswell and Creswell, 2018). During the introduction, I also discussed the general structure of the interview and reminded participants that I emailed definitions of the following terms before the interview:

- Student engagement
- Emotional engagement
- Behavioral engagement
- Cognitive engagement
- Internet-based learning tools
- Digital learning platform

Since the interview participants had already filled out the questionnaire, they already read those definitions; however, I wanted to make sure the definitions were fresh in their memory and available for review before conducting the interview.

After the introduction, the interview protocol listed the interview items. Interview items 1-4 helped me gain a deeper understanding of how teachers' perceptions of student engagement compared to researchers' findings in the literature concerning student engagement during internet-based learning. Interview item 1 concerned teachers' enthusiasm or lack of enthusiasm when teaching using internet-based learning tools and digital learning platforms. As discussed in Chapter II, Hews et al. (2022) found teacher enthusiasm influenced students' engagement in learning when they were using internet-based learning tools. Interview item 2 concerned students' willingness to think critically and work to understand complex concepts. Bray et al. (2021) found a positive correlation between student engagement and teaching approaches that encouraged critical thinking and creativity. Interview items 3-4 dealt with student-student and student-teacher interactions and relationships, which researchers agreed

influenced students' engagement (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021).

Interview items 3-5 addressed Research Question 2 and were based on literature regarding possible solutions to improve students' engagement during internet-based learning. The literature on these solutions was from studies conducted during the COVID-19 school closures or immediately after students returned to school. Research concerning successful teaching strategies for improving engagement after the paradigm shift to regular use of internet-based learning tools and digital learning platforms remained scant at the time of this study (Hews et al., 2022; Senn & Wessner, 2021; A. Singh & Srivastava, 2021; Zengin et al., 2021). I intended for questionnaire items 3-5 to compare strategies teachers used in the post-COVID classroom to engage students in internet-based learning to those strategies suggested in the literature.

Additionally, I intended the answers to interview items 3-5 to add to the body of research on strategies to improve student engagement during internet-based learning and address the gap in the literature. Interview item 6 provided more narrative and detailed answers to Research Question 3. Although the questionnaire also addressed Research Question 3, the format of the questionnaire item was multiple select. In contrast, interview item 6 was an open-ended question and allowed participants to elaborate and explain their answers. Lastly, the interview protocol contained closing instructions during which I thanked the participants for their time, responded to any final questions, and assured the participants of the confidentiality of the interview (Creswell & Creswell, 2018).

Pilot Test

According to Merriam and Tisdell (2016), a pilot study of the questionnaire and interview protocol improved the trustworthiness of the instruments. Creswell and Creswell (2018) discussed the importance of conducting pilot studies to establish the trustworthiness of the content of the questionnaire and interview protocol. Additionally, the interview protocol helped to provide a way to evaluate the internal consistency of items and to improve the wording, formatting, and clarity of questionnaire and interview items and instructions (Creswell & Creswell, 2018). I conducted a pilot study of both the questionnaire and the interview protocol and procedures. I began by conducting a pilot study of the questionnaire with five ninth grade teachers at a junior high school in East Tennessee who were not included in my study. I asked teachers for feedback about the questionnaire instructions, wording, and questionnaire items. I also asked teachers to keep track of how long the questionnaire took to complete. The pilot study participants reported the questionnaire took 15-20 minutes to complete. Pilot study participants recommended breaking questionnaire item 1 into three separate questions with brief descriptions of each type of engagement embedded in the item. Four of the five participants in the pilot study for the questionnaire said that they got tired of having to scroll back to the top of the page to see the definitions of emotional, behavioral, and cognitive engagement. They also indicated that they would be more likely to provide data about all three types of engagement if they were presented in three separate questions with embedded reminders of what each type of engagement encompassed. Three pilot study participants suggested leaving out questionnaire item 2 if I changed questionnaire

item 1 to three separate items to avoid fatiguing my participants with too many questionnaire items requiring narrative answers. Additionally, three of the five pilot study participants suggested changing the wording to questionnaire item 6 because they thought they understood what I meant but needed clarification. As a result, I changed the questionnaire to reflect their suggestions.

I conducted a pilot study of the interview protocol by conducting interviews with three of the five questionnaire participants. Since the interviewees were also familiar with the questionnaire, I asked them for any recommendations they had overall. Two of the participants in the pilot study of the interview protocol recommended I email a copy of the definitions to the interview participants ahead of the interview so they could have them handy during the interview. After the pilot study of both the questionnaire and the interview protocol, I had a total of 10 questionnaire items (8 of which were content related) and 6 interview items.

Data Collection Procedures

After making the necessary adjustments to the questionnaire and interview protocol, I applied for and received approval to conduct this study from the Institutional Review Board (IRB) at Lincoln Memorial University. After receiving IRB approval, I collected data online by emailing the Google Forms link to the questionnaire to six initial participants who were ninth grade teachers from three regions across the state of Tennessee (e.g., East, Middle, and West Tennessee). The email participant invitation request (see Appendix A) contained a request for participation, a statement of implied consent, and the Google Forms questionnaire link. I used Questionnaire item 9 to ask participants to provide the emails of other

Tennessee ninth grade teachers who might qualify for the study. As an incentive, I offered the participants one entry into a drawing for a $100 Amazon gift card for each qualifying email. Next, I sent the invitation email and the questionnaire to the teachers' email addresses that the initial participants sent to me, and I asked them to complete the questionnaire and provide emails of Tennessee ninth grade teachers who met the qualifications of the study. I continued this snowball sampling process until I reached saturation of the data. According to Merriam and Tisdell (2016), saturation occurred when collecting more data ceased to provide new insights into the phenomenon of study.

Furthermore, I crafted a social media post on Facebook with a link to the participant invitation request, statement of implied consent, and link to the Google Forms questionnaire. In the Facebook post, I specified the questionnaire was only for Tennessee ninth grade teachers whose students regularly used internet-based learning tools or digital learning platforms. I collected the questionnaire responses from both the email snowball sampling and the social media post until I reached saturation in my coding. I collected questionnaire responses for two and a half weeks. As Merriam and Tisdell (2016) recommended, I coded the data as I received the questionnaire responses so that I would know when I had reached saturation. One week prior to closing the questionnaire, I sent a reminder email to all participants and made another Facebook post thanking all participants who had already replied and asking potential participants who had not responded to respond within seven days because the questionnaire was going to close. I reached saturation for the questionnaire after two and a half weeks and stopped sending emails to new participants and closed the Facebook post at that time.

I also conducted online synchronous interviews of teachers in ninth grade classrooms in Tennessee who indicated their willingness to participate in the interview (questionnaire item 10). As I received questionnaire responses, I contacted participants who indicated they were willing to let me interview them via email (see Appendix C) and scheduled a time to meet with them via Google Meet. For each interview, I used the same interview protocol described in the instrumentation section (see Appendix D). If I did not hear back from interview participants within one week, I sent a reminder email to them asking if they were still willing to participate in the interview.

As soon as possible after each interview, I transcribed the interview by watching the recording of the interview and typing the interview questions and responses word for word (Creswell & Creswell, 2018). I also made notes of any noteworthy non-verbal reactions and where they occurred within the text of the interview transcription. Creswell and Creswell (2018) noted verbatim transcription provided the "best database for analysis" (p. 131) and increased the researchers' familiarity with the data.

I transcribed the data to prepare the data collected via interview for analysis. I used the transcriptions of the interviews and the typed answers to the questionnaire as the raw data to begin the analysis process. By cross-checking the raw data gathered during both the questionnaire and interview process for consistency, I improved the trustworthiness of the study.

As mentioned above, I used two incentives for my study. The first incentive was for participants who answered questionnaire item nine and provided emails for other potential participants. If participants answering questionnaire

item nine chose to also provide their email, I entered their email into a random drawing for a $100 Amazon gift card. I used a random number generator and the participant numbers to choose the winner of the gift card and sent a $100 Amazon gift card to the winner via email. I offered a second incentive to any participant who volunteered and completed the interview portion of the research. I followed the same procedure to select the winner for the second Amazon gift card, using interview participant numbers and a random number generator. I emailed the $100 Amazon gift card to the winning interview participant.

Trustworthiness

To ensure the trustworthiness of a study, the researcher must conduct the research in an ethical manner and use recommended methods to ensure the data collection, data analysis, and results of the study were reliable (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Researchers agreed one of the best ways to ensure trustworthiness was to triangulate the data by using multiple sources of data collected via a variety of methods (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Creswell and Creswell (2018) discussed the importance of pilot testing to establish the trustworthiness of the content of the questionnaire and interview protocol, to provide a way to evaluate the internal consistency of items, and to improve the wording, formatting, and clarity of questionnaire items and instructions. I pilot tested the questionnaire and interview protocol to make sure the questionnaire and interview items were easy to understand and elicited relevant information related to the research questions.

I also collected data from all three regions of Tennessee, and I used the same Google Forms questionnaire (see Appendix B) and the same interview

protocol (see Appendix D) for all participants, which aided in triangulation of the data. I recorded the interviews and transcribed them verbatim to improve the trustworthiness of the data collected during the interviews. I further mitigated bias during the interviews by refraining from any verbal or non-verbal reactions to what the participants said and by maintaining a neutral and respectful stance (Creswell & Creswell, 2018).

Not only did I triangulate the data by collecting data from multiple sources with different perspectives by collecting data from participants from all three regions of Tennessee, but I collected the data until I reached saturation. Merriam and Tisdell (2016) explained saturation occurred when collecting more data ceased to provide new insights into the phenomenon of study. I collected data to the point of saturation, which helped to mitigate threats to the trustworthiness of the study. I decided when I had reached saturation when the data analysis and coding process detailed in the Methods of Analysis section of this report failed to provide new insights into the answers to my research questions. Once the questionnaire responses failed to provide new insights or themes during the coding process, I kept the questionnaire open for one additional week then closed the questionnaire. I conducted interviews of all participants who volunteered to be interviewed until interviews failed to provide new insights into my research questions (Merriam & Tisdell, 2016).

Since I was the sole researcher, the biggest threat to trustworthiness was any potential bias on my part in the collection or analysis of the data (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). When I created the questionnaire and interview protocol, I referred to the literature regarding student engagement,

mental health, the post-COVID paradigm shift to internet-based learning, and strategies for improving student engagement during internet-based learning (Bowden et al., 2021; Bray et al., 2021; Buzzai et al., 2021; Chiu, 2022; Domina et al., 2021; Fredricks et al., 2004; Furrer & Skinner, 2003; Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Y. Li et al., 2019; Naqvi & Sahu, 2020; Olivier et al., 2020; Senn & Wessner, 2021; A. Singh & Srivastava, 2021; Stefanile, 2022; Totura et al., 2014; Upadyaya & Salmela-Aro, 2013; Wang et al., 2012; Wang & Peck, 2013; Webb et al., 2021; Wentzel et al., 2010; Yeap et al., 2016; Zhang et al., 2018). By using the same questionnaire and interview protocol for all participants, maintaining a neutral stance and tone during the interviews, transcribing the interviews verbatim, triangulating the data, collecting, and coding data until I achieved saturation, and identifying assumptions I had about the study, I mitigated any threats to trustworthiness due to personal bias (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Furthermore, coding the data by establishing themes that emerged from the data and answered the research questions also added to the trustworthiness of the study (Creswell & Creswell, 2018).

Methods of Analysis

Merriam and Tisdell (2016) described data analysis as the process the researcher used to make sense of the raw data and construct meaning from the data to answer the research questions. The participants recorded their own responses to the questionnaire by typing answers to the questionnaire in the Google Form questionnaire, so I was able to use their typed responses as the raw data to begin coding. For the interviews, I transcribed each interview verbatim

and used the transcription as the raw data for coding. Merriam and Tisdell (2016) recommended coding the data to find answers to research questions by identifying themes within the data. Merriam and Tisdell (2016) also noted data analysis begins during data collection, so researchers know when they have reached saturation. I coded both the questionnaires and interview transcriptions as participants completed them.

After collecting the data via questionnaire and interviews, I analyzed the data in three phases. First, I created open codes for the data for each research question (Creswell & Creswell, 2018). As I analyzed the data and found any themes that emerged from the data, I used those themes to create axial codes (Creswell & Creswell, 2018). Next, I used those themes to create selective codes for the data to answer the research questions (Creswell & Creswell, 2018). I used Fredricks et al.'s (2004) conceptual framework of the Multidimensional Construct of Student Engagement to guide me in interpreting the data and further mitigate bias (Fredricks et al., 2004; Merriam & Tisdell, 2016).

Following the process recommended by Merriam and Tisdell (2016), I coded questionnaire responses as they came in and interview transcriptions as I completed them. First, I created an Excel spreadsheet with three columns for coding: Open Codes, Axial Codes, and Selective Codes (Merriam & Tisdell, 2016). I labeled the left column as open codes. I used open coding to analyze raw data from the ninth-grade teachers' responses by making notes beside parts of answers that were relevant to the research questions. Open codes were the smallest part of answers that could stand alone but still be easily interpreted (Merriam & Tisdell, 2016). I had already decided which questionnaire and

interview items answered which research question, so I looked at the answers provided by participants and typed the parts of answers that provided insight into the related research question into the left column of the Excel spreadsheet, creating open codes for each research question. Next, I sorted the open codes, grouping the related open codes together in the left column and sorting them into different cells for each research question.

To create the axial codes, I looked at these related open codes or repeated open codes to discover any recurring themes in the data (Creswell & Creswell, 2018; Merriam & Tisdell, 2016). I typed these themes or axial codes into the middle column of the Excel spreadsheet, aligning them with the related open codes by color and dividing the axial codes by research question. After I determined the themes and typed the axial codes for each research question into the spreadsheet, I used the recurring themes to determine selective codes, which answered each research question (Merriam & Tisdell, 2016). I typed the full sentence answers to each research question in the right column of the Excel spreadsheet and aligned them with the related axial codes by aligning the cells of the spreadsheet with the axial codes for each research question with the cells of the spreadsheet with the selective codes for each research question. These selective codes represented the answers to research questions one, two, and three.

Limitations and Delimitations

The limitations of a study were out of the researcher's control and had the potential to influence the interpretation of the findings or the results of the study (Roberts & Hyatt, 2019). One limitation of this study was sample size. I only had 16 participants, which is only a fraction of the population of ninth-grade teachers

in Tennessee. I attempted to mitigate this limitation by selecting my initial key participants from all three regions across Tennessee so that my sample would be more representative of the overall population of ninth-grade teachers in Tennessee and more generalizable to Tennessee teachers.

Another limitation of the study was the number of participants who agreed to participate in the interview. I could not control who would be willing to spend more time and allow me to interview them via Google Meet. As a result, I collected less data via interview than I did via questionnaire; however, by triangulating the data and collecting data to saturation, I minimized the influence of this limitation on the trustworthiness of the study.

The delimitations of the study were the limits that I placed on the study to narrow the scope of the study (Creswell & Creswell, 2018; Roberts & Hyatt, 2019). One delimitation of this study was the sample only included ninth-grade teachers. I limited the study in this way because researchers found student engagement decreased dramatically when students transitioned from middle school to high school (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). Additionally, how students performed academically in ninth grade predicted their academic success for the rest of high school and college and even predicted their success later in life (Davis et al., 2022). This made ninth grade a crucial year for student engagement, which influenced students' academic success (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012).

Another delimitation was that I used a snowball sampling including social media, Facebook, to obtain participants for the study. Because, as the researcher, I

could not reach out to individuals myself, these data collection methods limited the participant pool for the study. The sample for the study was limited to the Tennessee teachers provided by the other participants in the study and to the Tennessee teachers who happened to see my Facebook post. As stated in the limitations section, I mitigated any threat to trustworthiness caused by this delimitation by selecting initial participants from each of the three regions of Tennessee (i.e., West, Middle, and East Tennessee) and by opening my Facebook post to any Tennessee ninth-grade teacher whose students regularly used internet-based tools or digital learning platforms.

