# Effectiveness of Remote Learning in k-16 Education Sector

## By: Annie Mak

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# Effectiveness of Remote Learning in k-16 Education Sector

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**Abstract**

Remote learning has long existed as a learning modality in the education sector, where it has been seen more as an alternative option for receiving education rather than a common learning modality until the entrance of a global pandemic - Covid-19, also known as the coronavirus - that hit the world by surprise in late 2019. This study was intended to gain a greater understanding of (1) how much academic knowledge traditionally acquired through in-person schooling was retained by K-16 students through remote learning, (2) the educational benefits and challenges that K-16 students face in remote learning, and (3) how does remote learning influence some essential thinking skills in K-16 students. It is not known how much academic knowledge traditionally acquired through in-person schooling that students in K-16 can learn from remote learning. The proposed study is needed because there is a lack of qualitative research studies to address the problem of how much effective learning is achieved through remote learning. Although this study addressed the population of K-16 students, the more relevant specialization area that this researcher works to connect with in this study is educational leadership. The purpose of this study is to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning through the voices of their parents. A review of the literature showed limited information on the topic of remote learning as it relates to diverse grade levels of students in the K-16 education sector, including students with disabilities. This study used a purposive sample of 19 parents of K-16 learners within the United States representatives of the years 2020-2022, which were the Covid-19 pandemic years. Data analysis was

conducted using NVivo 14. Transcribed interviews and open-ended questionnaires were coded thematically and analyzed to determine the remote learning experiences of K-16 learners in the remote learning environment through the perspectives of their parents. Data analysis showed that teachers and interactions are among the key drivers and factors to academic achievement while being in a remote learning environment.

*Keywords:* remote learning, remote education, virtual education, online learning, synchronous, asynchronous, teaching, remote learning and covid-19

## Acknowledgments

First and foremost, I acknowledge God, who is above everything in my life. God gave me strength, courage, faith, and wisdom to persevere through this academic journey. It has always been just a dream in me to pursue this doctorate degree and to be a writer. Being out of school for over 20 years made it even more difficult for me to decide to take that ultimate step of being a higher education student again, especially when most of my previous standardized test scores were no longer valid. I also did not have the confidence to write 500 to 700-word essays to prove that I could be a student again, but God has opened this educational door for me through St. Thomas University. To me, prayers are powerful tools. Thank you, God, for granting me this opportunity to turn this dream of mine into a reality.

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I want to acknowledge all the parent participants of K-16 learners who were willing to participate in the study. Their collaboration and insights provided a good opportunity to gain beneficial results for the future of education and develop my study to open the door for innovation and to find solutions to assist educational leaders to improve and enhance the future of education when facing a natural disaster.

## Dedication

This dissertation is dedicated to my daughter, Danielle, and son, Joshua. You are intelligent and talented young people. Do not let obstacles hold you back from pursuing your goals, even if your goals might be considered unconventional by some. Reach for the stars, be smart, persevere, and do what makes you happy. You will always make me proud.

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**CHAPTER 1. INTRODUCTION**

**Introduction to the Problem**

This study focuses on investigating remote learning. In the years 2020 to 2022, there were major changes and adjustments in the lives and lifestyles of people through the lens of one another's daily habits and routines, health care, work-related engagements, social activities, etc. For example, there is more reliance on food delivery services, virtual meetings and gatherings, curbside pickups, mobile orders, and telemedicine, which all result in a reduction in social contacts (Rohrich et al., 2020). These major changes and adjustments are the result of a global pandemic – Covid-19, also known as the coronavirus – that hit the world by surprise in late 2019 with its features of being deadly and extremely contagious during the onset of the virus, where it is transmitted to others through droplets from the nose and mouth. Therefore, "this pandemic will have broad implications for global behavior" (Rohrich et al., 2020, p. 3). As a result, rules of social distancing and wearing face masks were put in place globally to prevent the spread of the virus. Although situations have since significantly improved compared to the year from early 2020 when "Center for Disease Control (CDC) in the United States and the World Health Organization implemented social distancing policy via school closures, limiting large gatherings, shelter-in-place measures, the use of facemasks, and global monitoring and responding to outbreaks" (Rohrich et al., 2020, p. 1), face masks are still encouraged to be worn in public but not required. In addition, vaccinations have been developed to control the spread of the virus. Nevertheless, many in the world have begun to accept the reality and existence of this global virus, and sector, from governmental agencies to healthcare to education, has learned to control the spread and overcome the impact of this

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virus. As a result, a major impact of this virus that this study will focus on is education, where schools all over the world had to suddenly shut down and transition to virtual education or remote learning.

From this researcher's involvement and observations in children's education and as an educator, it can be seen that remote learning might not necessarily be a fully effective alternative method of learning or teaching during a pandemic or any natural disaster. According to Hobbs and Hawkins (2020), results have shown that remote learning does not work for everyone. There should be more research to understand the effectiveness and concrete learning outcomes of remote learning occurring now and in the future. Like many things, it is safe to say that remote learning has pros and cons. Therefore, more research in remote learning can examine and analyze how much can be improved and understood now and, in the future, as it seems that it will be here to stay as an alternative educational method. Almajali et al. (2022) pointed out the coronavirus pandemic has shifted education to remote learning, where today's teachers incorporated innovation with digitalization into the education sector by way of remote learning, thereby, utilizing remote learning as a probable long-term learning solution. At the same time, remote learning poses a mystery in the amount of concrete knowledge that is absorbed and retained by learners, thus, identifying this unknown as a problem with remote learning, so researchers need to study further in this topic. As a result, remote learning is worthy of investigation as continued research in this topic area would be important and beneficial to society, so educational leaders can discover more effective strategies for educational advancement.

The investigation of this topic of remote learning came to light because many K-16 teachers and learners, especially those living and learning in the United States, were forced to adapt to an alternative method of education at the start of 2020 courtesy of the Covid-19 virus that made itself known to the world in late 2019. Thus, this new method of education is revealing new uncertainties. The new uncertainties include dealing with technology issues and noise distractions, qualities of instructor-student interactions, how well lessons are presented and understood, student learning outcomes, and the consistency of having an appropriate work area.

For this study, the qualitative research methodology and phenomenology research design will be used. The qualitative research methodology is ideal because it demonstrates that more explorations can assist in displaying those improvements or changes that are essential since remote learning seems to be here to stay in society and schools. The qualitative research methodology is intended to study its subject matter from an exploratory approach occurring in natural settings for the purpose of understanding a phenomenon or the behaviors and experiences of a group of people (Mohajan, 2018). Furthermore, Mohajan (2018) added that qualitative research methodology works to explain the how and the why of a phenomenon.

With the phenomenology research design, researchers are motivated and encouraged to explore and establish the meaning of a participant's experiences through the practice of method inquiry (Qutoshi, 2018). In addition, Qutoshi (2018) noted that people could understand the world through their lived experiences, but the amount of understanding would still be the unknown portion. Thus, Creswell and Creswell (2018) emphasized that researchers can collect data through interviews, observations, and open-

ended questionnaires when applied to the phenomenological research design, which are all data collection tools found in qualitative research methodology to have a clearer understanding of what participants are thinking.

The purpose of this study is to describe and explain the advantages and disadvantages of remote learning for K-16 students located in the United States. The research participants in this study will be parents, whose learners are currently experiencing remote learning or have experienced remote learning in the past three years while being in grades K-16 in the United States. The research questions that this study will focus on are "How much academic knowledge traditionally acquired through in-person schooling can students in K-16 actually learn from remote learning? What are the benefits and challenges that K-16 students face in remote learning? How does remote learning influence some essential thinking skills in K-16 students?"

Because much of the world was forced to learn remotely during the year 2020 when faced with the coronavirus pandemic, this topic of remote learning should be studied and examined to obtain more understanding of its student learning outcome. An article from Garbe et al. (2020) stated that an estimated 200 countries with over half a billion children were suddenly thrust into the remote learning environment while being home with their immediate or distant family members as their teachers or coaches. Thus, the situation resulted in the family member feeling unprepared for the sudden changes of having to teach children in addition to their regular involvement as role models to the child. Even though technology plays a key role in today's 21st-century technology era, where "technology has been shown to facilitate the development of higher-order thinking skills in learning" (Nussbaum et al., 2021, p. 202), many schools did not make sufficient

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use of technology in their curriculum (Nussbaum et al., 2021). Furthermore, Nussbaum et al. (2021) shared that the sense of immediacy going into remote learning during this time of the coronavirus pandemic opens doors for enhancing thinking skills, including critical thinking, problem-solving, and creative thinking, while also bringing in criticisms in student engagement and thinking skills. Therefore, remote learning can be seen as a double-edged sword for thinking skills.