Merriam and Tisdell (2016) identified snowball sampling as the most common form of purposeful sampling that allowed a researcher to identify qualified participants. By using snowball sampling, I was able to more reliably identify qualified teachers to see if they were interested in participating in the study. By starting the snowball sampling with six initial participants from across the state and by making a post on Facebook, I increased the population size of participants who had the opportunity to fill out my Google Forms questionnaire.

A third delimitation was that I limited the participants of the study to teachers who regularly used internet-based learning tools and digital learning platforms. As defined in Chapter I, the term, regular use, refers to the use of internet-based learning tools and digital learning platforms at least three out of five days of the week. I decided to limit the study in this way because the gap in the literature specifically related to student engagement in classrooms after the paradigm shift to 1:1 technology and increased use of internet-based learning tools (DeGennaro & Kookogey, 2020; TN Department of Education, 2020).

Teachers who used internet-based learning tools and digital learning platforms less often than they used traditional instructional practices were not as qualified to observe the impact of the paradigm shift on student engagement.

A fourth delimitation was the limited geographical scope of the study: the state of Tennessee. I chose to limit the study to the state of Tennessee because after face-to-face instruction resumed in the Fall of 2020, many Tennessee school districts shifted to 1:1 technology policies and increased student use of internet-based learning tools and digital learning platforms (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). Since the study was looking at student engagement in the post-COVID classrooms where students used internet-based tools, Tennessee teachers were qualified participants to provide insight into student engagement during internet-based learning.

Even though I limited the scope of the study to Tennessee, the results of the study could still benefit all educators whose students use internet-based learning tools. Due to the paradigm shift in education to 1:1 technology and internet-based learning tools that occurred after COVID-19, most students in the world experienced some isolation, which could have decreased mental health and student engagement, and increased PIU and IA (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Houghton et al., 2022; Jiao et al., 2020; Lee, 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Singh et al., 2020; Villani et al., 2021; Viner et al., 2020; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). Schools all over the world participated in the paradigm shift from traditional school to more internet-based

learning; therefore, the experiences and perceptions of Tennessee teachers were helpful for understanding the experiences and perceptions of teachers all over the world who experienced similar events and challenges in the post-COVID classroom.

Assumptions of the Study

Roberts and Hyatt (2019) defined assumptions as factors related to a study the researchers assumed were true. In this study, I assumed participants answered the questionnaire and interview items truthfully and accurately. If participants completed the questionnaire, I assumed they taught ninth grade in Tennessee and their students used internet-based learning tools or digital learning platforms at least three days a week. I also assumed teachers' answers to the open-ended questionnaire items were reflective of what actually occurred in their classrooms.

Additionally, I assumed the sample collected was representative of other ninth grade teachers in Tennessee who regularly use internet-based learning tools and digital learning platforms with their students. By opening the social media post to any ninth-grade teacher in Tennessee and beginning with initial participants from each of the three regions in Tennessee, I assumed the sample included a representative sample of ninth grade teachers across the state of Tennessee.

As discussed in Chapter II, researchers found the following strategies to be effective for increased student engagement when students were exposed to internet-based learning tools before and during the COVID-19 pandemic:

- Positive teacher-student relationships (Hews et al., 2022)

- Teacher-student interaction during the lesson (Hews et al., 2022; Kostaki & Karayianni, 2022).
- Positive student-student relationships (Chiu, 2022; Furrer & Skinner, 2003; Wang et al., 2012; Wentzel et al., 2010).
- Peer interactions and grouping during the lesson (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021)
- Teacher enthusiasm about the subject and lesson (Hews et al., 2022).
- Students' digital competency (Hews et al., 2022).
- Lessons requiring critical thinking or creativity (Bray et al., 2021).
- Teacher feedback to students (Bray et al., 2021).
- Inclusion of relevant, real-world scenarios and applications of the lesson (Senn & Wessner, 2021).

I wanted to understand if these strategies were effective for teachers in the *post-COVID* classroom when teachers were *regularly* using internet-based learning tools and digital learning platforms to teach their students; therefore, I based my questionnaire items and interview protocol on these research-based factors that increased student engagement.

In conclusion, researchers agreed increased depression, anxiety, IA, and PIU negatively influenced student engagement (Gumora & Arsenio, 2002; Liverpool et al., 2023; Olivier et al., 2020; Onukwuli et al., 2023; Roeser et al., 2002; Totura et al., 2014; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Moreover, student engagement decreased during the school closures associated

with COVID-19 due to increased depression, anxiety, IA, and PIU among adolescents (Liverpool et al., 2023; Onukwuli et al., 2023; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Researchers found each of these factors remained elevated after students returned to school (Liverpool et al., 2023; Onukwuli et al., 2023; Wang et al., 2021; Zhao et al., 2023; Zhou et al., 2020). Consequently, I assumed participants in the study encountered students dealing with these mental health issues in the post-COVID classroom and could provide insight into the overall state of student engagement considering these factors. The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

Summary of Methodology

In Chapter III, I described the qualitative research design I utilized, my role as the researcher, and the participants involved in the study. I utilized a qualitative, interpretive study design to explore the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used and support needed by those teachers, in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. Sixteen qualifying ninth grade Tennessee teachers filled out the Google Forms questionnaire (see Appendix B), and five participants agreed to let me interview them about student engagement while their students were using internet-based learning tools. I used an interview protocol (see Appendix D) to guide my

synchronous, online interviews and recorded the interviews on Google Meet. As soon as possible after each interview, I transcribed the interviews verbatim and used those transcriptions when coding.

I was the sole researcher involved with the study, and I created the questionnaire and interview protocol, collected the data via snowball sampling including social media, Facebook, using the Google Forms questionnaire, six initial participants from across the state of Tennessee, and a Facebook post. I conducted interviews of any participants who indicated their willingness to be interviewed in questionnaire item 10. I recorded the synchronous, online interviews I conducted via Google Meet and later transcribed the interviews verbatim. Working from the questionnaire responses and interview transcriptions, I analyzed the data using the coding process described by Merriam and Tisdell (2016) to find open codes, identify themes or axial codes within the open codes, and create selective codes to answer the research questions. Although my experience as a ninth-grade teacher introduced potential bias, I mitigated that bias by triangulating the data and collecting data to the point of saturation via multiple methods from across the state of Tennessee.

Next in Chapter III, I delineated the data collection methods I used: snowball sampling including social media via questionnaire and online, synchronous interviews. I also identified the instruments I used to collect data: a Google Forms questionnaire and a semi-structured interview protocol. After creating the questionnaire and interview protocol based on the literature on student engagement before, during, and after the school closures associated with COVID-19, I conducted a pilot study for both instruments and made any

necessary changes based on the results of the pilot study. After applying for and receiving IRB permission, I sent the questionnaire to six initial key participants across the state of Tennessee. I used snowball sampling to continue collecting data from participants recommended by the initial participants. I also used social media and made a post on Facebook open to any ninth-grade teacher in Tennessee whose students regularly used internet-based learning tools and digital learning platforms. I sent the questionnaire to 77 ninth grade teachers across the state of Tennessee and received questionnaire answers from a total of 16 participants. Using Google Meet, I conducted online, synchronous interviews of five ninth-grade teachers about student engagement while their students were using internet-based learning tools or digital learning platforms. I used the interview protocol (see Appendix D) to guide my interviews and maintain consistency.

Later in Chapter III, I discussed how I ensured the trustworthiness of the study by triangulating the data, collecting data to the point of saturation, using the same questionnaire and interview protocol for all participants, and using direct quotes of the participant responses to accurately reflect the experiences of ninth grade teachers in Tennessee. To analyze the data, I used the coding techniques described by Merriam and Tisdell (2016). I started by open coding the data to develop axial codes and find themes in the data. Using those axial codes, I developed selective codes that answered the three research questions.

Lastly, I identified the limitations and delimitations of the study as well as my assumptions related to the study. The limitations of the study were related to the number of participants who filled out the questionnaire and the number of participants who agreed to let me interview them. I had no control over whether a

participant chose to fill out the questionnaire or agreed to allow me to interview them. The delimitations of the study were the parameters I placed on the study. I limited the study to ninth-grade teachers due to the research showing that ninth grade is a crucial year for student engagement (Davis et al., 2022). I limited the study to teachers who regularly used internet-based learning tools and digital learning platforms with their students because the gap in the literature specifically involved student engagement in the post-COVID classroom where students regularly used internet-based learning tools. I limited the study to Tennessee ninth-grade teachers due to the paradigm shift to internet-based learning that occurred in many school districts in Tennessee after the school closures associated with COVID-19 (Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; Webb et al., 2021).

I also used snowball sampling to collect the data and identify qualified participants. By using snowball sampling, I used the participants' knowledge of colleagues and acquaintances to identify qualified participants for the study more easily. By using six initial participants from across the state of Tennessee and by making a Facebook post open to all Tennessee ninth-grade teachers, I reached participants from a wider geographic region. These methods made it more likely that the sample was representative of the population of Tennessee ninth-grade teachers whose students regularly used internet-based learning tools and digital learning platforms. As a result, the results of the study were more generalizable to any teacher who regularly used internet-based learning tools with their students. I assumed that all participants who completed the questionnaire provided honest,

reflective, and accurate answers to the questionnaire and interview items. I also assumed the research on student engagement was sound and true and based my questionnaire and interview protocol on that research. I analyzed the data collected via Google Forms questionnaire and online, synchronous interviews to better understand student engagement in post-COVID, Tennessee ninth-grade classrooms and to find answers to research questions one, two and three. I described the results from this data analysis in Chapter IV.

Chapter IV: Analyses and Results

The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. In Chapter II, I reviewed the literature on student engagement before, during, and after the COVID-19 related school closures, which revealed a gap in the literature on student engagement in the post-COVID classroom Researchers agreed student engagement decreased during the time in-person school was cancelled due to COVID-19 and pointed to the decline in mental health, including an increase in PIU and IA, among adolescents during the school closures as a contributing factor to the decrease in student engagement (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). To address the gap in the literature related to student engagement in post-COVID classrooms, I decided to investigate Tennessee ninth-grade teachers' perceptions of student engagement in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis.

As discussed in Chapter III, I decided to focus on Tennessee because many districts in Tennessee shifted to 1:1 technology policies and increased use of internet-based learning tools and digital learning platforms when students returned to face-to-face instruction in the Fall of 2020 (DeGennaro & Kookogey,

2020; TN Department of Education, 2020). I further narrowed my focus to ninth grade teachers because researchers agreed student engagement declined when students transitioned from eight to ninth grade (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). Moreover, researchers found ninth grade student engagement was crucial because academic success in ninth grade predicted the likelihood of graduation, post-secondary success, and even career success (Davis et al., 2022).

I developed three research questions and collected data using a Google Forms questionnaire and online, synchronous interviews conducted via Google Meet. I used snowball sampling to recruit participants and sent out emails and made a Facebook post to start the snowball sampling process across the state of Tennessee. I sent emails to two initial participants in each region of Tennessee: West Tennessee, Middle Tennessee, and East Tennessee. Additionally, I posted the participant invitation request and link to the questionnaire on Facebook. I asked initial participants to recommend other potentially qualified participants and emailed those potential participants to invite them to be a participant in the study. I also asked those potential participants to provide recommendations of other teachers who qualified for the study and invited those teachers to participate.

I continued this process for the two and a half weeks that the questionnaire was open. In total, I sent out 77 emails, but I had no way of knowing how many potential participants saw my Facebook post. I received 16 valid questionnaire responses and conducted five online, synchronous interviews. Both the questionnaire items and the interview items addressed all three research questions.

I focused the questionnaire items on Fredricks et al.'s (2004) definition of student engagement as a multidimensional construct consisting of the three dimensions of student engagement: emotional, behavioral, and cognitive. I focused the interview items on the strategies and factors researchers reported influenced student engagement during internet-based learning during the school closures associated with COVID-19. In Chapter IV, I described the process I used to analyze the data I collected via the Google Forms questionnaire and online, synchronous interviews, and how I used the data to answer my three research questions.

Data Analysis

I analyzed the data as the questionnaire responses came in using the coding process laid out by Merriam and Tisdell (2016). For the interview responses, I analyzed verbatim transcriptions of the interviews using the same method. I described the analysis process for both below. The questionnaire and interview responses helped me, as the researcher, answer my three research questions.

Questionnaire

As responses to the questionnaire began to come in, I carefully protected the confidentiality of all participants by assigning each questionnaire response a number (Q1) and removing any identifying email address from the printout I used to complete the data analysis. I analyzed the data as it came in by printing out the responses to questionnaire items 1-8, removing the last two questionnaire items so that I could not connect a specific email to a specific response when coding. I read the responses and highlighted any words or phrases that provided insight into the answers to my research questions. I used open coding to analyze the raw data,

looking for relevant words or phrases that were pertinent to each research question and recording them on an Excel spreadsheet. I analyzed the data for each research question separately and grouped similar words and phrases together as I entered them into the spreadsheet. Using this technique, I entered the open codes for research questions 1, 2, and 3 into the first column of the spreadsheet, separating the open codes by research question.

Then I grouped the open codes into similar categories called axial codes. I entered the axial codes into the second column of the Excel spreadsheet across from the related open codes. Lastly, I used those axial codes to complete selective coding and identified themes that helped answer each research question. I entered the selective coding into the third column of the Excel spreadsheet across from the axial codes that contributed to that selective code.

I collected data until I reached saturation or until I stopped finding new information during analysis (Merriam & Tisdell, 2016). I reached saturation of the data, meaning I stopped getting new information, after I received 15 legitimate responses. After reaching saturation, I sent reminder emails and posted a reminder on Facebook, informing potential participants that they only had one more week to respond. I left the questionnaire open for one more week and received one more valid response. After two and half weeks and 16 responses, I determined that I had reached saturation and closed the questionnaire. Although this was a relatively low response rate, I reached saturation for all three research questions.

Interviews

In questionnaire item 10, I asked participants if they were willing to participate in online, synchronous interviews via Google Meet. Five participants

agreed to participate in the interviews. Immediately after each interview, I collected the transcript of the Google Meet and used the Google Meet recording to check the transcript for accuracy and make any necessary corrections. To further protect participant confidentiality, I assigned each interviewee a number, which I used during data analysis and to report the data. After I created a verbatim transcript of each interview, I used the same coding techniques I used for the questionnaire to analyze the transcripts. I read the transcripts and highlighted any words or phrases that provided insight into my research questions. I added open codes into the first column of the Excel spreadsheet for each research question. Then I grouped similar open codes and looked for patterns or repetition of similar ideas to create axial codes that contributed to answering each research question. I added the axial codes to the second column of the Excel spreadsheet and used them to develop selective codes or themes to answer each research question. I entered the selective codes into the third column of the spreadsheet; I created selective codes for each research question separately using the coding process.

Research Questions

I developed three research questions for the purpose of understanding the perceptions and experiences of ninth-grade Tennessee teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. I created and used a 10-item Google Forms questionnaire and a 6-item interview protocol to answer the three research questions. In the following sections, I described the analysis process I used and the results of the analysis for each research question.

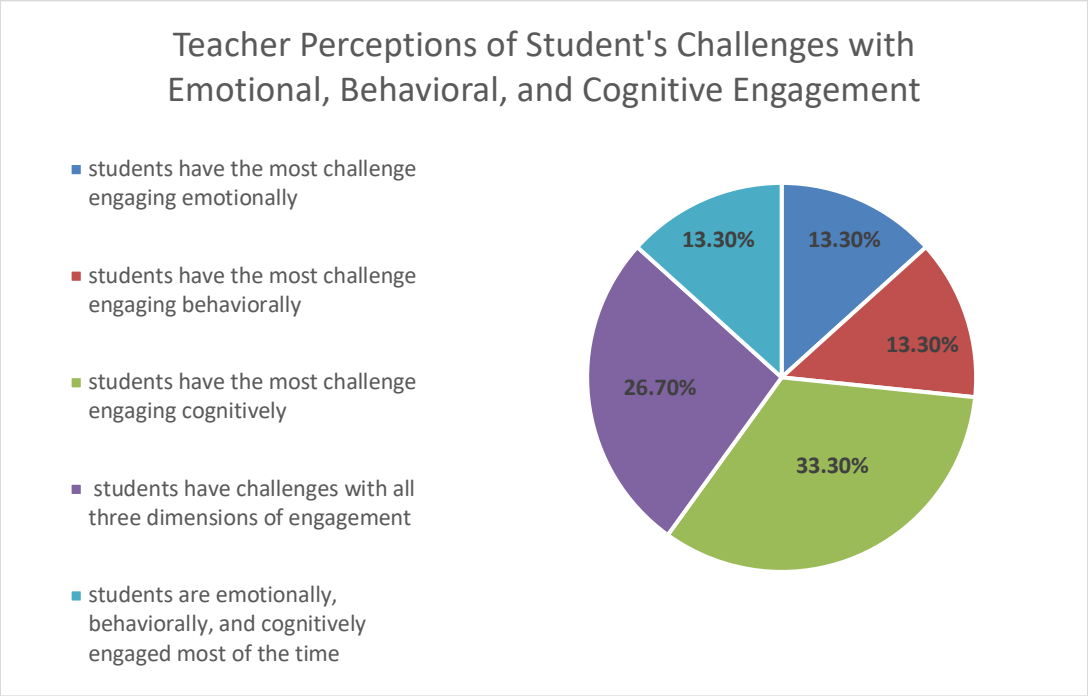
Research Question 1

What were Tennessee ninth-grade teachers' perceptions of students' emotional, behavioral, and cognitive engagement in classrooms where students regularly used internet-based learning tools and digital learning platforms?

The following theme emerged from the coding process: Tennessee ninth grade teachers agreed students were challenged in all three dimensions of student engagement, especially cognitive engagement. (See Appendix E). To help me answer Research Question 1, I used questionnaire items 1-6 on the Google Forms questionnaire and items 1-4 on the interview protocol. When asked which, if any, dimensions of student engagement students seemed challenged by when they were using internet-based learning tools, 87.7% of participants indicated their students faced challenges with at least one of the three dimensions of student engagement. Only 13.3% reported their students were emotionally, behaviorally, and cognitively engaged most of the time. Figure 3 provided a visual of the percentage of participants who indicated their students faced challenges with each dimension of engagement in Tennessee ninth grade classrooms where students used internet-based learning tools or digital learning platforms on a regular basis.

Figure 3

Teachers' Perceptions of Students' Engagement Challenges



Regarding emotional engagement, many ninth-grade students in Tennessee were emotionally disconnected from their peers and teachers when using internet-based learning tools or digital learning platforms, unless the tool they were using was gamified or allowed them to compete with their peers. To be specific, 62% of participants discussed students' isolation from other students and teachers when using internet-based learning tools or digital learning platforms as problematic for students' emotional engagement. For example, participant Q13 said, "Students are emotionally less connected with each other and don't know how to handle stressful situations." Comparatively, participant Q3 observed, "Students seem secluded when doing internet-based learning tasks. Even when they are grouped for an assignment or task, unless I assign specific roles, they simply divide the workload, go to their own space, and work alone." Similarly,

participant Q1 explained because “internet-based tools are less cooperative,” when given a preference, “students put in EarPods and listen to music.” Participant Q4 described a “lack of social interaction” during internet-based learning and further explained, “they seem not to interact with the students around them.” Interview participant 2 described students’ hesitancy to join in class discussions saying, “It’s almost like you have to force interaction from [students] because they would rather be behind that screen.” Interview participant 3 agreed, “I really haven’t seen much collaboration between students in an internet platform.”

Not only did participants comment on students’ isolation from their peers, but they also discussed a lack of students’ interactions with the teacher. As an example, participant Q5 said internet-based learning tools “can distance teachers and students from each other.” Participant Q16 described this phenomenon saying,

> Students often times view the internet-based activities as a separation of relational learning. Students can often isolate themselves from peers and the teacher when working. It can sometimes make for a somewhat negative overall emotional experience for the individual.

Participant Q16 also noted this isolation from the teacher makes “students feel as if they cannot learn the concepts or materials when asked to be more independent in the learning via these activities.” Comparatively, interview participant 3 discussed the influence of increased use of internet-based learning tools on student-teacher relationships saying, “I feel a divide between teachers and

students where that engagement, the relationship building, kind of falls to the wayside." Even interview participant 4, who reported overall positive student engagement worried about the decrease in one-on-one communication between teachers and students: "I don't feel I have as much one to one face time with them when it comes to writing. I'm not meeting with them as much." In summary, Tennessee ninth grade teachers thought students were isolated from their teachers when using internet-based learning tools or digital learning platforms and reported the isolation was problematic for students' emotional engagement.

Not only did participants agree students seemed isolated, but participants also reported students in post-COVID ninth grade classrooms in Tennessee lacked a desire to learn and viewed assignments as something to complete as quickly as possible rather than an opportunity to investigate something interesting. In participants' responses, 34.8% of participants mentioned students were less emotionally invested in learning and did not have a desire to learn; instead, students worked to finish assignments as quickly as possible. For example, participant Q2 stated "the desire to learn seems to be nonexistent compared to previous years." Likewise, participant Q7 observed, "Some students see internet activities as an easy way to rush and click and just get done quickly instead of taking their time." Participant Q14 agreed saying, "The students are more focused on completing the assignment and not actually learning the math." Participant Q14 continued, "They don't seem to care about what they are learning. It's like they are just trying to check the box that they completed the assignment."

Comparatively, participant Q3 described students lack of curiosity: "They seem to be satisfied finding the answer and moving on versus spending time to

learn about the concept." Interview participant 4 discussed this lack of enthusiasm to learn but said it was specific to students in the on-level classes: "with my college prep kids, it's like pulling teeth to get them to want to do it. They're like 'I feel like this is a waste of time." Similarly, participant Q10 described students as "indifferent" when learning using internet-based tools, except for gamified learning programs. This lack of curiosity and a desire to learn reflected decreased emotional engagement.

As an exception to this emotional disconnect, participants observed students were emotionally engaged when internet-based learning tools included a game-like format or some type of competitive aspect that allowed the students to compete with their peers. In total, 62.5% of participants discussed the positive influence of gamified learning and competition with peers on students' emotional engagement. Many participants agreed with participant Q8 who said, "students like the interactiveness of the internet due to the gamification aspects of many online learning tools." For instance, participants mentioned the following gamified platforms specifically: Kahoot, Pear Deck, Quizlet, Quizizz, and Gimkit. Participant Q10 said, "Students are more engaged emotionally when they are participating in game-like activities where they compete against one another." For example, participant Q10 continued, "Students are more positively engaged when we complete quiz games such as Quizlet or Quizizz. Also, students are engaged when we complete break-in review activities where students have to answer riddles to find the vocabulary term and analyze primary resources." In a similar statement, interview participant 2 commented the "internet activities that we use

in my classes that the kids are more engaged with are all game type of things where they are in some kind of competition that is very fast-moving."

Interview participant 2 was not alone in saying any kind of competition increased emotional engagement. For instance, Participant Q16 explained,

> I had students complete a campaign for an organelle election in one class, and the students had to post campaign smears and promote their organelle in comments on the class stream. The students were really excited and were ecstatic to post replies to their peers.

Similarly, participant Q7 observed students' positive emotional engagement when "students are able to be in a more competitive style on some of the online formats, so they are competing against their peers." Participant Q11 described using a review game:

> Students were simultaneously answering questions and racing their characters to the top of the course. The students were extremely engaged in this game. They would get so frustrated when their characters fell to the bottom, and they would get so excited when they were in the lead.

Ninth grade teachers in Tennessee agreed gamified learning tools and competition with peers increased students' emotional and behavioral engagement.

Aside from gamification, another positive influence of internet-based learning tools on students' emotional engagement was the anonymity provided by internet-based platforms, which increased the emotional engagement of students

who are reluctant to share in front of their peers. Two participants, or 12.5% of participants, described this positive influence. They said the anonymity some internet-based tools provided made some students, who were previously reluctant to express their opinions in front of their peers, more enthusiastic about sharing their ideas with the class. For example, participant Q2 said, "technological incorporation has led to students being able to anonymously vote, peer review, and reflect" which has resulted in "lower anxiety about reviews and feedback." Likewise, interview participant 4 said,

> My favorite thing about using the Study Sync platform is a peer review option and the anonymity of that because they don't know who it is. So, there's less room for judgement and criticism because they don't know who it is. So, they're very honest, and it kind of removes that subjective barrier they have when they are interacting with their peers . . . and gives them the anonymity of not having to show their face and who they are when expressing their opinion.

Even though this idea of anonymity was not mentioned by enough participants to be a major theme, it was worth including in the results as a possible positive influence on emotional engagement.

In summary, Tennessee ninth grade teachers agreed students faced challenges with emotional engagement during internet-based learning due to isolation from peers and teachers. Moreover, teachers observed a general lack of desire to learn among ninth grade students. Conversely, Tennessee ninth grade

teachers agreed gamified learning platforms and platforms that provided anonymity increased students' emotional engagement.

Regarding behavioral engagement, ninth grade Tennessee teachers perceived students faced challenges with behavioral engagement, primarily due to internet distractions, in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. Participants provided descriptions of students' behavioral engagement in their responses to questionnaire items 1, 3, and 5 and interview item 3. Only 13.3% of participants specified students' faced challenges primarily with behavioral engagement. Even so, when including the participants who indicated their students had challenges with all three dimensions of engagement, 40% of participants said their students had challenges with behavioral engagement. Participant Q1 described students' tendency to behaviorally disengage: "Students are motivated to engage with peers, though not always in ways that make content and skills a priority." Participant Q7 observed, "Speaking in general terms, internet-based activities have lower behavioral engagement more than paper-based activities." Likewise, participant Q8 noted, "Many times students need to be redirected to work on their online work due to the distractions around them: other students, Google chat, games, etc." Similarly, participant Q12 said,

> I have noticed poor behavioral engagement when using internet-based learning tools. This is really seen in self-directed learning programs like Edgenuity or specific content area programs, like Study Sync used in English. In my classroom, we try not to use programs where a student would work by themselves.

Comparatively, participant Q16 stated, “Conduct in class can often times be less productive as students can often times become distracted with just being in front of a computer screen the entire time. . . their attentiveness can be less than optimal.” Participants described some students’ as being distracted by non-academic interactions with their peers and having a lack of attentiveness; however, participants unanimously blamed students’ behavioral disengagement on internet distractions. In addition to students being distracted by talking to their peers, general lack of attentiveness, and boredom, participants reported students main distraction was other internet activities such as social media, music, movies, YouTube, Tik Tok, and Google Chat.

Internet distractions caused ninth grade Tennessee students to behaviorally disengage from learning when they were using internet-based learning tools and digital learning platforms. Not only did 40% of participants comment on student challenges staying behaviorally engaged, but 100% of questionnaire participants discussed students having problems with internet distractions. Participant Q3 specified, “Chat apps, gaming websites, work for other classes they can access online are all distractions to my students while they are working online.” Participant Q5 blamed “the cacophony of unfiltered information on the internet” for distracting students from learning. Similarly, participant Q6 commented, “The internet is rich in content, and sometimes content attracts [students] inadvertently, so their minds are not on what we are learning.” Echoing that same sentiment, participant Q7 said “participation decreases because they have the ability to be distracted on their device.”

Other participants described the specific kinds of internet distractions keeping students from engaging and how hard it was to determine when students were disengaged. Participant Q9 and Q10 said students were distracted by online games, and participant Q10 added, “Students also like to message chat with each other. They appear to be working, and then when you look on Go Guardian, they are chatting with a friend in another class or watching videos on YouTube.” Participant Q11 also mentioned that “it is easy for [students] to look like they are still working on an assignment or activity on their computer when they are not.” Participant Q11 specified students were actually “chatting with friends, watching videos, and playing games.”

Comparatively, participant Q12 said, “I see students in my classroom becoming distracted by opening other windows and engaging in other websites and programs such as YouTube or online gaming, rather than engaging in the content of the internet-based learning.” Participant Q13 wrote about the struggle to keep students on task and engaged saying, “Often times they are quieter and appear to be working when they are playing games, watching videos, or cheating through Google searches and AI assistance.” Participant Q14 also stated students “get distracted easily by the availability of the internet and tend to get off task watching videos, listening to music, or they are on TikTok.” Participant Q16 specified, “If there are not any parameters on the search engines of the computers being used, then students will often times try to disengage from the material and instead listen to music, watch videos, or visit other social media sites.”

Furthermore, participant Q8 called internet-based tools a “double edged sword” saying, “students enjoy the interaction with using online tools; however,

this makes it easier for students to become distracted with games or Google chat." In talking about class discussions, interview participant 2 said, "We have to make the kids close their computers because if they don't, they will not pay a bit of attention." Even participant Q2, who reported students were emotionally, behaviorally, and cognitively engaged most of the time said, "If students are using platforms like Google, sometimes they find themselves going down a rabbit hole of not engaging and being off task."

Overwhelmingly, participants thought students' behavioral engagement was negatively influenced by internet distractions. Although ninth grade Tennessee teachers described a few distractions that were unrelated to using the internet, 100% of teachers blamed behavioral disengagement during internet-based lessons on other non-academic internet distractions. Participants listed a variety of internet distractions like YouTube, social media, music streaming platforms, internet-based games, Google Chat, and Tik Tok. These distractions caused students to behaviorally disengage.

Regarding cognitive engagement, students were not self-directed learners and were unwilling to think critically or engage in complex problem solving. For example, 43.5% of participants reported students were not self-directed learners, and 80% of participants reported students were unwilling or unable to think critically or complete tasks involving complex problem solving. Participant Q7 referred to students' cognitive engagement as "non-existent" saying when a task or concept "is more complex or when they truly aren't sure what to do, it's so easy to just select an answer online than actually try the problem." Participant Q11 described students' persistence during complex problem solving: "I feel

students are more likely to give up if they are on their computers, and they think I will not see." Participant Q1 also reported the "multiple choice format" of some internet-based tools "allows for and even encourages more guessing."

Likewise, participant Q11 described students' reactions to complex concepts saying, "I find most students are not self-directed learners and do not want to exert much effort to understand complex ideas." Participant Q12 described students' cognitive engagement in almost identical words: "The students I work with have difficulties with self-directed learning and getting them to exert the necessary effort required to understand complex concepts is almost impossible." Similarly, participant Q13 said, "On challenging activities, they give up very quickly and won't or don't know how to problem solve what to do when they cannot quickly get the right answer." Interview participant 2 said students "have a hard time inferencing and coming up with details on their own. When we're just giving them hints of things, they actually have to figure out, it's really hard for them, and I think that their problem-solving skills have absolutely been impacted." Not only did Tennessee ninth grade teachers notice students' inability or unwillingness to think critically and problem solve, but they also observed students' overreliance on the internet for providing solutions to questions they did not immediately know the answers to.