Upon completion of this study, the goal is for this researcher to gain a deeper awareness of how remote learning can bring or has brought positive and negative impacts on those in the classrooms. In addition, this study intends to guide the researcher to have a greater understanding of how much knowledge was retained by learners through remote learning. Ali (2020) highlighted the scarcity of information to promote and enhance remote learning infrastructure, thus, noting a gap in existing research and emphasizing the urgency to call for immediate actions to ensure that students' education would not be interrupted. It was also suggested that more work or actions from governmental agencies and educational institutions are needed to bring continual support to combat remote learning challenges (Ali, 2020). Hobbs and Hawkins (2020) stressed that nothing could truly take the place of in-person learning, and students who struggled or failed because of learning remotely during school closures at the onset of the coronavirus pandemic were evidence of the revelation.

Prior research and studies on the topic of remote learning have shown that there were various areas of concern. For example, Miller (2021) noted that the ability to build caring relationships remotely in the midst of Covid-19 could have impacted the remote learning process and outcome. In another example, Tulaskar and Vincent-Lancrin (2022)

pointed out that remote learning could alter the learning and engagement experience of teachers and students. However, these studies were conducted using mostly quantitative research methodology and mixed-method research methodology and rarely conducted using solely the qualitative research methodology (Thorn & Vincent-Lancrin, 2022; Tulaskar & Turunen, 2022). By learning from previous studies and challenges, lessons can be applied to the present to prevent certain histories from repeating themselves (Hobbs & Hawkins, 2020). As a result, this study will address the necessity of additional research to strengthen the remote learning framework through interviews and open-ended questionnaires, if applicable, with research participants either in-person or virtual to further understand what worked and what can work from their perspectives and lived experiences to help fill a gap in existing literature or research and extend prior research.

Much of the world was forced to learn remotely and experience its functions firsthand in the year 2020 while also facing the coronavirus pandemic for the first time. As mentioned earlier by Garbe et al. (2020), over half a billion children in approximately 200 countries were asked to learn remotely in their homes with other members of the family as their teachers or coaches, thus, causing various unprepared changes and distractions to teachers, children, and parents. Having both qualitative research methodology and phenomenological research design working together, researchers and practitioners can see the benefits of lived experiences being revealed from actual natural settings, as these are the characteristics resulting from both the qualitative research methodology and the phenomenology research design. Thus, it would be much easier to have a more accurate picture of the actual learning outcome with remote learning as the long-term alternative to education.

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In conclusion, Kwon et al. (2020) stated that "the amount and quality of remote learning will vary greatly, depending on the experience of the teacher, the experience and engagement of the learners, and the equipment and software used" (p. 1). This study is not intended to deny that remote learning could provide safety and comfort for teachers, students, and parents, but other concerns such as a feeling of control for the like, childcare, and finances might continue to be distractions during the remote learning process. Most importantly, it is not known how much academic knowledge traditionally acquired through in-person schooling that students in K-16 can learn from remote learning. Therefore, extensive study such as this is needed now to examine the effectiveness of remote learning. With technology playing a role in today's learning and communication, this study will extend and build on the prior research on the topic of remote learning by solidifying it in the forefront and giving it full attention, so that effective remote learning in K-16 students would become a reality.

## Background, Context, and Theoretical Framework

### Background

In today's world where innovations, discoveries, and explorations are commonly welcomed, it should not be surprising to read about how scientists and researchers might take advantage of opportunities and methods to magnify the need for improvement. For example, García-González and Ramírez-Montoya (2019) pointed out that collaboration, cooperation, and shared resources by various generations of experts are necessary to increase knowledge and strengthen, improve, and drive open innovation to address issues across disciplines. In another example, it is noted in an article that learning is consistently occurring and being practiced by researchers and scientists to develop better and

improved learning environments and processes (Meléndez & Parker, 2019). Taking a stand to promote improvement in education could lead to one being wise to apply what society already has, knows, and understands to effective use, such as the ideas and theories created or discovered by many scientists and researchers to enhance solutions and reveal possibilities. With the decision and desire to promote improvements, individuals can be considered as being intelligent when they utilize any existing resources, knowledge, and wisdom.

In order to reiterate that society today is living among innovations, discoveries, and explorations, opportunities, including methods, exist for scientists and researchers to take advantage of in the hope of improving the future. For example, there might be ideas and theories present for scientists and researchers to examine and analyze to form other solutions, thus, identifying more possibilities. Though the world has moved far past the early onset of Covid-19, and some might have thought this virus is only here temporarily, many have seemed to accept or acknowledge that people will need to co-exist with the Covid-19 virus even though the world was suddenly thrown into it in early 2020 causing unthinkable unknowns. An unknown involves the education sector because teachers and students had to turn to remote learning, but there are and were differences in opinion on the effectiveness of remote learning as it might not be suitable for all (Fitter et al., 2020).

Remote learning is or was not a new concept, but it was not placed at the forefront of students' education until the world was forced to face the Covid-19 pandemic in early 2020. Digitalization and globalization have influenced teaching strategies, educational assessments, and teachers' and students' interactions in the 21st century (Kalimullina et al., 2021). According to Kalimullina et al. (2021), studies and problems in utilizing

digital learning technologies, such as remote learning tools and applications to assist in the learning process, existed much earlier on. However, remote learning was rarely experienced on such a large scale as what many teachers, students, and parents have experienced or witnessed since early 2020 during the onset of the Covid-19 virus (Cowden et al., 2020).

Cowden et al. (2020) stated in the Remote Learning Rapid Literature Review that having high-quality and effective remote learning experiences is a time-consuming and planned process. Researchers could see that it is in this planned process that great oversight and attention placed in the areas of teaching and learning approaches and pedagogy is ideal for drawing out and meeting the needs of students. Nevertheless, Cowden et al. (2020) noted that communication and cooperation between instructors and students still play a huge role in the success of remote learning, at least for the younger student population.

In addition, Cowden et al. (2020) emphasized that great attention is essential in the following six points: (1) establishing effective and workable timetables for family members and learners to utilize during remote learning sessions, (2) emphasizing quality rather than quantity of work from the start, (3) applying effective assessments, (4) being open to the idea of having possibilities and flexibility, (5) encouraging and expanding on reading, and (6) providing care for learners to achieve some success in their coursework because "achievement is a powerful stimulus" (Cowden et al., 2020, p. 6). It is in the last point above where there is much unknown. Thus, this researcher aims to reveal understanding and possible solutions for the phenomenon in this study.

**Theoretical Framework**

This study will use two theories that could give insights into understanding the effectiveness of remote learning in the K-16 education sector, thus, constituting the theoretical framework of remote learning. These theories include works from Aguilera-Hermida (2020) and Ananga (2020), suggesting how psychology and technology could influence learning. In one study, Ananga (2020) introduced a theory of learning involving cognitivism, behaviorism, constructivism, and social presence through the constructivist theoretical model framework, where one's experience is displayed through knowledge and interactions. Within the constructivist theoretical model framework, learning is an internal, active process where different learning strategies and needs, including factors that were brought in from the external environment to respond to individual differences, are highlighted and recognized (Ananga, 2020).

In another study, Aguilera-Hermida (2020) noted in an article that technology has been mostly understood as the accepted model for remote learning. From this information, the technology acceptance model (TAM), which is "based on cognitive theories that explain the process of adopting a behavior" (Aguilera-Hermida, 2020, p. 2), is introduced. TAM is intended to create an understanding of how the application of remote learning impacts attitudes when it is used in educational technologies. Thus, students' attitude toward technology has a likelihood of influencing their learning process.

From the explanation above on the two theories of remote learning, one should see that those theories would be relevant to this researcher's proposed study of remote learning because the theories will open doors for further research and analysis on the

topic of remote learning at various stages. The theories mentioned above would allow for an understanding of the number of studies that have been performed on the topic of remote learning and how other countries might view remote learning, thus, resulting in the knowledge of how much research is still necessary. In addition, Collins and Stockton (2018) pointed out three components of the theoretical framework referring to the "existing knowledge and previously formed ideas about complex phenomena, the researcher's epistemological dispositions, and a lens and a methodically analytic approach" (p. 2) in qualitative research, thus, rendering theories to be valuable. Moreover, theories could bring forth an understanding of the reasons people could react or respond differently while being in remote learning sessions. Thus, theories could become pathways for scientists and researchers to uncover more possible solutions for problems. Nevertheless, researchers and practitioners can reveal more concrete answers to current problems.