Specifically, 18.75% of participants said students relied on the internet for answers rather than exerting the effort to think critically to solve complex problems. Interview participant 3 reported, "a lot of students do not try as hard. When it comes to things like problem solving and critical thinking, they actually use the internet more than they would just rely on their own prior knowledge." In

a similar statement, interview participant 2 observed students "do not know how to critical think and really to problem solve without computers." Interview participant 2 explained students "are not actually critical thinking. They are using the internet to try and help them come up with the answers and ideas, and we have huge issues going on right now with AI and ChatGPT." In a similar statement, participant Q13 said students "have been cheating in assignments more frequently." Participant Q5 discussed the consequences of students' overreliance on computers for finding the answers saying, "Knowledge on the internet is unearned, which leaves students lacking the ability to learn on their own." On the whole, Tennessee ninth grade teachers perceived students relied on the internet rather than on their critical thinking skills to solve complex or unfamiliar problems.

Some participants differentiated between honors students and on-level students, saying that ninth grade Tennessee honors students were more likely to be cognitively engaged, and on-level students were more likely to face challenges with cognitive engagement. Overall, 31.25% of participants said that most honors students were cognitively engaged during internet-based learning, but on-level students were less likely to cognitively engage. Participant Q10 differentiated between the two levels saying, "For college prep students, the less motivated students will have cognitive engagement only if it is a game-like activity or if an incentive is offered." In contrast, "AP students are self-directed learners . . . It appears they genuinely want to learn the information and will do whatever is necessary to accomplish the task."

Similarly, participant Q15, speaking about cognitive engagement, said, "The stronger the class, the better they do. My honors class loves learning; my lower classes need more help." Interview participant 4 also differentiated between honors students and college prep or on-level students:

> I think the level of the student affects their willingness to critical think and use technology to critical think. My CP class, they're hesitant, but my honors kids, they're like 'I can do this. I'm capable of this. I'm going to use this tool to the extent to push me to this critical thinking.

Interview participant 5 said for students who are "highflyers, I believe that the internet-based activities do push the critical thinking a little bit more." Interview participant 5 contrasts that with what most students do when faced with a complex problem saying, "most of our students would just skip over those problems because it does require a little bit more in-depth thinking." Participant Q16 discussed another difference in students: "Students who seem to like the subject and are more intrinsically motivated typically utilize the internet-based activities as a means to do more self-directed learning." In contrast, "students who are just trying to get a credit can often times not exert the necessary effort required to understand complex concepts." Tennessee ninth grade teachers noted honors or AP students were more self-directed and more cognitively engaged than many on-level students.

In summary, Tennessee ninth grade teachers agreed students faced challenges with emotional, behavioral, and cognitive engagement. Teachers blamed emotional disengagement on students' isolation from peers and teachers

and a lack of desire to learn. Teachers perceived students' challenges with behavioral engagement during internet-based learning were primarily caused by internet distractions. Furthermore, Tennessee ninth grade teachers perceived students faced substantial challenges with cognitive engagement during internet-based learning, which limited their willingness and ability to think critically and solve complex problems. In response to these engagement challenges Tennessee ninth grade teachers employed a variety of strategies in an attempt to counteract distractions and re-engage students in learning when using internet-based learning tools or digital learning platforms. Research Question 2 asked participants to describe the strategies they used to engage students emotionally, behaviorally, and cognitively.

Research Question 2

What strategies did Tennessee ninth-grade teachers use to emotionally, behaviorally, and cognitively engage students who regularly used internet-based learning tools and digital learning platforms?

I used questionnaire item 7 and interview items 2-5 to answer research question 2. As I read the questionnaire responses and the interview transcripts, I analyzed the data using the coding process described earlier in this chapter and developed selective codes that answered Research Question 2. The following theme emerged from coding process for Research Question 2: Tennessee ninth grade teachers used a variety of strategies engage students during internet-based learning such as combining internet-based learning with more traditional instruction, monitoring students for internet distractions, grouping students, and using real-world scenarios (see Appendix F).

One strategy Tennessee ninth grade teachers used was to combine internet-based learning with more traditional, face-to-face learning to keep students behaviorally and cognitively engaged. Teachers described alternating between the two and asking students to close computers when the internet-based learning tools were not in use. In all, 56% percent of participants used the strategy of switching between internet-based activities and more traditional face-to-face learning during the same lesson to keep students engaged. For example, participant Q1 said, "I alternate use of computer/internet-based texts and tasks with others in print, video, graphic novel, or excerpts from other thematically related sources." Likewise, participant Q3 and Q16 talked about doing a few steps online and then switching to a class discussion before moving on. For instance, participant Q16 said, "I try to make sure the class is broken up into segments where we may be utilizing our electronic devices, and other times we just use class discussion while using whiteboards and dry erase markers." Participant Q13 explained when "giving group examples and directions, student laptops are closed."

Comparatively, participant Q14 recommended teachers "limit the time the students spend on the internet-based activities" because "students still need to interact with each other." Echoing that, interview participant 2 said, "When we are trying to have class discussions, we have to make the kids close their computers because if they don't, they won't pay one bit of attention to what you are saying." Interview participant 3 mentioned designing lessons that "pair an internet-based activity with a traditional approach to education." Similarly, interview participant 4 specified, "I like to try to make sure that [students] are

given the opportunity with assignments that are not so technologically based." Discussing ways to re-engage students during the middle of an assignment, interview participant 5 described telling students "Okay, we are putting our Chromebooks away right now," and then starting a class discussion. No matter the specific activities, Tennessee ninth grade teachers recommended alternating internet-based learning with more traditional instructional activities during the same lesson to keep students engaged emotionally, behaviorally, and cognitively.

Another technique commonly mentioned by ninth grade Tennessee teachers was using monitoring programs like Go Guardian or monitoring students by walking around the room to keep students behaviorally and cognitively engaged. Teachers verbally redirected disengaged students to get them back on task. Most participants mentioned using a digital monitoring program; however, some felt the programs were no longer effective because students had discovered ways around them.

That being said, 62.5% of participants said they either used a computer monitoring system and/or walked around the classroom while students worked, redirecting students who were distracted and off-task. As an example, participant Q12 explained, "Moving around the classroom during these times so I can see the screens of my students helps to keep them engaged." Similarly, participant Q16 said, "When students begin work on their devices to practice the concepts, I make sure to walk around the room periodically and ask small groups and individuals how they are doing."

Conversely, Participant Q13 said "using blocking software that allows only one website where they are working" makes it harder for students to engage

in other, unrelated internet-based activities. In similar fashion, interview participant 2 described using internet-based blocking software: “We block certain things. That way they can only look at what we want them to, so if they are answering questions that ask them to problem solve, I may block everything except for the questions and the story.” Participant Q7 combined these approaches: “I monitor the room to be sure students are behaviorally engaged. On online platforms, such as IXL and Quizizz, I monitor students’ accuracy in real time to be sure they are engaged cognitively, and then I assist as needed.”

Similarly, participant Q8 used the “Go Guardian app and vocal redirection” to keep students engaged. Identically, Q11 said, “I use Go Guardian to monitor what they are doing and redirect them when necessary.” Interview participant 4 specifically mentioned using Go Guardian with her on-level students during group work: “I’ll use Go Guardian, or I’ll go walk around the room and kind of monitor to make sure that it's good conversation occurring.”

In short, Tennessee ninth grade teachers monitored students using blocking software or by walking around the room and redirected off-task students to behaviorally reengage them. Additionally, teachers stopped and talked with students as they walked around the room to help students connect with the material and cognitively engage in learning.

Another strategy ninth grade Tennessee teachers used to emotionally and cognitively engage students in learning was student collaboration and group work. Even though participants talked about how hard it was to get students to collaborate on the lesson, 37.5% percent of participants specifically mentioned using group work as a strategy to engage students. For instance, participant Q1

said, “At least half the work is collaborative or supported through peer review.” Likewise, participant Q4 recommended using “peer review and collaborative learning to support engagement.” Participant Q10 relied heavily on collaborative learning when students used internet-based learning tools, saying “We do work as a class. Very rarely do I have them do anything digital completely on their own.”

Comparatively, participant Q16 said,

> I try to make sure that students have the opportunity to work together in pairs or groups when we are learning and practicing concepts in class. If students can feel supported by their peers, then, emotionally, they seem to be more confident and less isolated.

Interview participant 5 explained letting students work in groups allowed students to “learn to do the concepts together, which is a great teaching tool. The more they’re teaching each other, the better they’re learning the material.” Interview participant 4 described a similar approach: “I would have them take a skill assignment on Study Sync, and then pick up their computers and go get with a partner or group and work through that assignment together.” Teachers used group work and collaboration to allow peer interactions and increase emotional engagement. Additionally, teachers used collaborative learning to increase cognitive engagement by allowing students to both teach other students and learn from other students.

Not only did teachers use group work to increase emotional and cognitive engagement, ninth grade Tennessee teachers also included real world examples of the concepts students were learning that were relevant to the ninth-grade age

group to engage students emotionally and cognitively. Approximately one third of participants mentioned the importance of making the material relevant to students to engage them in the learning. Participant Q1 discussed the importance of "looking for reasons for students to care about or connect to the reading." Similarly, participant Q10 explained, "I try to incorporate opinion questions in the digital notebook, so hopefully that helps them to connect with the material."

Comparatively, participant Q14 said, "Students need to apply the math they are learning to something meaningful to them, so they want to learn more about a topic." Participant Q15 stressed the same dynamic: "You have to select topics that are relevant to the group, so they are interested in learning." Giving an example of using relevant, real-world topics in class, interview participant 1 said,

> I try to apply it to real world situations or something they can relate to. So as an example of that, the first semester I did a disease research poster project. So, they will pick a bacterial disease and they will make a pamphlet or poster about it. Then they will present that to the class. So, that requires them to be both creative and also use interactive tools for research and think critically about whatever disease they have chosen.

Along the same lines, participant Q10 clarified,

> I try to engage my students emotionally by choosing websites, video clips, pictures, or other visual information that brings a human representation to the charts or graphs we are studying. They are more engaged when their heart strings are tugged.

No matter the specific lesson, Tennessee ninth grade teachers looked for ways to include real, relevant scenarios in the lesson to engage students emotionally so that students wanted to engage cognitively.

Another strategy ninth grade Tennessee teachers used to positively influence students' emotional and behavioral engagement was using internet-based, gamified platforms. As discussed earlier in this chapter, participants reported gamified learning engaged students in learning. Participants discussed how gamified learning engaged students both behaviorally and emotionally due to the competition aspect of many of the games. In the interest of not being too repetitive, I did not repeat those statements here; however, I added a few participant statements not used earlier in this chapter. For example, participant Q9 said they "make academic activities lively and interesting by playing academic games with the students." Moreover, participant Q13 recommended "using games, when possible," adding "My kids love a competition!" Clearly, ninth grade students loved the competitive aspect of gamified learning, and teachers used students' excitement to encourage emotional and behavioral engagement during internet-based lessons.

An additional strategy for emotional engagement related to teacher enthusiasm for the subject matter and the internet-based activity. Only one participant described the influence teachers' enthusiasm has on students' enthusiasm and, in turn, on students' emotional engagement. Interview participant 4 described their enthusiasm for the digital learning platform they used in class and said,

> Because the students' saw me enthusiastic about it, they were like, 'Maybe this isn't so bad after all.' Versus if I would have been like 'This sucks,' they would have been like 'This sucks. I don't like this.' I think my enthusiasm kind of rubbed off onto the students.

Despite the fact that only one participant discussed this concept of teacher enthusiasm, I thought the strategy worth mentioning since it was a successful strategy mentioned in the literature.

In summary, participants used diverse instructional strategies to engage students emotionally, behaviorally, and cognitively during internet-based learning. To emotionally engage ninth grade students, teachers used grouping and collaborative learning, gamified learning tools, and real-world examples as part of their lessons. To behaviorally engage students, teachers alternated using internet-based tools with more traditional teaching strategies, asked students to close computers during times the internet-based tools were not in use, monitored students and redirected off-task students, and used gamified learning platforms in their lessons. To cognitively engage students, teachers alternated internet-based learning with more traditional instruction, redirected off-task students by engaging them in conversation about the lesson, grouped students to allow them to collaborate, and used real-world examples to increase students' engagement. Tennessee ninth grade teachers who used these strategies reported improvements in each dimension of students' overall engagement during internet-based learning. Research Question 3 asked participants to describe further training or support they needed from instructional leaders to help them engage students in learning.

Research Question 3

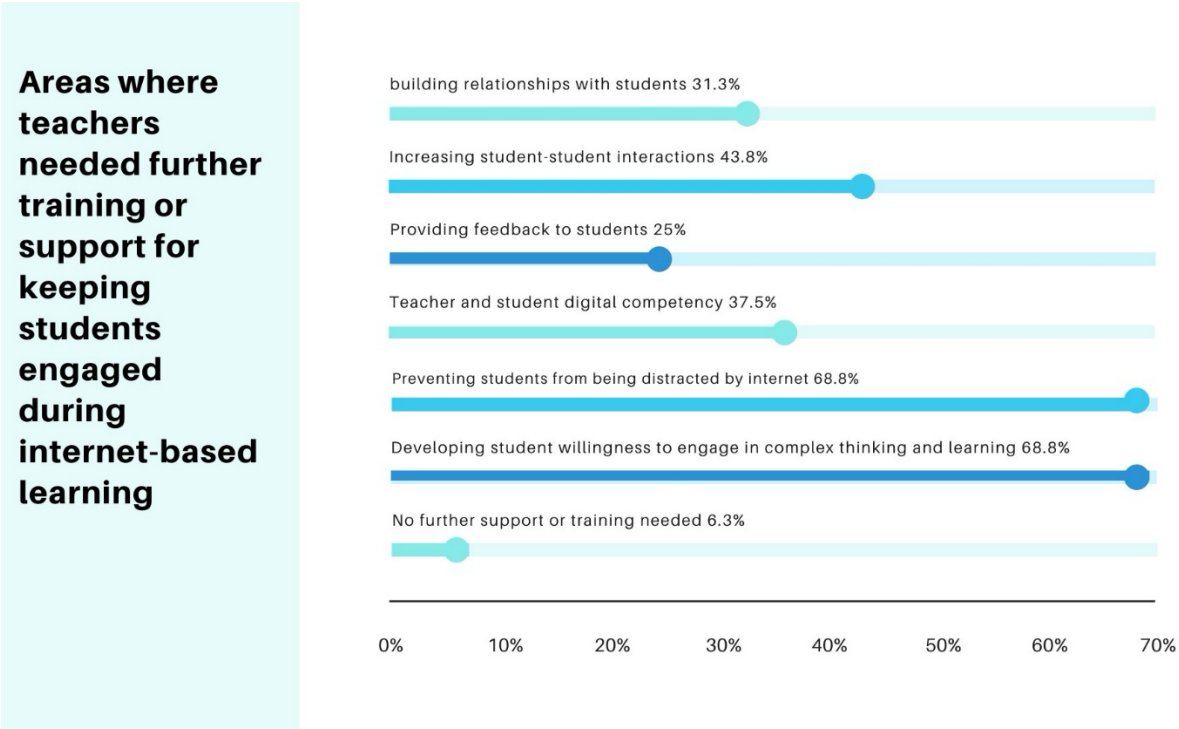
What further support did Tennessee ninth grade teachers need for increasing students' emotional, behavioral, and cognitive engagement in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis?

To answer Research Question 3, I used questionnaire item eight and interview item six. The following two themes emerged from the coding process: Tennessee ninth grade teachers needed instructional leaders to provide further support and training in many different areas related to student engagement. The two areas most participants wanted further training or support for were preventing students from being distracted by other internet-based activities and developing student willingness to engage in complex thinking and learning (see Appendix G).