**Context**

The potential research participants in this study are parents whose learners are either currently learning remotely or have experienced remote learning in the last three years while being in grades K-16. These potential research participants are located in the United States. Moreover, these potential research participants will be participating in face-to-face interviews either in-person or virtually via the Zoom platform.

From the perspective of Neubauer et al. (2019), the qualitative research methodology and phenomenology research design work well with the topic of remote learning in this study. The qualitative research methodology and the phenomenology research design not only focus on the research participant's lived experiences on a

phenomenon, but both also give researchers the opportunity to explore, seek, and learn from the experiences of others by having the research participants "describe the meaning of their experiences" (Neubauer et al., 2019, p. 91) through interviews to understand how much academic knowledge traditionally acquired through in-person schooling K-16 students actually learn from remote learning. Thus, both the research methodology and research design that will be used in this study are justified and will answer at least one of the research questions in this study.

**Statement of the Problem**

It is not known how much academic knowledge traditionally acquired through in-person schooling that students in K-16 can learn from remote learning. As shared in the beginning, remote learning is not a new concept in the education sector, but the attention to remote learning was highlighted when the world was forced to face the Covid-19 pandemic in early 2020. From this pandemic reality, it was not a secret that students were thrust or quickly transitioned into remote instruction. According to Serhan (2020), the transition from face-to-face to remote instruction created challenges for students and instructors in areas of designing and adopting effective instructional materials with strategic assessment techniques, having strong technology access, and making interactive remote learning environments available, for example. In response to these challenges, Serhan (2020) added that educational institutions arranged professional development training for their instructors and equipped their students with technology access to streamline the transition process, but the transition was not easy for all parties involved. Nevertheless, these challenges become even more apparent now. Oftentimes, one could read about educational leadership coming together for meetings to discuss how the

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current remote learning arrangement affects students' education, as not all students in K-16 can learn effectively remotely. Gillis and Krull (2020) shared that instructors had to adjust the strategies that they would use to assess their students, such as changing their exams and quiz formats or the amount of homework that should be assigned. In addition, some classes had to be moved to an asynchronous format so that students could have the flexibility to move from one area of the course content to another area of the course content with ease. Thus, this flexibility resembled more of a self-paced and self-study method as many students did not have strong and sufficient internet connections and technology with a dedicated work area (Gillis & Krull, 2020). Hence, this emphasized the remote learning problem due to the lack of technology or internet availability if remote learning was to and did continue.

While the asynchronous format may offer greater flexibility, Gillis and Krull (2020) also indicated some of its significant potential and realistic concerns, including fewer interactions and increased coursework. Kwon et al. (2020) added that remote learning provides obstacles in attaining the essential non-verbal messages that instructors and students might notice and depend on when both parties are in a physical classroom setting. In addition, Hobbs and Hawkins (2020) pointed out that there are instructors who worry that remote learning encourages cheating because they would often not know who actually completed the work. This is especially worrisome when teachers and administrators experiment with assessment strategies to help students learn effectively. Hence, Hobbs and Hawkins (2020) noted that this unknown in remote learning could result in gaps in a student's learning process.

**Purpose of the Study**

The purpose of this study is to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. The qualitative research methodology and the phenomenology design, as explained by Creswell and Creswell (2018), will be incorporated and applied in this study. With these tools, this researcher could see that it should be considered essential to discover alternative solutions to enhance remote learning because remote learning is not ready to be placed under the one-size-fits-all idiom.

From the purpose indicated above for this study, the qualitative research methodology would be an appropriate research methodology to justify that more explorations and research are essential to prove that remote learning could be one's partner to educational success. This study is necessary because many instructors and learners worldwide had to adapt to or even adopt alternative methods of education at the start of 2020 due to the entrance of the Covid-19 virus that became known to many people in late 2019. Nevertheless, it was shared in various media that many instructors and learners were ill-prepared for the new mode of learning, in this case, remote learning, later understood as remote education because it has not been the norm in educational institutions. For example, Natanson and Strauss (2020) noted in an article in The Washington Post that teachers did not receive adequate training in remote education early on, and students were reported to have low attendance and student engagement rates while being in remote education in various school districts.

Through experiences and initial research to get the perspectives of others about remote learning, remote learning seemed to have garnered some negative effects itself when linking it to pedagogy and psychology (Durak & Çankaya, 2020). Hence, there should be more support to closely examine and explore remote learning to develop better solutions for remote education, because remote learning is likely here to stay and be among the norms in the future. Moreover, one should not feel startled when the topic of remote learning or remote education is regularly brought up as a part of discussions. The topic of remote learning could likely become the norm or perhaps a concern when referencing modern learning modes in countries such as the United States, Canada, the United Kingdom, China, etc., due to the coronavirus pandemic since there are still educators, students, and parents alike who might be hesitant to agree that remote learning is the right alternative method of delivering and receiving education. Nevertheless, there are still uncertainties in this subject matter, so more research and study on the topic and concepts of remote learning are essential.

## Research Questions

Personal and professional experiences in remote learning have indicated that reservations exist about it being a long-term alternative to learning. These will be shared further in later chapters. At the moment, there should be an understanding that extensive research is essential to examine the effectiveness and learning outcome of remote learning to assist in making decisions or changes for the future educational system. The worldwide lesson starting from the Spring of 2020, when many students and instructors from elementary school to higher education were suddenly thrown into a different virtual learning environment, should be a wake-up call for all that certain changes are inevitable,

but how to make the changes suitable for all would be the question for educational

leadership to consider.

The following research questions guide this qualitative study:

**RQ1**. How much academic knowledge traditionally acquired through in-person

schooling can students in K-16 learn from remote learning?

**RQ2**. What are the educational benefits and challenges that K-16 students face in

remote learning?

**RQ3**. How does remote learning influence some essential thinking skills in K-16

students?

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**Rationale, Relevance, and Significance**

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**Rationale**

The proposed study is needed because there is a lack of qualitative research

studies to address the problem of how much effective learning is achieved through

remote learning. Because the concept of remote learning has existed, there have also been

studies done linking technological usage to remote learning. However, "systematic

research on their effectiveness is limited with most of the research often coming from the

application developers themselves" (National Academies of Sciences, Engineering, and

Medicine, 2018, p. 187).

In addition, it is indicated by the National Academies of Sciences, Engineering,

and Medicine (2018) and by Burdina et al. (2019) that data collected from those studies

were reported mostly from surveys and experimentations, thus, symbolizing that the

research done was more for quantitative research studies (Creswell & Creswell, 2018).

Therefore, the rationale of this study is to highlight the need for more qualitative research

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studies to address the current practice problems of remote learning. Moreover, Burdina et al. (2019) emphasized that the modern "approach of assessing the information needs and knowledge of students" (p. 2), especially in the younger grades, is not sufficiently current, thereby, struggling to meet the learning, communication, technology, and reasoning needs of the newer generations, thus, representing the current practice problems of remote learning and the problem indicated in this study. With the phenomenological research design being incorporated in this study, it helps this researcher to achieve as much as possible a human experience perspective through the use of interviews, open-ended questionnaires, and participant observations (Jan, 2020) to find answers to the problem in this study.

**Relevance**

Although this study addresses the population of K-16 students, the more relevant specialization area that this researcher works to connect with in this study is educational leadership. In post-Covid-19 periods, it is necessary for educational leadership to assess teaching approaches and technological accessibility to gain an understanding and meet the learning needs of students during remote learning sessions (Marshall et al., 2020). In the midst of a global crisis such as a pandemic or a natural disaster, Marshall et al. (2020) pointed out that an immediate transition to remote learning becomes a reality, although it is not that simple, as "digital transformation takes time" (p. 31). However, Marshall et al. (2020) added that "education must continue" (p. 31).

**Significance**

This study aims to target the aspect of student learning outcomes that prior research did not place full attention on. Prior research studies focused more on building

caring relationships between teachers and students with the student interaction and engagement levels and challenges during remote learning (Hobbs & Hawkins, 2020; Miller, 2021; Tulaskar & Turunen, 2022). This study intends to close the gap in knowledge by placing emphasis on students' academic achievements during remote learning.

In another prior research, it is evidently shown that learning strategies applied with active learning play a critical role in attaining knowledge in remote learning (Jeong et al., 2019). It is suggested by Jeong et al. (2019) that positive academic achievements are more able to be realized when the learning is done in a physical classroom setting where learning skills, critical thinking skills, and problem-solving skills can be more accessible for assessment in practical forms. This emphasized the need to understand more about the academic achievements of students when the learning occurred in a remote learning environment to know how much knowledge is attained by the students.

According to studies done by the National Academies of Sciences, Engineering, and Medicine (2018), there were reservations about the efficacies of remote learning, and previous researchers brought to light some concerns about academic progress, specifically with younger learners in remote learning. In yet another study, it was indicated that many previous studies were "conducted at the beginning of the pandemic resulting in a limited perspective toward pandemic pedagogy with a country-specific focus" (Tulaskar & Turunen, 2022, p. 552). Therefore, this study is significant because this study is being performed in the current year of 2023, which is essentially the post-pandemic period. Moreover, this study opens doors for opportunities to produce a much clearer and more accurate picture of academic achievements and progress in students

through structured or semi-structured interviews and open-ended questionnaires, if applicable. Furthermore, this study strives to reveal possible answers to the phenomenon of this study, thus, allowing for improvements in the educational curriculum to contribute to the community and society for the near future.

**Nature of the Study**

The qualitative research methodology approach and the phenomenology research design will be used in this study. As stated earlier by Qutoshi (2018), the qualitative research methodology approach is intended to achieve research participants' perspectives through their lived experiences. Creswell and Creswell (2018) added that qualitative researchers collect data from research participants through face-to-face interactions in real, natural settings utilizing such research design options of phenomenology, case study, and narrative, just to name a few, to gain a greater understanding of how research participants experience the problem that is being studied.

Because the research problem in this study is not knowing how much academic knowledge traditionally acquired through in-person schooling that students in K-16 can learn from remote learning, the use of the qualitative research methodology and the phenomenology research design would allow this researcher to gain a greater and clearer understanding of the research participants' experience through their descriptions and explanations in a meaningful way, thus, justifying both of its use. The narrative research design was also considered for this study, but it merely "tells stories of individual experiences rather than describes the essence of a lived phenomenon" (Islam & Aldaihani, 2022, p. 3) that is provided by the phenomenology research design, which this

study needs. Therefore, the phenomenology research design is the most appropriate choice for this study.

The target population of a study is the total number of research participants with similar characteristics addressing a particular research problem of concern (Chivanga & Monyai, 2021). The target population for this study will be approximately 15 to 20 participants consisting of parents of grades K-16 students in the United States. Appropriate attention will be placed on ensuring that there is an adequate amount of research participants for the relevant grade levels of K-16 in the United States.

All the above-mentioned participants are in the United States and are selected based on their current and past three years of experience with remote learning in K-16 schools. Therefore, the sampling method used to gather data in this study is purposive sampling, which allows researchers to select research participants based on certain selected objectives (Islam & Aldaihani, 2022). Creswell and Creswell (2018) described purposive sampling as purposefully selecting participants that will best provide researchers with solutions and understanding of the research problems and research questions in their studies. Moreover, the data collection procedures and the sources of data will be the experiences of the research participants from face-to-face interactions via in-person and virtual structured or semi-structured interviews and open-ended questionnaires, if applicable, to allow this researcher to explore the lived experiences of the research participants and the phenomenon in this study (Islam & Aldaihani, 2022). Furthermore, this researcher will be the primary instrument of this study, which allows for up-close and more personal observation of the research participants' responses and

reactions to their experiences. Hence, observation is another data collection tool of qualitative research methodology.

## Definition of Terms

The following terms and phrases are defined to help readers understand and gain clarity on how they are being used in this study.

*Achievement*. A student's learning outcomes are over and above what the students brought with them into the educational system when they first enrolled in a school (Thomson, 2018).

*Active learning*. It is a form of instructional strategy that is used to engage students in the learning process (Jeong et al., 2019).

*Asynchronous*. The student can access the course and course materials at any time and at any place, but students would not have the opportunity to ask questions during class time or participate in live discussions that would normally be seen and occur in a virtual environment (Yücetoker et al., 2021).

*Constructivism*. It is considered a major component of a learning theory that has been used more. The purpose is for students to be able to experience and apply the knowledge that they have learned (Merve, 2019). According to Merve (2019), under constructivism, problem-solving is an important element, and students are challenged to think about how they would use the new knowledge effectively in the real world.

*Curriculum*. A curriculum can be defined in multiple components, such as a study consisting of "the beliefs, values, attitudes, skills, knowledge, and all that education is about, a set of subjects, as the content of interesting emphasis, and a set of performance objectives" (Mulenga, 2018, pp. 3, 5-6).

*Distractions*. When using the internet and computer technology for educational purposes, distractions would be the activities that do not offer the intended purpose of education and learning (O'Brien et al., 2022).

*Educational assessments*. The standards that schools would follow to "measure student development toward the learning outcomes" (Hamilton, 2018, p. 357).

*Efficacy*. It is the effects that students experience from educational motivation-related factors (Öqvist & Malmström, 2018).

*Engagement*. It brings learners in for greater attention and interactions to adapt more to the current environment (De Vreede et al., 2019).

*Enrichment Programs*. It is a promotional program with little or no guidelines to assist learners in their course development (Golle et al., 2018).

*Epistemology*. The state of informing learners to be "good inquirers, know useful information, can reason well, and so on" (Pritchard, 2018, p. 6).

*Flexibility*. It is a system where there is a need for changes to be put in place to adapt to practices and technologies (Veletsianos & Houlden, 2020).

*Infrastructure*. It is the basic framework of teaching and learning, such as digitalization, educational language, and educational arrangement of an educational system (Goodyear, 2022).

*Learning environment*. A learning environment is not merely a classroom. It is a place, whether it is in a physical classroom setting, fully online learning, remote learning, or blended learning, where students are provided with a safe and efficient environment for education (Dahan et al., 2022).

*Learning outcomes*. It shows a measurement of how much students should learn and know from their learning experiences, which would allow instructors and educational leadership to design effective programs (Susanto et al., 2020).

*Open innovation*. It encourages and welcomes students to use external knowledge to move forth internal innovation and knowledge to increase innovation opportunities within an organization (Yun et al., 2020).

*Pathways*. The road or direction that a student chooses to take to gain on-time access to higher education, thus, serving as an indicator of the student's educational success (Hanrahan et al., 2020).

*Pedagogy*. It is "the processes, experiences, contexts, outcomes, and relationships of teaching and learning" (Beetham & Sharpe, 2019, p. 1).

*Remote learning*. It is a temporary, alternative solution to replace face-to-face education to lessen interruptions in education (Cowden et al., 2020).

*Role models*. Individual(s) possessing professional qualities of excellence and characteristics that are considered to be worthy of mimicking (Mohamed Osama & Gallagher, 2018).

*Social presence*. In education, it mostly refers to the online learning environment where students are measured in their level of social projection, thus, gaining an understanding of their learning experiences (Weidlich et al., 2018).

*Synchronous*. Students and teachers communicate with each other in live lessons with class lessons conducted in a virtual environment following a pre-arranged time, thus, allowing students to ask questions during class time and participate in live discussions

because the classes are occurring in a live and virtual environment (Yücetoker et al., 2021).

*Technology*. It can be defined as the tools used in educational institutions by practitioners of education to enhance teaching and learning (Ellis et al., 2020).

## Assumptions, Limitations, and Delimitations

### Assumptions

The following assumptions are presented in this study:

1. It is assumed that this study is an accurate representation with theoretical aspects that remote learning requires the use of various technological platforms, and students have their learning style preferences, thus, necessitating appropriate assessments to determine effective teaching methods (Aguilera-Hermida, 2020; Kobylarczyk & Kuśnierz-Krupa, 2021).

2. It is assumed that this study will consist of a sample population of research participants comprised of parents whose learners are or were in elementary grades, middle school grades, high school grades, and undergraduate college students because the research purpose of this study focuses on K-16 students (Terrell Hanna, 2023).

3. It is assumed that this study will not have data from any research participants outside the United States because the target population focused in this study is in any of the 50 states within the United States (U.S. Department of Labor, n.d.).

4. It is assumed that the data shared in this study stems from its research participants' descriptions of how much academic knowledge traditionally acquired through in-person schooling that K-16 students have retained from

remote learning, the benefits and challenges K-16 students have experienced in remote learning, and how K-16 students' experiences in remote learning influenced some essential thinking skills of K-16 students, thus, allowing this researcher to respond to and understand the how and the why of the phenomenon and the lived experiences of research participants through the qualitative research methodology and the phenomenology research design (Creswell & Creswell, 2018).

5. It is assumed that the researcher in this qualitative study is the primary instrument conducting the research in this study by collecting data from research participants through interviews and open-ended questionnaires, if applicable (Creswell & Creswell, 2018; Islam & Aldaihani, 2022) to respond to the research questions of "How much academic knowledge traditionally acquired through in-person schooling can students in K-16 actually learn from remote learning? What are the benefits and challenges that K-16 students face in remote learning? How does remote learning influence some essential thinking skills in K-16 students?" constituting the qualitative protocol.