Tennessee ninth grade teachers needed instructional leaders to provide further support and training in many different areas related to student engagement. Out of sixteen questionnaire participants, 93.75% of participants needed further support and training from instructional leaders to help students emotionally, behaviorally, and cognitively engage in learning. Figure 4 is a bar graph showing how participants responded to questionnaire item eight in which I asked participants about what support or training they needed from instructional leaders to help them engage students using internet-based learning tools and activities. As indicated in Figure 4, not only did 93.75% of participants need further support and training, but 50% of participants also felt they needed further training or support in three or more areas.

Figure 4

Support and Training Needed to Increase Student Engagement



The two areas most participants wanted further training or support for were preventing students from being distracted by other internet-based activities and developing student willingness to engage in complex thinking and learning. These areas of need were consistent with what participants talked about on other questionnaire and interview items. As discussed earlier, 100% of participants described internet distractions as contributing to decreased behavioral and cognitive engagement when using internet-based learning tools. When asked what further support or training instructional leaders should provide, interview participant 2 said, “I would like to have better blocking software. The one we have is really lacking as far as the capabilities of what it can do.” When describing a lack of enthusiasm for using internet-based learning tools, interview

participant 1 said, “Even if you have an app like Go Guardian, they’re still finding ways around that.” Additionally, more participants indicated problems with cognitive engagement and complex problem-solving skills than any other area of engagement, so it made sense that 68.8% of participants indicated needing further support and training on developing students’ willingness to engage in complex thinking and learning.

Participants were also able to write-in areas of support not included in the list on the questionnaire, and interview item six was an open-ended question about what further support teachers needed. In response to questionnaire item eight, participant Q7 wrote they needed more training and support in “student motivation.” Additionally, Participant Q16 expressed a need for further support and training in “how to challenge students to use their knowledge of technology as a resource for learning and not just cheating.” In response to interview item six, interview participants 1 and 3 described needing further support and training in how to effectively use AI in the classroom. Furthermore, interview participants 2 and 4 mentioned the need for existing technology to be more reliable. Interview participant 2 expressed frustration with existing internet-based learning platforms: "I would really love if I make a lesson on my computer that it would actually work when I went to use it.” Interview participant 2 went on to describe several instances of issues with technology that interrupted learning due to software, hardware, or internet access not working.

Conversely, interview participant 4 discussed the need for better student devices: “Better Chromebooks or even an iPad option would be wonderful because a lot of students have issues with their computers.” Interview participant

4 also mentioned a need for charging hubs in the classrooms due to the number of times students come to class with a device that has not been charged or that has run out of charge. Lastly, interview participant 5 thought teachers needed extra training on all the "bells and whistles in internet-based activities" saying they "could be beneficial, but it's almost like teachers have to discover it as they go through it."

Only participant Q2 or 6.25% of participants felt they did not need further support or training to help engage students using internet-based learning tools and activities. All other participants, including interview participants, mentioned at least one area in which they needed further training or support from instructional leaders. Most importantly, a majority of participants expressed the need for instructional leaders to help them learn to combat the problem of internet distraction and to teach students to think critically and solve complex problems.

Summary of Results

After completing the data analysis for Research Question 1, I concluded ninth grade Tennessee teachers agreed students faced challenges with emotional, behavioral, and cognitive engagement. Specifically, teachers thought students were isolated from peers and teachers during internet-based learning and lacked a desire to learn. Furthermore, teachers agreed students were more engaged when using gamified learning tools with a competition component. Additionally, teachers agreed students were often distracted by other internet activities when they were supposed to be using internet-based learning tools or digital learning platforms. Lastly, many teachers thought on-level students were unable or

unwilling to be self-directed learners or to think critically and often gave up or cheated when asked to solve complex problems.

After completing the data analysis for Research Question 2, I concluded Tennessee ninth grade teachers used a variety of strategies to increase student engagement during internet-based learning. Specifically, teachers alternated between internet-based learning tools and more traditional teaching strategies to keep students engaged. They used group collaboration to increase student-student interaction and increase students' self-efficacy with the support of their peers. Teachers monitored students using software or by walking around the room to catch students who were distracted and redirect them to the task at hand. Teachers also used real-world examples to make the learning more relevant to students as well as gamified internet-based tools to increase student enthusiasm and participation. After analyzing the data for Research Question 3, I found teachers needed further support and training in a variety of areas related to student engagement. The two most critical areas teachers said they needed instructional leaders to provide training and support for were preventing students from being distracted by internet activities and developing students' willingness and ability to engage in complex thinking and learning.

In Tennessee ninth grade classrooms where students used internet-based learning tools and digital learning platforms on a regular basis, students struggled to stay emotionally, behaviorally, and cognitively engaged in learning. Additionally, teachers used a variety of strategies to help students engage in learning, but teachers felt they needed further support and training in several areas related to student engagement. In Chapter V, I provided a discussion of the study

including implications for practice, recommendations for further research, and conclusions of the study.

Chapter V: Discussion of the Study

The school closures associated with COVID-19 negatively influenced students' engagement and mental health (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Nakach et al., 2021; Orgilés et al., 2020; Salta et al., 2021; Wang et al., 2021; Wester et al., 2021; Zhou et al., 2020). During the school closures, the isolation and stress caused by pandemic-related school closures, societal shutdowns, and fears about COVID-19 resulted in a crisis for adolescent mental health (Hamatani et al., 2022; Jiao et al., 2020; Liverpool et al., 2023; Monnier et al., 2021; Naff et al., 2022; Nakach et al., 2021; Orgilés et al., 2020; Wang et al., 2021; Zhou et al., 2020). Among other things, adolescents experienced a dramatic increase in problematic internet use (PIU) and internet addiction (IA) (Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). This isolation and increase in PIU and IA negatively influenced students' engagement in learning during the time students were learning from home (Bray et al., 2021; Chiu, 2022; Domina et al., 2021; King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021).

When students returned to face-to-face instruction, the number of students struggling with PIU and IA were still elevated (Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). At the time of this study, there was limited research related to student engagement after the return to school (King et al., 2020; A. Singh & Srivastava, 2021). Another key factor influencing student engagement upon students return to school was the paradigm shift that occurred in

education to 1:1 technology policies and increased use of internet-based learning tools and digital learning platforms (DeGennaro & Kookogey, 2020; Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; TN Department of Education, 2020; Webb et al., 2021).

I designed this study to address the gap in the literature related to student engagement after students returned to face-to-face instruction, which in Tennessee was the fall of 2020 (TN Department of Education, 2020). In 2020, many students in Tennessee returned to a vastly different model of education where every student had a computer and much of the instruction and learning happened on those computers (DeGennaro & Kookogey, 2020; Shelton, 2020; Tennessee Commission on Education Recovery and Innovation, 2020; TN Department of Education, 2020). Fredricks et al. (2004) noted student engagement was malleable and changes in instructional strategies and school environment could influence students' engagement. The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. In Chapter V, I discussed the results of my study for each research question.

Research Question 1

During the school closures associated with COVID-19, researchers investigated students around the globe and found students' emotional engagement declined most during the COVID-19 school closures (Acosta-Gonzaga & Ruiz-

Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021). Wester et al. (2021) found an overall negative shift students' engagement in the United States during the school closures due to COVID-19. Specifically, the researchers concluded the negative shift in overall student engagement was primarily driven by decreased emotional engagement (Wester et al., 2021). The researchers also identified shifts in behavioral and cognitive engagement, but the overall engagement score for those two dimensions remained relatively the same (Wester et al., 2021). Consequently, I was surprised to find more teachers in post-COVID ninth grade classrooms in Tennessee felt students faced challenges with cognitive engagement than with emotional engagement. Specifically, 33.3% of participants indicated students struggled most with cognitive engagement compared to only 13.3% who said students struggled most with emotional engagement. Moreover, taking into consideration that 26.7% of participants felt students faced challenges in all three dimensions of engagement, 60% of participants indicated students had trouble cognitively engaging, and 40% indicated students faced challenges emotionally engaging.

In Chapter II, I discussed the relationship between cognitive and emotional engagement. Pentaraki and Burkholder (2017) helped explain my findings; they found cognitive engagement was an antecedent of emotional engagement. Researchers explained for students to feel positive emotions about learning, they first needed to have a positive view of their own self-efficacy and ability to be self-directed (Pentaraki & Burkholder, 2017). In my study, 43.5% of participants said students lacked the ability to be self-directed learners. This lack of cognitive engagement in students may have contributed to their lack of desire

to learn that 34.8 % of participants described when commenting on students' emotional engagement.

Sixty-two percent of participants reported students seemed isolated from one another and had less interaction with their teachers when using internet-based learning tools. This finding corroborated Kearney and Maakrun (2020) and Salta et al. (2021), who noted a reduction in student-student and student-teacher interactions when students were using internet-based learning tools. I found 40% of participants felt their students struggled to be emotionally engaged in learning. This also lined up with what researchers said, namely that a decrease in student interactions with teachers and peers caused a decline in students' emotional engagement (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021).

Although I expected participants to discuss the decrease in student interactions with peers and teachers, I was surprised at the number of participants who described students as isolated from one another, even when they were tasked to work together in groups. This sense of isolation participants observed, along with the fact that 40% of participants indicated their students had challenges with emotional engagement, confirmed the findings of researchers who found a sense of belonging and relationships with peers and teachers influenced students' emotional engagement (Connell & Wellborn, 1991; Gillen-O'Neel, 2019; Havik & Westergard, 2020; Margolius et al., 2020). What surprised me was teachers reported students continued to seem to feel isolated from one another even though they had fully returned to face-to-face learning. This finding further confirmed researchers' findings that internet-based learning often resulted in a reduction of student-student interactions and teacher-student interactions, which negatively

influenced emotional engagement (Kearney & Maakrun, 2020; Mestan, 2019; Salta et al., 2021).

In the past, researchers found internet-based learning tools increased student engagement and cited one of the main reasons was the gamification aspect of many of the internet-based learning tools (Harper, 2009; Neumann & Hood, 2009). In contrast, researchers reported as internet-based learning tools increased in popularity, using them sometimes resulted in students becoming disengaged in learning (Kearney & Maakrun, 2020; Salta et al., 2021). Accordingly, 62.5% of participants reported their students were extremely engaged in learning when the internet-based tool they were using had a gamified format that allowed them to compete with their peers.

In contrast, 86.6% of participants reported students faced challenges with at least one dimension of engagement. Taken together, one can deduce these engagement challenges occurred when students were using internet-based learning tools or platforms that were not gamified. The startling percentage of 86.6% of teachers reporting challenges with students' engagement surprised me because Wang and Peck (2013) found only 37% of students in their study faced challenges in at least one dimension of engagement. Although my study focused only on ninth grade students and Wang and Peck (2013) studied American students from their ninth-grade year through their first year after enrolling in college, the contrast between 37% and 86.6% was surprisingly drastic and warrants further research.

Another striking result of my study was 100% of participants said students struggled with behavioral engagement due to internet distractions when using

internet-based learning tools. This corroborated researchers' findings in several areas. First, researchers at the Gonski Institute for Education (2020) found 67% of Canadian educators and 84% of Australian educators reported technology was increasingly a distraction in the learning environment rather than a benefit. Second, researchers found PIU and IA increased dramatically during the COVID-19 school closures and remained elevated after students returned to face-to-face instruction (King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). Moreover, researchers found PIU and IA negatively influenced students' engagement in learning (Awan & Khan, 2017; Buzzai et al., 2021; Y. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). Perhaps even more importantly, researchers found when students were required to use technology in their learning, the temptation to multi-task increased exponentially, limiting students' engagement (Kearney & Maakrun, 2020). Taking all of these findings into consideration, students' engagement was substantially and negatively influenced by internet distractions during internet-based learning. Furthermore, students could not be emotionally, behaviorally, or cognitively engaged when they were completely off-task and disengaged from the lesson by playing games, watching YouTube, Google chatting with friends, watching Tik Tok, or any of the other internet distractions participants mentioned.

I found 60% of participants reported students faced challenges cognitively engaging in learning. Specifically, 33.3% reported students primarily struggled with cognitive engagement, and 26.7% reported students struggled with all three dimensions of engagement. In contrast, Wang and Peck (2013) found only 13% of

students were cognitively disengaged and 14% were challenged by all dimensions of engagement. Although the studies were not identical, the percentages in my findings related to students' cognitive engagement were triple that of Wang and Peck (2013) , and what I found related to challenges in all three dimensions of student engagement were almost double that of Wang and Peck (2013). This substantial increase in the percentages of students facing engagement challenges, particularly cognitive engagement challenges, suggested the paradigm shift in education may have substantially influenced student engagement.

As an example of these cognitive engagement challenges, 80% of participants in my study reported students were unwilling or unable to think critically and solve complex problems. This corroborated researchers' findings that when students read online or took notes on a lap-top, they lacked depth in their cognitive processing (Kearney & Maakrun, 2020; Mueller & Oppenheimer, 2014; Uncapher & Wagner, 2018). After Tennessee schools increased use of internet-based learning tools and digital learning platforms in post-COVID classrooms, ninth grade Tennessee teachers reported students' lack of ability or willingness to cognitively engage by thinking critically or problem solving. While I was not surprised to find students were challenged in this area, I was surprised how dire the teachers reported the level of cognitive engagement to be. Teachers used words like *non-existent* to describe students' cognitive engagement and *impossible* to describe trying to get students to solve complex problems. Tennessee ninth grade teachers seemed overwhelmed and discouraged by students' lack of cognitive engagement.

As an exception to the low cognitive engagement participants reported for most students, some participants differentiated between honors or AP students and on-level students, saying honors and AP students did not face the same challenges with cognitive engagement that other students did. This finding corroborated researchers' assertions that students with a positive view of their own self-efficacy and ability to be self-directed learners had higher engagement in learning (Fredricks et al., 2004; Pentaraki & Burkholder, 2017). Honors students typically feel more confident in their ability to learn, so it made sense that honors students' positive view of their own self-efficacy would extend to learning using internet-based learning tools as well.

Although researchers found students' emotional engagement to be the most negatively influenced during the COVID-19 school closures, I found in post-COVID ninth grade classrooms, students had the most challenges with cognitive engagement (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; Salta et al., 2021; Wester et al., 2021). Additionally, many students faced challenges with all three dimensions of student engagement, which corroborated researchers' findings on the negative influence of PIU and IA and of internet-based learning on students' engagement (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018). Tennessee ninth grade teacher agreed students faced substantial challenges in all three dimensions of student engagement. Participants also provided information about strategies they found to be effective for engaging ninth grade students in learning. I discussed the results related to strategies teachers used in my discussion of Research Question 2.

Research Question 2

Although participants reported numerous problems with student engagement in Tennessee ninth grade classrooms where students use internet-based learning tools on a regular basis, participants also reported successful strategies for dealing with these challenges. For instance, 56% of participants reported success with alternating between internet-based learning tools and more traditional teaching strategies. Participants said students were much more attentive and likely to stay on task when they spent time in group discussions or whole class activities with their computers closed in between times of using internet-based learning tools. Although I did not find anything in the literature to support this alternating approach, these findings were consistent with the findings of other researchers who concluded a sense of connectedness to one's peers positively influenced emotional engagement (Chiu, 2022; Furrer & Skinner, 2003; Wang et al., 2012; Wentzel et al., 2010).