6. It is assumed that all the research participants in this study have residency in one of the 50 states in the United States because the target population focused in this study is in the United States (U.S. Department of Labor, n.d.).

**Limitations**

The following limitations will be present in this study:

1. A disproportionate amount of research participants representing parents having learners in K-5th grades, 6th-8th grades, 9th-12th grades, and undergraduate students

grades 13th-16th in the United States (Chivanga & Monyai, 2021) in the years 2020-2022 inclusive.

2. The friends and family members of this researcher are inappropriate for this study to prevent ethical concerns and conflicts of interest (Creswell & Creswell, 2018).

3. Insufficient research participants experienced remote learning in K-5th grades, 6th-8th grades, 9th-12th grades, and undergraduate students grades 13th-16th in the United States in the last three years.

**Delimitations**

The following delimitations will be present in this study:

1. This study was delimited to non-friends and non-family members of this researcher to avoid potential ethical concerns and conflicts of interest (Creswell & Creswell, 2018).

2. Although the target population of this study is aimed at the United States, this study was delimited to research participants who are or were parents of K-16 learners to achieve more proper management of the research sample (Chivanga & Monyai, 2021; U.S. Department of Labor, n.d.).

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**Chapter 1 Summary**

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As indicated earlier, this study intends to address the research problem: "It is not known how much academic knowledge traditionally acquired through in-person schooling that students in K-16 can learn from remote learning." With the objective of recognizing the existence of the research problem above, this study attempts to respond to the following aforementioned research questions: "How much academic knowledge traditionally acquired through in-person schooling can students in K-16 actually learn

from remote learning? What are the benefits and challenges that K-16 students face in remote learning? How does remote learning influence some essential thinking skills in K-16 students?" Hence, this study highlights the role Covid-19 played in the spotlight and its influence on remote learning in the K-16 student population currently and in the last three years with the goal of understanding and addressing the potential future impact of remote learning in the education sector.

With recommendations and suggestions provided by scholarly experts in this study, this researcher can discover the solutions to the how and the why of the phenomenon of remote learning and understand more of the lived experiences of the grades K-16 research participants in a natural setting of remote learning when applied with the qualitative research methodology and the phenomenology research design (Creswell & Creswell, 2018; Qutoshi, 2018). In addition, this study works to share the advantages and disadvantages of remote learning as described by the research participants in the K-16 student population located in the United States. Moreover, the goal of this study is for this researcher to open doors for alternative solutions to enhance remote learning because it is understood that remote learning might not always be suitable for K-16 students. Furthermore, this study will also give educational leadership the opportunity to incorporate innovation to assess the education of the past with theories as guidance (Aguilera-Hermida, 2020; Ananga, 2020) to streamline the education of the present with the hope of improving the education of the near future, so remote learning can be considered as a long-term partner within the education curriculum and pedagogy.

# CHAPTER 2. LITERATURE REVIEW

## Introduction to the Literature Review

The purpose of this study is to describe how much academic knowledge K-16 students located in the United States can learn from remote learning. The need for this qualitative research methodology and the phenomenology research design on the topic of investigating remote learning stemmed from the entrance and the peak level of the global pandemic of Covid-19 in the years 2020 to 2022. Readers can gain an understanding that Covid-19 had impacted the education sector and the learning habits of students, especially people living in the United States. Although there were previous studies on the topic of remote learning, they were mostly done during the onset of the Covid-19 pandemic, thus, having fewer valuable data and resources available (Tulaskar & Turunen, 2022).

As the world can now be considered to have moved into the post-pandemic time of Covid-19, it has changed the status of data and resources from not being readily available to be readily accessible. Chapter Two will start to examine some of the resources on a deeper level. For example, there would be more discussions on the theoretical framework and the two theories that were introduced in Chapter One relating to remote learning. In addition, Chapter Two will also provide a more in-depth review of the research literature used in this study.

There are some essential search terms and databases applied to research this topic of remote learning to ensure this study is as comprehensive and effective as possible. The search terms used to identify sources for this study include but are not limited to remote learning, remote education, constructivism, cognitive, learning theories, learning during

Covid-19, technological platforms, virtual environment, asynchronous, synchronous, remote learning pedagogy, social presence, learning motivation, epistemology, learning environment, active learning, self-efficacy, engagement, and remote learning outcomes. These terms were entered into various databases such as City University of New York (CUNY) OneSearch – ProQuest, EBSCOhost, LibKey, and ERIC, St. Thomas University (STU) – ProQuest and ERIC, and Google Scholar. The researcher also employed other references, such as textbooks, e-books, and related literature.

## Review of the Research Literature

Through the process of a literature review, certain themes of importance were revealed and emerged from the words of scholars and experts. The themes provide a rationale for having this study on the topic of remote learning, as remote learning has gained popularity in the education sector in the recent three years, with Covid-19 being the main cause. In addition, the supporting evidence validates the need to understand how remote learning can impact knowledge retention in students. Relevant literature utilized in this study provides subjective and objective contents on how remote learning is and was viewed by scholars and experts (Cowden et al., 2020), which are synthesized below through similar patterns of themes.

## Trends Among the Authors

### K-16 Education

Within these past three years, challenges and optimism have been experienced by students in remote learning, from elementary grade level to college level, due to the Covid-19 pandemic. Parents shared their challenges, frustrations, and struggles during remote learning with their children, including "balancing responsibilities, learner

motivation, accessibility, and learning outcomes" (Garbe et al., 2020, p. 45). With the younger student population, students not only need a teacher, but they need the teacher to be able to guide and mentor them, especially in remote learning (Burdina et al., 2019). For some young students, in-person learning would be the better learning option (Hobbs & Hawkins, 2020). In higher education, the emergence of Covid-19 brought vulnerabilities to the education system; thus, the availability of technology for learning remotely brought a great sense of hope and reassurance for education (Ali, 2020).

To elaborate on the said vulnerabilities mentioned earlier, Ali (2020) revealed that it became apparent that the unpredictability of the future of education existed when the education system proved to have much obscurity and disparity in how the curriculum should be taught when there would be a sudden change in the learning environment in times of a pandemic or other similar natural disasters. This sudden change in the learning environment could be likened to the urgent transition from in-person learning to necessary remote learning that occurred in recent years from 2020-2022, when Covid-19 first became part of society. To make matters worse, Ali (2020) added that such vulnerabilities displayed inadequacies in aspects of the educational system and individual families, such as frailty in the remote learning infrastructure, insufficiently qualified educators, lacking information among all relevant parties, lacking educational equity, poor communications between educators and students, and complicated home environments of students, for example. Thus, with the uncertainty of the future of education now with remote learning having a role, Garbe et al. (2020) stated that there are still some mixed feelings from families toward remote learning. There is a good amount of concern about what guidance is and will be made available for schools,

educators, students, and parents, especially when technology is now a likely tool incorporated into the (virtual) classroom (Garbe et al., 2020). To affirm this concern, there are needs to be met. These needs are validated by Abraham Maslow's hierarchy of needs, which will be further discussed later in this chapter, where the first level of needs must be tended to in order to move to the next level of needs (McLeod, 2018). With this being said, learners and their family members, including college students, have the mindset of meeting their basic needs first before moving forward to the higher levels to consider more ambitious needs (Garbe et al., 2020). Hence, Garbe et al. (2020) continued that the experiences of parents with their children during remote learning are worth studying.

**Learning Theories Framework**

This study is guided by several learning theories as each learning theory is deemed relevant and applicable to remote learning and education. The learning theories worth noting are David Kolb's experiential learning theory (Kolb, 2014; Mainemelis et al., 2002), Lev Vygotsky's sociocultural theory of learning (Daniels, 2001; Yousef & Mahameed, 2022), Jerome Bruner's theory of play and discovery learning (Adams, 2011), and Abraham Maslow's hierarchy of needs (Gawel, 1996; McLeod, 2018; Noltemeyer et al., 2012). The above-mentioned learning theories also have some correlations with Jean Piaget's social and cognitive learning theories (Sigel et al., 1981). Moreover, it will become apparent that connections exist between the learning theories mentioned above and the theoretical framework in this study.