In my study, 37.5% of participants used collaboration and group work to increase student engagement. This approach was in line with researchers' findings that student-student and student-teacher interaction positively influenced students' engagement (Bray et al., 2021; Fredricks et al., 2004, 2019; Lam et al., 2014; Skinner & Belmont, 1993; Wang & Peck, 2013). Furthermore, whole class discussions also gave teachers time to interact with students over the content of the lesson. This approach also corroborated researchers' findings that interactions with the teacher about the content of the lesson was crucial for positive student engagement (Senn & Wessner, 2021). Participants reported a decrease in both student-student and student-teacher interactions when using internet-based

learning tools. As a solution to that problem, the strategy of alternating between using internet-based learning tools and collaborative group work or whole class discussions helped to negate the negative of internet-based learning on students' engagement.

Another strategy participants described using was including real-world applications in the lesson to make the content more relevant to students. One-third of participants discussed using this approach successfully to increase students' engagement during internet-based learning. Senn and Wessner (2021) recommended this strategy after studying student engagement during the COVID-19 school closures. The researchers found students were more likely to overcome problems with engagement if they felt the lesson was relevant to their lives and useful in the real-world (Senn & Wessner, 2021). Accordingly, participants in my study reported when students were emotionally connected to the lesson due to its relevance to their lives, students' overall engagement increased.

A fourth strategy 62.5% of participants used, which I did not find in previous literature, was monitoring students to catch them if they got distracted by other internet activities and then redirecting students back to the content of the lesson. Some participants mentioned using internet-based monitoring programs, like Go Guardian, which allowed teachers to see the screen each student is looking at on the teacher's computer. Although teachers reported using these programs, they criticized the effectiveness of this approach for two reasons. One reason was because students figured out workarounds so that the programs either could not access their screens or could not see the actual screen students were viewing. The second reason participants reported not liking the tools was they had

to stay glued to their computer and could not interact with the students when they were working independently.

Comparatively, some teachers mentioned monitoring students by walking around the room. These participants found this strategy more effective than using an internet-based monitoring tool since they could still interact with students, but they also noted difficulties catching students who simply switched back to the correct tab when they saw the teacher approaching. Teachers were frustrated by how difficult it was to monitor students. Even so, teachers also said that having conversations with students about the assignment as they redirected them to re-engage behaviorally also helped with cognitive engagement. This corroborated the findings of researchers who agreed increased teacher-student interactions also increased cognitive engagement (Bray et al., 2021; Fredricks et al., 2004, 2019; Lam et al., 2014; Skinner & Belmont, 1993; Wang & Peck, 2013).

Strategies recommended by researchers but not mentioned by participants in my study included making sure students were competent on the internet-based learning platform being used in the class, making sure teachers gave timely feedback, and creating lessons that encouraged critical thinking or creativity (Bray et al., 2021; Hews et al., 2022). No participants discussed ensuring students' digital competency as a strategy they used; however, 37.5% of participants said they needed further training and support for increasing teacher and student digital competency.

Only one teacher mentioned the instant feedback students get from some internet-based programs as positively influencing students' emotional engagement. In contrast, Bray et al. (2021) did not recommend internet-based

feedback, but instead discussed the necessity of teacher-student feedback and peer feedback during the lesson. Twenty-five percent of participants said they needed further support and training to help them with providing feedback to students during internet-based learning.

Additionally, no participants specifically mentioned creating lessons that encouraged critical thinking and creativity when discussing strategies used; however, many of the participants expressed difficulties and frustrations during lessons requiring students to think critically. Consequently, I deduced teachers were using this strategy with limited success. Another strategy recommended by researchers but not mentioned by participants was providing introductory lessons that gave students background knowledge before asking them to work independently on the lesson (Senn & Wessner, 2021). Since participants in my study did not mention these strategies that researchers found to be effective, I deduced that Tennessee ninth grade teachers may need training on these strategies to make them aware of the possible positive influence on student engagement.

Hews et al. (2022) also discussed the importance of a teachers' pastoral care for students and the positive influence of that care on students' engagement. No teachers made any comments about the importance of showing students they cared about them as people for improving students' engagement; however, 31.3% of participants requested further training and support for building relationships with students when using internet-based learning tools. This request may indicate teachers are aware of the possible benefits of pastoral care but need more help finding the time or means to provide the care.

Lastly, Hews et al. (2022) discussed the importance of teacher enthusiasm for students' engagement. Researchers said the more enthusiastic teachers were about the lesson, the more engaged students were (Hews et al., 2022). I asked teachers about their enthusiasm level when teaching using internet-based learning tools and got a mixed response. Only one participant mentioned the positive influence their excitement and enthusiasm had on students' engagement, and interestingly, that participant was one of two participants who reported internet-based learning tools had a positive influence on student engagement. I found Tennessee ninth grade teachers may not have been aware of how their attitude influenced students' attitudes toward learning. Participants did ask for further support and training in several areas. I reported these requests in my discussion of Research Question 3.

Research Question 3

Participants reported needing further training and support in a variety of areas; however, the two principal areas they needed support and training in were preventing students from being distracted by the internet and developing student willingness to engage in complex thinking and learning. In both areas, 68.8% of participants said they needed further training and support. The desire for help with internet distractions corroborated researchers' findings that in the post-COVID years, many students were dealing with PIU and IA and that increased use of the internet worsens both conditions (Blasi et al., 2019; Ilesanmi et al., 2021; Khubchandani et al., 2021; King et al., 2020; Lin, 2020; Servidio et al., 2021; Siste et al., 2020; Sun et al., 2020). Not only that, but it also corroborated researchers' findings that when students were required to use internet-based

learning tools, they were more likely to be distracted by other internet-based activities (Kearney & Maakrun, 2020). Researchers agreed these distractions caused a decrease in student engagement, and my findings echoed that relationship (Buzzai et al., 2021; Y. Li et al., 2019; A. Singh & Srivastava, 2021; Yeap et al., 2016; Zhang et al., 2018).

Participants also reported needing further support and training in developing student willingness to engage in complex thinking and learning. This request was in line with participants' descriptions of low cognitive engagement in ninth grade classrooms where students regularly use internet-based learning tools and digital learning platforms. I did not find research related to the impact of internet-based learning on students' ability to think critically or solve complex problems; however, researchers found students' cognitive processing was not as good when they were reading and taking notes on the internet (Kearney & Maakrun, 2020; Mueller & Oppenheimer, 2014; Uncapher & Wagner, 2018). Additionally, researchers found lessons that encouraged critical thinking increased students' engagement (Bray et al., 2021). Therefore, participants accurately selected one helpful strategy for further training and support to help them increase students' cognitive engagement during internet-based learning, which was the dimension of student engagement participants reported as the most challenging for students.

In this section, I discussed my findings and related them to the literature I discussed in Chapter II. In summary, I found Tennessee ninth grade teachers thought students were challenged by all three dimensions of student engagement but struggled most with cognitive engagement. Additionally, participants reported

one of the main problems contributing to decreased emotional engagement was a lack of student-student and student-teacher interactions when students were using internet-based learning tools. I found teachers thought students lacked a desire to learn and participate unless they were using a gamified learning tool. I also found 100% of participants thought students were often behaviorally disengaged because they were distracted by other internet activities. Consequently, most participants wanted further training and support to prevent students from being distracted by the internet. Moreover, I found participants thought students were unable or unwilling to think critically or engage in complex problem solving, and participants wanted further training and support to learn to help students rediscover their ability to do so.

Additionally, participants used several strategies for increasing student engagement including alternating between internet-based learning and more traditional teaching strategies like collaborative group work and whole class discussions. Participants also planned internet-based lessons that included real-world applications that made the content more relevant to students' lives. Also, participants monitored students to catch distracted students and redirect them, using internet-based monitoring programs and walking around the classrooms. Lastly, participants used gamified learning platforms to engage students in learning. In the next section, I described the practical implications of my findings for teachers and instructional leaders.

Implications for Practice

The paradigm shift to increased use of computers and internet-based learning that began prior to the COVID-19 related school closures and accelerated

because of the school closures resulted in new challenges for teachers and students related to student engagement (DeGennaro & Kookogey, 2020; Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; TN Department of Education, 2020; Webb et al., 2021). I focused my study on the perceptions of Tennessee ninth grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. In this section, I discussed the implications of the results of the study for teachers and instructional leaders.

Ninth grade teachers should use the findings of my study to help them assess the needs of their students related to student engagement and to inform the teaching strategies they use to engage their students emotionally, behaviorally, and cognitively during internet-based learning. Instructional leaders should use the findings of my study to plan further training related to student engagement to help teachers tackle the challenges of teaching in this new educational paradigm of internet-based learning. Furthermore, instructional leaders should use the findings of my study to shape the ways they support teachers as they navigate this new way of teaching and learning and attempt to create engaging lessons and learning environments for all students. I organized the implications section by listing implications for teachers. After each implication I provided a justification and explanation of the implication. Next, I listed the implications for instructional leaders and provided justification and explanation for each implication. I

discussed ten implications for teachers and six implications for instructional leaders.

Implications for Teachers

Teachers bear the responsibility of changing their instructional strategies to meet the needs of their students and recognizing when students are not fully engaged in the lesson. Based on the findings of my study, I have listed ten implications for practice, which ninth grade teachers should consider using with their students. For each one, I listed the implication and provided a brief explanation of the related findings and the reasoning behind the suggestion.

Ninth grade teachers should be intentional about using strategies that engage students emotionally, behaviorally, and cognitively when students are using internet-based learning tools and digital learning platforms. Furthermore, ninth grade teachers should pay particular attention to students' cognitive engagement. Over time, researchers found students' engagement declined when they transitioned from eighth grade to ninth grade (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). Additionally, Davis et al. (2022) found student engagement was especially crucial for ninth graders because students' academic success in ninth grade predicted students' academic success in the future. This success included students' likelihood of graduation, success in post-secondary education or training programs, and even success in students' professional lives. I found ninth grade students in Tennessee who regularly used internet-based learning tools were challenged in every dimension of student engagement, particularly cognitive engagement. Specifically, 87.7% of participants indicated students faced challenges with at least one dimension of

student engagement, and 26.7% of participants said students faced challenges in all three dimensions of student engagement.

Additionally, 33.3% of participants said students were most challenged cognitively. When describing students' cognitive engagement, 43.5% of participants reported students' inability to be self-directed learners, so teachers should provide extra support and interaction with students who struggle to complete assignments independently. Only 13.3% of participants said students were not challenged emotionally, behaviorally, or cognitively. The participants in my study made specific observations about each dimension of student engagement that have implications for teaching practice.

Teachers should provide daily opportunities for critical thinking, complex problem solving, and creativity to positively influence students' cognitive engagement. A startling 80% of participants in my study said students lacked the ability or desire to think critically. Teachers should be aware students may have a decreased willingness and ability to think critically or engage in complex problem solving. I found ninth grade teachers should also be aware on-level students may have more trouble engaging cognitively than honors students. Conversely, researchers found lessons that required students to think critically and be creative increased cognitive engagement (Bray et al., 2021). Furthermore, teachers should structure these critical thinking opportunities to include extra teacher support to increase students' confidence and willingness to engage in critical thinking and problem solving. Participants in my study reported students were more likely to engage in learning when they were working in groups than when they were working independently. Teachers should structure these critical thinking and

creative opportunities to include group activities to foster students' positive feelings about self-efficacy, particularly with students who are on-level academically.

To positively influence emotional and cognitive engagement during internet-based learning, ninth grade teachers should provide plentiful opportunities for group work, whole class discussion, peer feedback, teacher feedback, and relationship building with students. The participants in my study reported internet-based learning tools and digital learning platforms limited students' opportunities to interact with their peers and teachers, and as a result, students often seemed isolated from one another and from teachers during learning. Sixty-two percent of participants in my study discussed isolation from other students and from teachers as problematic for students' emotional engagement. Researchers also emphasized the importance of teacher-student and student-student interactions for positive emotional engagement, noting not only the quality of the interactions mattered, but also the quantity of interactions (Hews et al., 2022; Kostaki & Karayianni, 2022). Researchers found personal relationships with teachers and knowing teachers cared about their students were crucial to students' emotional engagement (Chiu, 2022; Hews et al., 2022; Kostaki & Karayianni, 2022). Moreover, my participants reported students learned best from other students and were more cognitively engaged when working with and learning from other students. Accordingly, teachers need to mitigate the lack of interaction during internet-based learning with careful lesson planning that incorporates the strategies mentioned above.

Additionally, teachers should consider alternating between internet-based learning tools and more traditional teaching strategies to provide those opportunities for interaction and feedback and keep students emotionally, behaviorally, and cognitively engaged. Fifty-six percent of participants reported using this strategy to keep students engaged in learning. Not only did teachers say this strategy helped students stay behaviorally engaged and focused on the lesson, but it also provided opportunities for group work and class discussions, which enhanced both emotional and cognitive engagement. Teachers should plan lessons to intentionally switch back and forth between internet-based learning tools and group work, discussions, and creative projects. As a result, students will be less bored and less likely to become distracted by non-academic internet-based activities.

To make allowances for shy students, ninth grade teachers should also make sure to provide avenues for students to anonymously participate in discussion boards, Pear Deck sessions, or peer feedback. In my study, 12.5% of participants reported an increase in behavioral and emotional engagement for shy students when they were using internet-based tools that allowed them to participate in class discussions or give peer feedback anonymously. For instance, whole class discussions might include both face-to-face verbal discussions and an internet-based Pear Deck session, which allows students to use virtual post-it notes to respond to discussion prompts. This scenario allows the group dynamic to lend confidence to shy students as well as more outspoken students.

Ninth grade teachers should use internet-based learning tools with gamified learning capabilities and should provide opportunities for students to

compete with one another in game-like formats to increase emotional and behavioral engagement. I found students were emotionally and behaviorally engaged when they were using gamified learning tools that allowed them to compete with their peers. Of the ninth-grade teachers who participated in my study, 62.5% reported students were more behaviorally and emotionally engaged when using gamified learning tools. Moreover, researchers found the gamification aspect of many internet-based learning tools contributed to positive student engagement in learning (Neumann & Hood, 2009). Teachers should use these tools and include them in internet-based lessons.

Ninth grade teachers should include real-world applications in internet-based lessons so that students find the material relevant and are more emotionally and cognitively engaged. I found 34.8% of participants described students as lacking a desire to learn. Conversely, participants in my study corroborated researchers' findings that students were more likely to be emotionally and cognitively engaged in learning when the lesson included real-world applications that were relevant to students' lives (Senn & Wessner, 2021). I found students had more desire to learn when the lesson included real-world scenarios or affected students emotionally. Moreover, this desire to learn translated into increased cognitive engagement because students were more curious about the subject matter and wanted to investigate and talk about it.

To increase behavioral engagement, teachers should closely monitor students by walking around the classroom or using monitoring software when students are using internet-based tools. Additionally, to cognitively re-engage distracted students in the lesson, teachers should redirect students by asking

students if they need help or engaging students in conversations about the assignment. This strategy will allow teachers to catch students early when they become distracted and redirect them to the learning task in a way that also creates opportunities for teacher-student interaction. Researchers agreed PIU and IA were at an all-time high when students returned to face-to-face instruction after the COVID-19 shutdowns (Adibelli & Sumen, 2020; Al Omari et al., 2020; C. Y. Chen et al., 2021; Dong et al., 2020; Duan et al., 2020; Gomez-Galan et al., 2020; Omer et al., 2021; Salzano et al., 2021; Sun et al., 2020; Zengin et al., 2021). Additionally, researchers found PIU and IA negatively influenced student engagement (Awan & Khan, 2017; Buzzai et al., 2021; Y. Li et al., 2019; Servidio et al., 2021; A. Singh & Srivastava, 2021; Wang et al., 2011; Xin et al., 2018). I found ninth grade students were often distracted by other internet activities when they were supposed to be using internet-based learning tools. One hundred percent of participants in my study said internet distractions caused their students to disengage behaviorally and cognitively. To combat these distractions, 62.5% of participants used monitoring and redirecting as a strategy to increase behavioral and cognitive engagement.