When discussing the theoretical framework in this study, there are the constructivist theoretical model and the technology acceptance models (TAMs). Both

models pave the way for understanding the cognitive process and the behaviors and attitudes of K-16 learners during remote learning (Aguilera-Hermida, 2020; Ananga, 2020). The constructivist theoretical model is a learning theory where there is a strong sense of self-concept and great independence while also having good interactive educational directions and a positive attitude towards collaboration when applicable (Ananga, 2020). Hence, the constructivist theoretical model is considered a controversial learning theory because its concept has not been accepted by the public yet (Arpentieva et al., 2021). However, to have a greater understanding of the constructivist theoretical model, one can relate this to Maslow's hierarchy of needs theory where there is a sense of human needs to be satisfied at different points or levels (McLeod, 2018). For example, Gawel (1996) stated that people, such as students, have a need for recognition and satisfaction, and without this need for recognition or satisfaction, they cannot pursue or move to the next higher need or level. To elaborate, Maslow's hierarchy of needs comprises physiological, safety, love and belonging, esteem, and self-actualization, as formed from the bottom treading upwards within a pyramid, which can be separated into two categories referred to as deficiency needs and growth needs (McLeod, 2018). McLeod (2018) pointed out that deficiency needs can be connected to the first four needs at the bottom because one can be motivated to take action when the individual feels deprived of an important need. Even though growth needs are also needs of humans, growth needs are slightly different, where growth needs are more symbolized as a desire to grow to a higher level and be someone (McLeod, 2018). In Maslow's hierarchy of needs theory pyramid, growth needs would be represented by esteem and self-actualization needs (McLeod, 2018).

To connect the constructivist theoretical model with Maslow's hierarchy of needs theory, it is worth noting that learners of the constructivist theoretical model strive for self-concept and independence but at the same time have a positive attitude towards the need for collaboration and interaction with others, such as the teacher as necessary (Ananga, 2020), thus, representing a commonality of the two learning theories. Noltemeyer et al. (2012) continued that Maslow's hierarchy of needs theory also emphasized that educational achievement is an esteem need falling under the growth needs category, but it is attainable only if its needs within the deficiency needs category are met. With the constructivist theoretical model, learners need the time, space, and educational content made available to them for them to reflect on and, in turn, attain knowledge (Ananga, 2020). Hence, these needs could be met by ensuring that the needs under the deficiency needs category of Maslow's hierarchy of needs, such as safety needs and love and belonging needs, are met (Noltemeyer et al., 2012).

To reiterate the constructivist theoretical model as a controversial learning theory, there is Lev Vygotsky's sociocultural theory of learning, which did not gain popularity in the United States until the 1960s when it became more accessible, but his work was released by Russia in about 20 years after his death (Yousef & Mahameed, 2022). When discussing further Vygotsky's sociocultural theory of learning, it is found that cognitive orientation is an important component but in a cultural context (Yousef & Mahameed, 2022). For example, through Vygotsky's view, a student's relationship or connection with learning, peers, teachers, or even parents could be defined by his or her cultural life, meaning the family culture and family dynamics (Yousef & Mahameed, 2022). From there, the student would make his or her decision about to take his or her next step. Since

the constructivist theoretical model strives for greater independence, the constructivist

theoretical model could agree with Vygotsky's sociocultural theory of learning (Ananga,

2020; Yousef & Mahameed, 2022). However, in Vygotsky's theory, there is a mediator

involved in influencing learners in their decision-making processes, such as enjoying or

disliking a new skill or a new learning tool (Yousef & Mahameed, 2022). Therefore, if a

child learner chooses not to accept remote learning, as remote learning is the topic of this

study, the reason for this decision could very well be caused by the adult influencer

behind the scenes.

Although Jean Piaget will be discussed more in-depth a little later in this chapter,

he is a scholar, historian, and psychologist of great importance, thus, playing a role in

offering his expertise in learning theories. It is understood that Piaget is a social learning

psychologist although he is often found to participate in conversations regarding

cognitive constructivism (Sigel et al., 1981). According to Daniels (2001), Piaget is often

seen to be placed in debates or comparisons with Vygotsky, as both can be said to have

opposing views, while some prefer to maintain optimism when referring to both

historians, thus, suggesting both complemented each other in certain aspects of their

views. To discuss the differences between both scholars, Daniels (2001) seemingly goes

deeper in descriptions with Piaget being described as biological while Vygotsky is

described as social and Piaget focuses on the stage theory of cognitive development and

constructivist theory of knowledge where learning starts internally while Vygotsky

focuses on socio-historical theory with a dialectical view where learning starts externally

and varies across cultures. Daniels (2001) defines dialectic "as driven by internal

contradictions" (p. 36).

To elaborate on Piaget's stage theory of cognitive development, Huitt and Hummel (2003) further describe the four stages below:

1. **"Sensorimotor Stage (Infancy)"** (Huitt & Hummel, 2003, p. 2). In this stage, one can see intelligence is being shown through motor activities, but symbols are rarely seen. The children have limited knowledge of the world around them, but the child relies on physical interactions and experiences to gain knowledge. There is a sense of memory that starts for children at around seven months of age with new intellectual abilities and some language abilities are beginning to develop.

2. **"Pre-Operational Stage (Toddler and Early Childhood)"** (Huitt & Hummel, 2003, p. 2). In this stage, intelligence can be seen through symbols, and the use of language begins to mature. There is an understanding that memory and imagination are being developed, but thinking is generally nonlogical.

3. **"Concrete Operational Stage (Elementary and Early Adolescence)"** (Huitt & Hummel, 2003, p. 2). Intelligence can be shown in concrete manners.

4. **"Formal Operational Stage (Adolescence and Adulthood)"** (Huitt & Hummel, 2003, p. 2). Intelligence can be shown in abstract manners.

TAM, a learning theory that has been revised multiple times, is based on the connection of cognitive engagement with educational technology use, and in turn, cognitive engagement links to students' behavior and attitude in their method of absorbing knowledge (Aguilera-Hermida, 2020). This is where researchers can see how Kolb's experiential learning theory would have a correlation with TAM. First, in

explaining Kolb's experiential learning theory, Mainemelis et al. (2002) shared that experiential learning theory defines learning as a process where knowledge is created when experience occurs. There is knowledge when experience is understood and effective (Mainemelis et al., 2002). Mainemelis et al. (2002) continued that with the experiential learning theory, there is a "combination of dialectically related modes of grasping and transforming experience" (p. 5) working together. When referencing dialectically related modes of grasping and transforming experience, there are concrete experience and abstract conceptualization for grasping experience and reflective observation and active experimentation for transforming experience, which are noted as learning models and learning styles (Mainemelis et al., 2002). Moreover, the learning models or learning styles represent an individual's preference in learning by favoring one mode over another (Mainemelis et al., 2002).

When examining further into Kolb's experiential learning theory, researchers may see how this learning theory could be linked to remote learning, especially with online educational activities through the use of technology being easily accessible when learning remotely. With experiential learning theory, it could be used as a lens to see how the learning styles within this learning theory might influence learners in their preference for engaging with multimedia education activities commonly seen in online and remote learning (Borun et al., 2010). Furthermore, Borun et al. (2010) added that experiential learning theory looks at learning style as an aspect of cognitive engagement much like TAM in connecting students' behavior and attitude in receiving knowledge by using technology (Aguilera-Hermida, 2020).

Next, there is Jerome Bruner's theory of play and discovery learning where students could learn while interacting with equipment and objects through activities, thus, considering learning as an active process (Adams, 2011). According to Adams (2011), Bruner's theory of play and discovery emphasized the importance of the role of play with some characteristics that are necessary to consider: (1) Play is intended to reduce the risk of failure such that learners should be made aware that they are free to try things out without the thought of succeeding or failing in the play process, (2) Play occurs in the period of time where there is no room for frustration, meaning frustration or angry is not a requisite, (3) Play is flexible, inviting, and an opportunity to open doors to possibilities, and (4) Play should be considered as a voluntary process or activity although there may be an unspoken end-goal. In addition, with Bruner's theory of play and discovery learning, it can be applied to technology learning in young learners (Adams, 2011). With this in mind, Adams (2011) stated that Bruner experimented with his theory with a computer-based task using an age-appropriate software and calling and describing it as an Information Communication Technology (ICT) program. In addition, this computer-based task with the software was designed with a collaborative approach and involved an online community that shared ideas and supported one another learners to create new ideas (Adams, 2011). As a result, Adams (2011) noted that the learners were able to construct knowledge based on one another's past and present experiences, thus, affirming Bruner's learning theory. Hence, Bruner's theory of play and discovery learning fit very well with TAM.