Comparatively, *teachers should monitor students closely and use blocking software or ask students to close their computers when the lesson calls for more complex thinking and learning.* This strategy prevents students from automatically taking the easy was out and looking up answers or using AI to generate answers. As artificial intelligence continues to become increasingly more common, there will be new educational opportunities and challenges for teachers and students. One challenge my study participants discussed was the temptation of students to

simply look up answers on the internet or ask AI programs to write answers to more complex questions. Eighty percent of participants in my study said students lacked the ability and desire to think critically and solve complex problems. Additionally, 18.75% of participants said students relied on the internet for answers when asked to think critically. This combination of lack of desire to think critically and over-reliance on the internet for easy answers created a strong barrier to students' cognitive engagement. To overcome those barriers, teachers must take away access to the easy answers via the internet.

Ninth grade teachers should be enthusiastic about the content and learning activities and should be more aware how their enthusiasm or lack of enthusiasm influences students' emotional engagement. Only one participant mentioned how teachers' enthusiasm for the digital learning platform the students used positively influenced students' willingness and enthusiasm for participating in the lesson. Researchers agreed teachers' enthusiasm was an influencing factor for students' engagement levels during internet-based learning (Hews et al., 2022). Accordingly, teachers must be aware of how their excitement and positivity can make a difference in students' emotional engagement. The fact that only one participant mentioned teacher enthusiasm indicated a lack of awareness among ninth grade teachers of how their attitude towards learning influenced students' emotional engagement. To positively influence students emotional engagement, Tennessee ninth grade teachers should communicate a positive, enthusiastic interest in what students are studying and the activities planned as part of lessons.

Each of these ten implications for teachers shed light on how teachers can influence students' emotional, behavioral, and cognitive engagement during internet-based learning. Ninth grade students who regularly used internet-based tools and digital learning platforms needed support for all three dimensions of student engagement. Furthermore, teachers needed to pay particular attention to students' cognitive engagement since so many more students faced challenges in that dimension. Of course, teachers should also remember how interrelated and interdependent the three dimensions of engagement are and design lessons that maximize the influence of each dimension of engagement on the other (Fredricks et al., 2004). In order to successfully accomplish this task, teachers will need further training and support from instructional leaders.

Implications for Instructional Leaders

Instructional leaders must support teachers to help them accomplish the goal of engaging students emotionally, behaviorally, and cognitively. I have listed six implications for practice, which instructional leaders should consider implementing in their schools. For each implication, I listed the implication and then gave a brief explanation of the findings and reasoning behind each one.

Instructional leaders should provide time for teachers to provide pastoral care to students and establish positive relationships with students, as well as provide training in appropriate, effective ways to provide pastoral support for students. Academic content is important, but researchers agreed student-teacher relationships and teacher care were also crucial to students' engagement (Chiu, 2022; Hews et al., 2022; Kostaki & Karayianni, 2022). I found Tennessee ninth grade teachers felt isolated from their students when students regularly used

internet-based instructional tools. Furthermore, Hews et al. (2022) recommended instructional leaders should understand the need for relationship building and create time for teachers to provide pastoral care for their students as well as academic instruction. School leaders might accomplish this by creating school policies and procedures that prioritize pastoral care for students as well as academic support such as creating care teams who communicate about students' needs outside of the classroom. Additionally, school leaders should organize events outside of class time for teachers and students to interact and have fun together such as faculty/student sporting competitions, reward days, and student/teacher service projects. District leaders should provide training for administrators and teachers on appropriate ways to provide and prioritize pastoral care, as well as support school leaders who make pastoral care a part of the school culture. By providing support and training from the district level to the local school level, students' emotional needs will be met, which will increase emotional engagement.

Instructional leaders should provide training for teachers in how to build relationships with students and how to plan activities that include teacher-student and student-student interactions during internet-based learning. Researchers agreed student-student and student-teacher interactions were crucial for students emotional and cognitive engagement in learning (Hews et al., 2022; Kostaki & Karayianni, 2022). I found 43.8% of teachers needed further training and support for learning how to provide opportunities for peer interactions during internet-based learning. Additionally, 31.3% of ninth grade teachers participating in my study needed further training and support for learning to build relationships with

students during internet-based learning. Moreover, 62% of participants reported students seemed isolated from their peers and teachers during internet-based learning. Both school leaders and district leaders should research, plan, and fund teacher training in this area, as well as provide feedback and support for teachers as they learn to incorporate these interactions into their internet-based lessons.

Instructional leaders should provide access to gamified learning programs and training for teachers on how to use them effectively in class to engage students emotionally and behaviorally in the lesson. My findings corroborated the research on gamified learning in that students were more emotionally and behaviorally engaged when internet-based learning tools were in a game-like or competitive format (Neumann & Hood, 2009). School leaders should use in-service training time to bring in experts on using games in the classroom to inform and train teachers in how to integrate these tools into their daily classroom activities. Moreover, district leaders should provide funding for the gamified learning tools and the training for teachers. Using games in the classroom was effective, but teachers need training in how to make sure learning is taking place along with the fun.

Comparatively, instructional leaders should purchase internet-based learning tools and platforms that aid teachers in creating lessons using real-world scenarios and applications and provide training on how to implement them in the classroom. For instance, instructional leaders should provide training for teachers in how to use artificial intelligence in the classroom to make lessons more relevant for students. Moreover, instructional leaders should provide teachers and students access to more virtual reality tools to make lessons more

immersive and create opportunities for students to explore real-world scenarios from their seats in the classrooms. Both school and district leaders should allow more leeway for teachers to talk about current events during lessons and should provide training for teachers on how to do that while still maintaining boundaries that protect students. If students understand how what they are learning applies directly to their lives, they will be more interested in learning about the concepts and skills teachers are covering.

Instructional leaders should provide updated monitoring software and training for teachers on how to effectively use monitoring software while still interacting with students during internet-based learning. According to the data from my study, 68.8% of participants said they needed further training and support in keeping students from being distracted by other internet activities. Furthermore, participants expressed frustration with the available monitoring tools and the limitations they placed on teachers for walking around and interacting with students. The drastic rise in PIU and IA among adolescents was undeniably having a negative influence on students' engagement during internet-based learning. One hundred percent of participants discussed students' tendency to get distracted by other non-academic internet activities during internet-based learning. Consequently, instructional leaders should consider screening students for PIU and IA and providing support to students, parents, and teachers to address this epidemic.

Instructional leaders should investigate internet-based learning tools that require students to think critically and be creative and should purchase those tools for teachers to use in the classroom. Moreover, instructional leaders should

provide training and support for teachers in how to support students' critical thinking skills and students' self-efficacy during complex problem solving. I found ninth grade students were most challenged in cognitive engagement, and 80% of teachers participating in my study described students' inability or unwillingness to use critical thinking skills or complex problem-solving skills. Nevertheless, researchers agreed including lessons that required critical thinking, complex problem solving, or creativity increased students' cognitive engagement (Bray et al., 2021). Consequently, instructional leaders should provide training and support for teachers to help them learn to integrate internet-based tools and more traditional teaching strategies to create opportunities for students to solve complex problems, think critically, and be creative. Additionally, instructional leaders should provide training, support, and feedback to teachers for lesson planning that improves and supports critical thinking skills. This strategy would help increase students' self-efficacy when solving complex problems, which would result in improved cognitive and emotional engagement.

These six implications for instructional leaders and ten implications for teachers should help to alleviate the engagement challenges students and teachers face in this new paradigm of internet-based learning. By implementing these strategies and investing in the proper tools, training, and support, instructional leaders and teachers will positively influence students' emotional, behavioral, and cognitive engagement in post-COVID ninth grade classrooms. Researchers agreed positive student engagement resulted in academic success in high school and post-secondary education and even influenced students' future career success (Davis et al., 2022). Because of these long-term benefits, teachers and instructional leaders

should implement these suggestions and educational researchers should continue to investigate ways to improve students' emotional, behavioral, and cognitive engagement.

Recommendations for Further Research

In this section, I provided recommendations for future research for continued investigation of student engagement in post-COVID classrooms where students use internet-based learning tools and digital learning platforms on regular basis. I focused on ninth-grade Tennessee teachers' perceptions of student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. I have eight recommendations for future research on this topic. Future researchers could

1. expand this research to include other grades or to include investigation into what teachers in other states are experiencing related to student engagement in the new paradigm of internet-based learning.
2. expand this study to a larger population. Even though my study was open to all Tennessee ninth grade teachers, my study sample size only included 16 ninth grade teachers. Future researchers could explore teachers' perceptions of student engagement in specific districts across Tennessee, making sure to include rural districts and urban districts from each region in Tennessee.
3. expand the population even more and investigate teachers' perceptions of ninth grade student engagement across the United States.

4. compare engagement in classrooms where students regularly use internet-based learning tools and digital learning platforms to classrooms where students use internet-based tools less often. A comparison study might provide insight for teachers and instructional leaders about which model of education results in more engaged students and how teaching strategies for internet-based learning differs from teaching strategies for more traditional face-to-face learning.
5. change the research design and conduct a quantitative study of ninth grade students' engagement and measure students' emotional, behavioral, and cognitive engagement during internet-based learning, and how each of those dimensions of engagement interact and affect the others.
6. repeat the study Wang and Peck (2013) conducted and find out if the increase in the percentage of students struggling with the different dimensions of engagement are as extreme as it appears when comparing my study results to those of Wang and Peck (2013).
7. conduct a quantitative study measuring PIU, IA, and students' engagement and find out exactly how much of an effect PIU and IA have on students' engagement in the post-COVID classroom.
8. conduct a study differentiating between student engagement in ninth grade classrooms in a junior high school with student engagement in ninth grade classrooms in a high school, when those students were regularly using internet-based learning tools.

Any of these eight recommendations would add to the field of knowledge about student engagement. Because student engagement is malleable, it is crucial for

educational researchers to continue to monitor and study student engagement in this new paradigm of internet-based learning.

Conclusions of the Study

The school closures associated with COVID-19 had a substantial negative influence on student engagement and changed the way teachers teach and students learn in the post-COVID classroom. After the return to face-to-face instruction, students returned to the classroom with decreased engagement and increased PIU and IA (Acosta-Gonzaga & Ruiz-Ledesma, 2022; Bray et al., 2021; Domina et al., 2021; King et al., 2020; Onukwuli et al., 2023; Salta et al., 2021; A. Singh & Srivastava, 2021; Wester et al., 2021; Zengin et al., 2021). Concurrently, students returned to a changed classroom where every student had a computer and used internet-based learning tools and digital learning platforms on a regular basis (DeGennaro & Kookogey, 2020; Haleem et al., 2022; Hews et al., 2022; Kansal et al., 2021; Kostaki & Karayianni, 2022; Naqvi & Sahu, 2020; Senn & Wessner, 2021; Stefanile, 2022; Suriagiri et al., 2022; TN Department of Education, 2020; Webb et al., 2021). This combination of increased PIU and IA and increased internet-based learning further complicated the problems students were already experiencing engaging in learning (Hews et al., 2022; King et al., 2020; Onukwuli et al., 2023; A. Singh & Srivastava, 2021; Zengin et al., 2021). The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools and digital learning platforms on a regular basis. I hoped to find out what ninth grade teachers experienced related to student

engagement in the post-COVID classroom after the paradigm shift to more internet-based learning. I also hoped to discover what strategies teachers found helpful for engaging students in learning and what further support, and training teachers needed from instructional leaders to help them continue to increase their students' engagement in learning.

I purposefully selected ninth grade teachers in Tennessee whose students used internet-based learning tools and digital learning platforms at least three times per week because, after the return to school, most Tennessee schools shifted to 1:1 technology policies and increased use of internet-based learning tools (DeGennaro & Kookogey, 2020; TN Department of Education, 2020). I chose to focus on ninth grade because researchers found ninth grade engagement was especially crucial and predictive of later success in high school, college, and career (Davis et al., 2022). Moreover, student engagement decreased when students transitioned from eighth to ninth grade (Allensworth, 2013; Benner, 2011; Davis et al., 2022; Wang & Eccles, 2012). I collected my data using a Google Forms questionnaire and online, synchronous interviews conducted via Google Meet to help me understand Tennessee ninth grade teachers' unique experiences related to student engagement during internet-based learning.

Using the questionnaire and interview responses, I investigated teachers' experiences concerning the three dimensions of student engagement: emotional, behavioral, and cognitive engagement (Fredricks et al., 2004). Most Tennessee ninth grade teachers agreed students faced challenges in all three dimensions of engagement, but more students faced challenges with cognitive engagement than with behavioral and emotional engagement. Teachers also agreed internet-based

learning tools and digital learning platforms isolated students from their peers and teachers, and teachers had to be intentional to create opportunities for those crucial interactions between students, their peers, and their teachers. Teachers and instructional leaders must work to ensure teachers do not over-rely on internet-based learning tools and digital learning platforms to do their work for them. Instructional leaders must equip teachers to intentionally plan lessons that take advantage of the benefits of these tools while accommodating for and negating the negative influence internet-based learning can have on students' engagement.

Additionally, teachers unanimously agreed other internet activities distracted students from lessons during internet-based learning, and, as a result, students were often disengaged from the learning. The post-COVID crisis levels of PIU and IA among adolescents had devastating effects on students' engagement in learning. Instructional leaders and educational researchers must work to problem solve and address this epidemic that is crippling and limiting students' ability to learn. Lastly, teachers agreed many ninth-grade students in the post-COVID classroom were unable or unwilling to think critically or solve complex problems. This is perhaps the most crucial skill for students to have when they enter the real-world, and educators at all levels must work together to equip students to solve the real-world problems they will face as adults.

This study was meaningful to teachers and instructional leaders because it provided insight into the changes in students' engagement after the post-COVID return to face-to-face instruction and the post-COVID paradigm shift to more internet-based learning. Researchers thoroughly investigated student engagement during the COVID-19 pandemic; however, this study addressed the gap in the

literature related to student engagement after students returned to a vastly different version of face-to-face instruction. Teachers could use the results of this study to better understand the changes in students' emotional, behavioral, and cognitive engagement and the epidemic levels of distraction occurring during internet-based learning.

Moreover, instructional leaders could use the results of this study to better understand what support and training teachers needed to address these problems with student engagement. By using the strategies teachers in this study suggested, along with the strategies researchers found positively influenced students' engagement, teachers can more effectively plan their lessons to proactively engage students and combat the distractions caused by other internet activities. Instructional leaders can better understand what types of training and tools will help teachers further enhance students' engagement during internet-based learning.

With that knowledge and support, teachers can create learning environments that encourage students to enthusiastically participate in conversations and learning. This enhanced engagement will lead to complex problem solving and a deeper understanding of the concepts about which students are learning. Finally, this study provided enlightenment to future researchers of other avenues of investigation into students' engagement in learning and further enhances the knowledge of educators about student engagement in this new educational paradigm of internet-based learning.

Although at the time of this study, it had been four years since students returned to face-to-face instruction after COVID-19, the cost of the pandemic was

still evident in adolescents' struggles with PIU and IA and in their challenges with every dimension of student engagement. Educational researchers must continue diagnosing new barriers to engagement that will inevitably appear as the landscape of education continues to change. Educators at every level have a duty to actively participate in finding new ways to engage students in learning while preparing students for the technology driven world where they will live, work, and play for the rest of their lives.