**Pedagogy**

Ananga (2020) stated that there are changes in educational supply and demand. The author referred to the educational supply and demand as pedagogical changes involving growth in technology use and the increased need for e-learning since the onset of Covid-19. Ananga (2020) continued that people, especially students, will likely co-exist with Covid-19 indefinitely. Therefore, Ananga suggested that educators should be committed to discovering more updated forms of instructional delivery strategies. Beetham and Sharpe (2019) continued that the instructional delivery strategies could include tools that would enhance and supplement remote learning and the role that technology could play in rethinking pedagogy. Beetham and Sharpe (2019) noted that rethinking pedagogy highlights the importance of remote learning and education in the technology era or the digital age, which refers to present-day society.

With today's advancement in technology and the likelihood of having technology co-exist with Covid-19, there should be an acceptance of a forward-thinking mindset in education with having the remote learning pedagogy ready and in place. Adding to the thoughts of Beetham and Sharpe on rethinking pedagogy earlier, Haugen (2022) pointed out that the number of students opting into remote learning has increased much in the span of three years, from 2019 to 2021, inclusive, representing about 5% increase when compared to the previous years. In another example, technological advancement again with more interest in learning online gave remote learning a place in the education sector and pedagogy (Haugen, 2022). Yet in another example, online learning and remote learning opportunities will continue to expand as the technology used in educational institutions for learning and teaching improves with Zoom, the online video meeting

platform that quickly became a new powerful tool for teachers, parents, and students alike (Bearing, 2021). Bearing (2021) continued that although remote learning with online meeting platforms, such as Zoom, was a tremendous learning curve for many during the peak Covid-19 pandemic, many school districts chose to offer 100% remote learning to start the new school year co-existing with Covid-19 motivated by safeness as the main concern. This goes to show that remote learning is having more of a presence in our learning and will likely continue into the future as part of the education pedagogy. Of course, there is always more than one or two sides to a story. The topic of remote learning is certainly not an exemption. In a different example, the impact of comparing remote learning with in-person learning and mere remote learning was shown, and the result was notably significant. For example, based on a study conducted with focus groups and surveys using qualitative and quantitative research methodologies, students who had 100% remote learning projected more negative attitudes toward school and education and had their social and emotional well-being negatively impacted than students who had in-person learning on alternating days (Lotwich, 2021).

As remote learning is likely here to stay, it is essential to integrate the thoughts of other scholarly experts into the remote learning pedagogy to assist in acquiring and understanding knowledge. These other scholarly experts would include Howard Gardner and Benjamin Bloom. With Gardner, there is his theory of Multiple Intelligence (MI), which could create a possibility for interaction in the remote learning environment through a reflective practice of seven distinct intelligences (Coreil & Moulton, 2003). With Bloom, there is Bloom's Taxonomy, which works through his framework of the hierarchy of learning that is organized using six major categories with the category of

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knowledge being placed on top (Coreil & Moulton, 2003). Furthermore, Coreil and Moulton (2003) indicated that there is the ideal thought that Bloom's Taxonomy and Gardner's MI would integrate to engage students and encourage learning within the remote learning pedagogy of the education sector.

**Methodology**

For studies, such as this, in which the objective is to understand the participant's first-hand experience in natural environments, qualitative research methodology and phenomenological research design would be most fitting. The qualitative research methodology would allow the researcher to collect data in the natural setting of the participant (Creswell & Creswell, 2018). In addition, the qualitative research methodology gives researchers the ability to explore areas of participants' behavior (Mohajan, 2018). Phenomenology is an example of a research design of the qualitative research methodology (Chivanga & Monyai, 2021), which allows the researcher to focus on the participant's lived experiences (Neubauer et al., 2019). Qutoshi (2018) added that the phenomenology research design assists the researcher in understanding the participant on a different and more profound level and in enhancing the ways of seeing a phenomenon, which can be conducted through observations and interviews with the participants (Jan, 2020).

**Attitudes, Perceptions, & Motivations**

Almajali et al. (2022) stated that the sudden shift of education from a traditional classroom to remote learning in a virtual learning environment due to Covid-19 was overwhelming. Almajali et al. (2022) continued that those students considered the use of technology and insufficient feedback to be discouraging to them. For example, Serhan

(2020) indicated in an article that students' perception toward the use of the Zoom platform in remote learning was more negative than positive on their learning experience and motivation to learn. However, Durak and Çankaya (2020) noted a surprising difference between remote learning and fully online learning and that many students felt less anxious about learning remotely than entirely online.

Durak and Çankaya (2020) stated that with remote learning, there is some communication with the instructor, feedback with motivation given and exchanged, and social interactions with instructors and peers. Gillis and Krull (2020) added that the common barriers that most students experienced during remote learning due to Covid-19 were "distractions, increased anxiety, and a feeling of less motivation, especially for nonwhite, female, and first-generation college students" (p. 283) even though there were other concerns, such as an instructor's instructional technique, how well the instructor implement the technique, and general technology issues. In addition, Öqvist and Malmström (2018) pointed out in their article that motivation plays a significant role in students' performance and academic achievement in remote learning and that "students' self-efficacy and teacher leadership" (p. 1) are contributing factors in students' increased and decreased of motivational level although the exact link to educational motivation is still unclear. Furthermore, Jeong et al. (2019) concluded that the use of an appropriate active learning methodology could promote positive emotional and motivational levels and reduce feelings of isolation and other negative effects that were typically experienced by students during remote learning or in remote education.

**Theoretical Framework**

**Brief Overview of Theoretical Models**

This researcher had introduced two theories to guide readers to be more familiar with the learning process and concept of remote learning. The two theories presented in this study of remote learning are the constructivist theoretical model and the technology acceptance model (TAM). These two theories share a correlation with one another, thus, forming the theoretical framework of this study of remote learning.

**Constructivist Theoretical Model**

Constructivism is an active learning approach involving interaction and collaboration so that new knowledge can become personal knowledge (Ananga, 2020). In other words, there should be opportunities for self-reflection that are derived from interactive activities and individual cognitive actions. In addition, constructivism created an interest in the education sector, but this interest has not been fully realized around the world; thus, constructivism can be labeled as an ideology or methodology (Arpentieva et al., 2021). According to Arpentieva et al. (2021), the constructivist theoretical model brings forth a sense of instruction by encouraging interactions between a teacher and a learner. Because constructivism is not fully accepted in the education sector yet, it is being experimented with and implemented in the world of remote education; thus, constructivism or the constructivist theoretical model is seen or accepted as an innovation for education (Arpentieva et al., 2021).

When discussing the constructivist theoretical model, some great historical figures cannot be ignored. One such figure is Jean Piaget, whose work and ideas have scholars and authors of the past and present often referred to. To start, Piaget could be said to have worn different hats – both self-proclaimed and as being recognized. For example, Von Glasersfeld (1997) stated that Piaget was known as the "founding father of a branch of

psychology" (p. 293) in which the new branch was placed under two headings of developmental psychology and cognitive with the goal of discovering more about the profound insights of the human mind. Thus, he received the entitlement of a psychologist although he often insisted he was not one (Messerly & Blackwell, 1996). Instead, Piaget self-proclaimed to be a genetic epistemologist and coined the term genetic epistemology for the discipline that goes in-depth on the development of knowledge (Messerly & Blackwell, 1996). Messerly and Blackwell (1996) continued that this development of knowledge from Piaget encompassed both the individual and the collective aspects together with historical components, particularly in the field of science, such as mathematics and biology. From Piaget's perspective, human inquiry comes from within individual persons' minds, also known as the subject, in which individual persons would construct knowledge resulting from their actions based upon their environments, also known as the object, at the time (Pass, 2007). In other words, "knowledge occurs *in media res*, between the possibilities of the subject while interacting with the object meaning the place in which knowledge, through communication, is constructed as derived from Latin" (Campos, 2007, p. 387).

A third hat that Piaget seemed to have worn is being a constructivist based on his perspectives mentioned earlier. Hof (2021) indicated that constructivism was made famous by Piaget through his constructivist theoretical model, which in essence is enhanced by incorporating two other theories of knowledge with one saw learning as being reasoned by external realities and the other seeing knowledge as being innate with the tendency of evolving. Moreover, Piaget's definition of the construction of knowledge within individuals arose from the meanings gathered from experiences within the

environment of individuals (Campos, 2007). This view of Piaget also agrees with the
discussed definition of the constructivist theoretical model and the role of
phenomenologists. Therefore, genetic epistemology works on a different level with
constructivism than mere epistemology, which studies the nature of knowledge and its
truth in more of a philosophical sense (Velasquez, 2017).