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Appendix A

Participant Invitation Request

Researcher: Rebecca Houser
Lincoln Memorial University
Rebecca.houser@lmunet.edu

Faculty Sponsor: Dr. Bethany Powers
Assistant Professor of Education at Lincoln Memorial University
Bethany.Powers@lmunet.edu

Dear Educator,

I am an Ed.D. student at the Carter and Moyers School of Education at Lincoln Memorial University. I am collecting data from Tennessee ninth grade teachers whose students use internet-based learning tools or internet-based academic activities at least three days a week. The purpose of this qualitative, interpretive study was to understand the perceptions of Tennessee ninth-grade teachers concerning student engagement, as well as the strategies used, and support needed by those teachers in classrooms where students used internet-based learning tools or any internet-based academic activities at least three days a week.

I am requesting your participation in this study which will include completing an online questionnaire about your experience and perceptions of ninth grade students' engagement when they are using internet-based learning tools or any internet-based academic activities. The questionnaire is a Google Form and should take 15-20 minutes to complete and consists of 10 questions. I am also asking for volunteers who will allow me to interview them about students' engagement while using internet-based learning tools or activities; however, you may opt to only complete the questionnaire. The more teachers who fill out the questionnaire, the more representative the answers are of all Tennessee ninth grade teachers. Consequently, I am also asking you to provide email contacts for other Tennessee ninth grade teachers who may qualify for the study. Participants who provide qualifying email addresses will be entered into a drawing for a $100 Amazon gift card once for every qualifying email you provide. Any qualifying participant who allows me to interview them will be entered into a separate drawing for a second $100 Amazon gift card.

Participation in this study is strictly voluntary. At any time, you may choose not to provide a response or discontinue the questionnaire. Responses will be kept strictly confidential, and any report of this research made available to the public will not include any identifiable characteristics of you or your school. Your choice to participate or not participate will not impact your relationship with anyone at Lincoln Memorial University.

This research has been approved by Lincoln Memorial University's Institutional Review Board. If you have any questions concerning this research, please contact Rebecca Houser at XXX-XXX-XXXX or Rebecca.houser@lmunet.edu. If you have any questions about your rights as a participant in this research or

feel you have been placed at risk, please contact Dr. Lori McGrew, Chair of the Lincoln Memorial University Institutional Review Board, at XXX-XXX-XXXX or Lori.McGrew@lmunet.edu.

By moving forward and completing the questionnaire linked in the email, you are agreeing that you work as a certified ninth grade educator in a Tennessee school, your students use internet-based learning tools or internet-based academic activities at least times a week, you are over the age of 18, and you give your implied consent to participate in this study.

I appreciate your consideration for participating in my study.

Rebecca Houser
Doctoral Candidate
Lincoln Memoria University

Appendix B

Tennessee Ninth Grade Teacher Questionnaire

Dear participant,

Thank you for taking the time to fill out my questionnaire. To provide clarity and maintain consistency, I have defined several of the key terms used in the questionnaire. Please refer to the definitions as needed when completing each question. As you complete the questionnaire, please make sure not to use student names or specific information that could allow the students to be identified.

Student Engagement – Students' enjoyment of learning, participation in learning, and depth of learning (Fredricks et al., 2004). Student engagement is a multi-dimensional construct consisting of emotional, behavioral, and cognitive engagement (Fredricks et al., 2004).

Emotional Engagement - Students' emotional reactions to school including learning, teachers, peers, interests, boredom, sadness, anxiety about peers or testing, a sense of belonging, a sense of isolation, emotions about relationships with peers and teachers, and emotions about self-efficacy. Emotionally engaged students feel a sense of belonging at school and with peers, feel their teachers care about their well-being, are interested and excited to learn, and feel they are capable of learning (Fredricks et al., 2004).

Behavioral Engagement – Students' participation, persistence, attentiveness, and conduct when learning. Behaviorally engaged students follow the rules, adhere to classroom norms, avoid skipping school , and demonstrate persistence, concentration, curiosity, consistent effort, and class involvement (Fredricks et al., 2004).

Cognitive Engagement – Students' ability and willingness to be self–directed learners and exert the necessary effort required to understand complex

concepts. Cognitively engaged students prefer a challenge and desire to go beyond the requirements (Fredricks et al., 2004).

1. Do you think using internet-based activities and learning tools during class positively or negatively influences student engagement? Please explain what you mean and give specific examples from your experience to demonstrate your answer?
2. Tell me about your students' emotional engagement in learning (i.e., emotional reactions to academics, peers, teachers, and school including a sense of connectedness to other students and the teacher, excitement or interest in learning) when they are using internet-based learning tools or any internet-based academic activity?
3. Tell me about your students' behavioral engagement (i.e., participation, persistence, attentiveness, and conduct) when they are using internet-based learning tools or any internet-based academic activity.
4. Tell me about your students' cognitive engagement (i.e., willingness to be self-directed learners and exert the necessary effort required to understand complex concepts) when they are using internet-based learning tools or any internet-based academic activity.
5. Tell me what distractions, if any, cause students to disengage from learning when they are using internet-based learning tools or any internet-based academic activity.

6. Choose the best answer to fill in the blank. When my students are using internet-based learning tools or any internet-based academic activity, they_____.
   A. have the most challenge engaging emotionally.
   B. have the most challenge engaging behaviorally.
   C. have the most challenge engaging cognitively.
   D. have challenges with all three dimensions of engagement.
   E. are emotionally, behaviorally, and cognitively engaged most of the time.
7. Please describe what strategies you use, if any, to engage students emotionally, behaviorally, and cognitively when they are using internet-based learning tools or internet-based academic activities.
8. In which of the following areas, if any, do you feel you need further support or training to engage students using internet-based learning tools and activities? Select all that apply.
   a. Building relationships with students
   b. Increasing student-student interactions
   c. Providing feedback to students
   d. Increasing teacher digital competency
   e. Increasing student digital competency
   f. Preventing students from being distracted by other internet-based activities.
   g. Developing student willingness to engage in complex thinking and learning.

h. Other

i. No further training or support needed.

9. I would like feedback from as many Tennessee ninth-grade teachers as possible for this study. Please provide emails for any Tennessee ninth-grade teachers you know who might qualify for this study. By doing so, you will be entered in a drawing for a $100 Amazon gift certificate one time for each qualifying email address you provide. (If you accessed this questionnaire via social media, also provide your email address, so I can contact you if you win.)
10. Would you be willing to participate in an interview with the researcher via Google Meet? If yes, please provide an email address, so we can arrange a time that is convenient for you. (All interview participants will be entered into a second drawing for a $100 Amazon gift certificate).

Appendix C

Interview Participant Request Email

Dear participant,
My name is Rebecca Houser, and I am conducting a study on student engagement in the Tennessee ninth grade classrooms where students participate in internet-based activities during lessons at least three days a week. You filled out the questionnaire for my study and indicated your willingness to participate in the interview portion of my research. Thank you for filling out the questionnaire and volunteering to participate in the interview portion. I will conduct the online interview via Google Meet, so we do not have to meet in-person. I would like to do the interview in the next week or two. Can you suggest three dates and times that would be convenient for you? The interview will take about twenty minutes of your time. I will select one of the times and send an invitation to the Google Meet with a link to join the meeting.

With your permission, I will record the Google Meet so that I can transcribe the interview verbatim after the interview. As soon as I transcribe the interview, I will securely store the recording of the interview. I will assign a participant number to you, and I will not include any identifying information in the transcript or in the reporting of the data. Responses will be kept strictly confidential, and any report of this research made available to the public will not include any identifiable characteristics of you or your school.

This research has been approved by Lincoln Memorial University's Institutional Review Board. If you have any questions concerning this research, please contact Rebecca Houser at XXX-XXX-XXXX or Rebecca.houser@lmunet.edu. If you have any questions about your rights as a participant in this research or feel you have been placed at risk, please contact Dr. Lori McGrew, Chair of the Lincoln Memorial University Institutional Review Board, at XXX-XXX-XXXX or Lori.McGrew@lmunet.edu.

Thank you again for your participation. I look forward to meeting with you.

Sincerely,

Rebecca Houser
Doctoral candidate
Carter and Moyers School of Education
Lincoln Memorial University

Appendix D

Interview Protocol

Candidate Name: Rebecca Houser
Date of Interview:
Time Interview Began:
Time Interview Concluded:
Participant Pseudonym/Code:
Participant Information:

Interviewer (I): This interview should take about 20 minutes. Do you mind if I record our interview, so I can later transcribe our conversations?

Participant Affirmation:

<Begin Recording>

Interviewer :

In March of 2020, schools in Tennessee closed due to the COVID-19 pandemic. During the school closures, researchers agreed student engagement decreased due to the isolation and stress associated with the school closures. At the same time, problematic internet use and internet addiction increased among adolescents. After the students returned to school, researchers found the number of adolescents with problematic internet use and internet addiction remained elevated.

When schools reopened in Tennessee, many school districts shifted to 1:1 technology policies and increased the use of internet-based learning tools and digital learning platforms. This increased use of internet-based learning tools and activities occurred at the same time that students returned to school with decreased engagement and increased problematic internet use and internet addiction. I am gathering data to better understand Tennessee ninth-grade teachers' perceptions of student engagement in classrooms where students use internet-based learning tools or internet-based academic activities at least three times a week. As a ninth-grade teacher in Tennessee whose students use internet-based learning tools or activities at least three days a week, you have first-hand knowledge about students' engagement during internet-based learning, which makes you a valuable source of data.

Your responses will remain confidential.

You may end the interview at any time. Just tell me you want to stop.

Do you understand everything so far?

Participant (P): Participant Affirmation(s)

Great. As you answer the interview items, please make sure not to use student names or specific information that could allow the students to be identified.

Do you have any questions?

May we begin?

Participant (P): Participant Affirmation(s)

1. Please describe your enthusiasm or lack of enthusiasm when teaching students using internet-based learning tools or any internet-based academic activity. Tell me why you feel that way.

2. Describe your students' willingness and enthusiasm or unwillingness and lack of enthusiasm for thinking critically and trying to understand complex concepts when they are working on lessons using internet-based tools or internet-based academic activities.

3. Please describe how often and in what ways, if any, students interact with one another while they are using internet-based learning tools or any internet-based academic activities.

4. Describe how often and in what ways, if any, students interact with you while they are using internet-based learning tools or internet-based academic activities.

5. What strategies do you use to encourage students to be creative or think critically during internet-based learning? Probe- Can you describe a specific lesson using internet-based tools or activities that encouraged creativity or critical thinking?

6. In an ideal world, what training or support would your instructional leaders provide to help you engage students while they are learning using internet-based tools or activities?

Interviewer: Thank you for taking the time to speak with me today; that concludes the interview. Do you have any questions or concerns?

Participant Response:

Appendix E

Coding for Research Question 1

Open Codes	Axial Codes	Selective Codes
Peer-peer interactions less Emotionally less connected Less direct communication between students Lack of social interaction separation of relational learning divide between teachers and students not enough one-to-one face time Students isolate themselves Seem secluded even when grouped No naturally occurring opportunities to share Rich discussion has decayed Less collaboration	Students were emotionally disconnected from their peers and teachers when using internet-based learning tools or digital learning platforms	
Don't seem to care what they are learning Indifferent Desire to learn nonexistent Rush and click just to get done	Students lacked a desire to learn	
like the interactiveness of the internet due to the gamification aspects more engaged emotionally when they are participating in game-like activities engaged when we complete quiz games able to anonymously vote, peer review, and reflect lower anxiety about reviews and feedback	Gamification and anonymity of internet-based tools helped mitigate decreased engagement.	Tennessee ninth grade teachers agreed students who used internet-based tools and digital learning platforms on a regular basis were challenged in all three dimensions of student engagement, especially cognitive engagement.

shy students like anonymity		
poor behavioral engagement when using internet-based learning tools lack of attentiveness Chat apps, gaming websites Struggle to keep students on-task without blocking software appear to be working but really playing games distracted easily by internet have to be redirected due to internet distractions get off task with Tic Toc, Music, Videos hang up in middle of learning to play video games students go down a rabbit hole of Google cacophony of unfiltered info on internet distracts them	Internet distractions caused decreased behavioral and cognitive engagement.	
so easy to just select an answer online than actually try the problem more likely to give up not self-directed learners do not want to exert much effort getting them to exert the necessary effort required to understand complex concepts is almost impossible won't or don't know how to problem solve hard time inferencing do not know how to critical think	Students were not self-directed learners and were unwilling to think critically or engage in complex problem solving.	

have huge issues going on right now with AI and ChatGPT cheating frequently use the internet more than they would just rely on their own prior knowledge	Students relied on internet for answers rather than trying to solve complex problems or think critically.	
college prep students, the less motivated AP students are self-directed. stronger the class, the better they do level of the student affects their willingness to critical think. for highflyers, the internet-based activities do push the critical thinking	Honors students were more cognitively engaged than on-level students.	

Appendix F

Coding for Research Question 2

Open Codes	Axial Codes	Selective Codes
Alternate internet-based tasks with print A few steps online then switch to discussion Class broken up into segments During instruction or group discussions, computers are closed Limit the time students spend on internet-based tasks Pair internet-based activity with traditional approach Provide opportunities for assignments that are not so internet-based	Alternate internet-based learning with more traditional face-to-face instructional strategies	Tennessee ninth grade teachers used a variety of strategies to engage students during internet-based learning such as combining internet-based learning with more traditional instructional strategies, monitoring students for internet distractions, grouping students, using real-world scenarios, and using gamified internet-based tools.
Moving around the classroom so I can see screens Walk around the room and ask small groups or individuals how they are doing Using blocking software Go Guardian Monitor student accuracy in real time Monitor and redirect Walk around the room, monitor, and engage students in conversation	Monitor students by walking around or using internet-based tool and redirect off-task students	
At least half the work is collaborative Peer review and collaborative learning Do work as a class Rarely do anything digital on their own Work together in pairs or groups Can feel supported by peers	Student collaboration and group work.	

Learn to do the concepts in groups, which is a great teaching tool	
Incorporate opinion questions meaningful to students topics that are relevant real, world topics an examples apply to real world situations bring human representation to charts or graphs tug on students' heart strings	Include real-world, relevant examples
More engaged in game-like assessments Interactive gamification Excited to engaged in competitive online activities Enjoy gamified learning Make academic activities lively and interesting by playing academic games Kids love a competition	Gamification

Appendix G

Coding for Research Question 3

Open Codes	Axial Codes	Selective Codes
better blocking software Even if you have an app like Go Guardian, they're still finding ways around that Preventing students from internet distractions become distracted with just being in front of a computer screen the entire time Struggle to keep students on-task without blocking software easy for students to look like they are working have to be redirected due to internet distractions more off-task during internet activities students hide games on another tab hang up in middle of learning to play video games will pull up Google chat	Monitoring and blocking software	The two areas most participants wanted further training or support for were preventing students from being distracted by other internet-based activities and developing student willingness to engage in complex thinking and learning.
Developing student willingness to engage in complex thinking so easy to just select an answer online than actually try the problem internet-based tools allow for and even encourages more guessing do not want to exert much effort to understand complex ideas getting them to exert the necessary effort required to understand complex concepts is almost impossible	Developing students' willingness to engage in complex thinking	

won't or don't know how to problem solve hard time inferencing problem-solving skills have absolutely been impacted		
Building relationships with students Increasing student-student interactions Providing feedback to students Teacher and student digital competency student motivation challenge students to use their knowledge of technology as a resource how to effectively use AI in the classroom make a lesson on my computer that it would actually work Better Chromebooks or even an iPad option bells and whistles in internet-based activities	Variety of needs for further training and support	Tennessee ninth grade teachers needed instructional leaders to provide further support and training in many different areas related to student engagement.