      Another great figure would be Lev Vygotsky when discussing the topic of
constructivism. It was understood that Vygotsky's popularity increased in the educational
arena, particularly in constructivist pedagogies through his special educational technique,
as it was widely known at the time, called scaffolding, with the more formal term of it
being the Zone of Proximal Development (ZPD) (Nardo, 2021). Under the formal term of
ZPD, Nardo (2021) stated that meaningful learning comes from the external environment
of an individual. Daniels (2001) elaborated on ZPD that it falls under Vygotsky's theory
of development, which of course, is different from Piaget's theory of development. With
ZPD, it is a concept that was created as a metaphor to assist Vygotsky in explaining how
learning occurs (Daniels, 2001). As such, Vygotsky wanted to show others that learning
is done from the outside (Daniels, 2001). Molls (2014) added that ZPD involved creating
something imaginary from the outside with no strict rules to follow, thus, allowing one to
advance to a higher level psychologically.

      A third key figure who is influential on the topic of constructivism is Jerome
Bruner. Bruner was mentioned earlier as having played a significant role in creating
learning theories. Now this study looks more up close to his role as a constructivist.
Bruner's influence of constructivism has been more on the side of the teachers where he
contributed ideas and instructional theories and encouraged teachers to incorporate

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problem-solving within the curriculum (Stapleton & Stefaniac, 2019). From Bruner's

perspective, knowledge is constructed by exploring the world or remembering previous

experiences (Stapleton & Stefaniac, 2019). According to Bruner, students learn new

concepts and knowledge along the way; thus, learning is a process (Stapleton &

Stefaniac, 2019).

Looking at the present and ahead to the future with constructivism in the picture,

constructivism has been integrated more into education through technology. It has been

incorporated into learning technological platforms with more freedom of thinking and

learning capabilities although it has been considered more against cultural values (Hof,

2021). Nevertheless, Hof (2021) noted that cultures and the education sector did and will

continue to benefit from the purpose of constructivism.

**Technology Acceptance Models (TAM)**

The technology acceptance model (TAM) exists in more than one version, with

the first model focused on one's acceptance of a particular behavior. In this case, it would

be the behavior of continuously accepting the use of technology (Aguilera-Hermida,

2020). With the initial version of TAM, Aguilera-Hermida (2020) stated that it is

understood that learning can take place on any computerized handheld or non-handheld

device. However, such devices have also been shown to be posing limitations to TAM.

Therefore, TAM was updated on multiple occasions. Hence, researchers see multiple

versions of TAM.

According to Aguilera-Hermida (2020), research has shown that the new versions

of TAM revealed insights into how the use of technology can influence an individual's

attitude toward the use of technology for educational purposes. Aguilera-Hermida (2020)

continued that such insights brought to light factors of "attitude, affect, and motivation; perceived behavioral control; and cognitive engagement" (p. 2), which all relate to the students' stance in the use of educational technology when applied to their learning process. Hence, this revelation could assist students in determining their next step on whether technology or mobile devices would be a suitable form of a learning platform.

The origin of TAM dates back 30 years in the field of psychology when it was known as the theory of reasoned action (TRA), but it has since evolved following the acceptance and rejection of technology by people (Granić & Marangunić, 2019). When it was known as TRA, it simply had the focus of "explaining and predicting particular behaviors" (Granić & Marangunić, 2019, p. 2574). Granić and Marangunić (2019) pointed out that TAM took it a step further by highlighting factors of learners' motivation and attitudes when used in conjunction with technology. These factors would be in addition to its purpose of predicting acceptance or rejection of technology by learners in an educational setting (Granić & Marangunić, 2019).

**Cognitivism**

Both above theoretical models have a common denominator. That common denominator is cognitivism or cognitive learning. With TAM, it is understood that learners have cognitive abilities that allow them to bring in knowledge, but little data is available to show how learners perceive knowledge in a remote-learning environment (Aguilera-Hermida, 2020). Within the constructivist theoretical model, there should be an understanding of the cognitive aspect of one person's learning process. In addition, with the constructivist theoretical model, learners focus on "understanding their learning process dimensions through observation, interpretation, and adaptation of information to

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build a cognitive structure" (Al-Shammari et al., 2019, p. 411). Moreover, Aguilera-Hermida (2020) explained that there were previous studies related to online learning, but those studies still offered insufficient research materials to show how well learners can use their cognitive abilities to gain and retain knowledge, especially in a remote learning environment. As a result, this study is significant in that it provides the opportunity to investigate the extent of current and recent remote learners' cognitive abilities to help answer the research questions of this study.

## Chapter 2 Summary

This study gives meaning to the research purpose and the research questions of remote learning. To reiterate, this study has its research purpose and research questions to serve as the roadmap and focus. The purpose of this study is to describe how much knowledge K-16 students located in the United States can learn from remote learning. The research questions that this study will focus on are "How much knowledge can students in K-16 actually learn from remote learning? What are the benefits and challenges that K-16 students face in remote learning? How does remote learning influence critical thinking, creative thinking, and problem-solving skills in K-16 students?" With the research purpose and the research questions in place, both parts allow the literature and the theoretical framework to play their roles in providing in-depth insights into remote learning.

This chapter focuses on giving the literature and the theoretical framework the opportunity to take the stage to provide clarity on the previous studies that were done on remote learning and to reinforce that more research is necessary to uncover the solution(s) to the research problem of this study. With the abundance of literature that is

available to researchers despite probable limitations, it would be interesting to see how remote learning has begun to take the lead in changing the education of yesterday to the education of tomorrow while still existing in the current technology era. As this study moves along to the next chapter - Chapter Three, researchers could see how both the research methodology and research design would work to benefit the topic of remote learning and this study for the goodness of the future of education. Chapter Three will also cover ethical matters to ensure that every component in this study is proceeding in the proper direction.

# CHAPTER 3. METHODOLOGY

## Introduction to Chapter 3

### Purpose of the Proposed Study

The purpose of this qualitative phenomenological study is to explore the lived experiences of K-16 students located in the United States to understand how much academic knowledge traditionally acquired through in-person schooling that they can learn and have learned from remote learning. The phenomenological research design would specifically allow research participants, in this case, the parents of K-16 students, to describe the lived experiences of their learner(s) during remote learning sessions in detail (Islam & Aldaihani, 2022). The study will focus on engaging with the parents of K-16 students through interviews and, if applicable, open-ended questionnaires to obtain their perspectives on learning remotely (Creswell & Creswell, 2018). The qualitative research methodology will be warranted to explore the lived experiences of K-16 students through the lens of their parents as the parents will share in their own words the perspectives, challenges, successes, and experiences encountered by them and their learner(s) in the remote learning environment. The research questions that will guide this study are: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? What are the educational benefits and challenges that K-16 students face in remote learning? How does remote learning influence some essential thinking skills in K-16 students?

The contents of this chapter will include a discussion of the research methodology and design, data collection, and data analysis process for this qualitative phenomenological research study. This chapter will also review the research questions

and address the appropriateness of the research design in detail for this study. Moreover, this chapter will briefly describe the data collection process and how the selected research design will be used to collect data. Additional discussions of the sample size and the target population, with a description of the participant recruitment criteria and the purposive sampling method, will be included in this chapter. This chapter will also provide a description of the sources of data with the rationale for the selection of the instrument in this study and a detailed description of the data analysis procedures in how it would answer the research questions and address the phenomenon of interest in this study. Then there will be a discussion on how the trustworthiness of the research findings will be established and presented, thus, ensuring the confidentiality and privacy of the research participants themselves and the data that they shared in this study.

**Research Questions**

In a qualitative research study, researchers use signposts to guide readers through their studies (Creswell & Creswell, 2018). One of the signposts would be the research questions. According to Creswell and Creswell (2018), the research questions guide a study through an exploration to discover the solution(s) to the phenomenon of the study. In addition, the research questions play the roles of the central question and sub-questions that follow (Creswell & Creswell, 2018). The research questions that will guide this study are:

**RQ1**. How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning?

**RQ2**. What are the educational benefits and challenges that K-16 students face in remote learning?

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**RQ3**. How does remote learning influence some essential thinking skills in K-16

students?

With the above-mentioned research questions, it will be assumed that the

responses would broaden the knowledge of educational leaders to discover solutions to

improve and enhance remote learning to benefit K-16 students in their education for the

present and the future. The lived experiences of K-16 students from the perspectives of

their parent(s) could certainly open doors to new concepts and innovations for remote

learning in the education sector in the United States. If innovations in remote learning do

not immediately become a reality, this study could still bring to light concerns

referencing the effectiveness of remote learning in the years 2020-2022, inclusive, when

there were more direct impacts from the Covid-19 pandemic.

## Methodology and Research Design

The three common research methodologies or approaches used by researchers in

their research studies are qualitative, quantitative, and mixed methods (Creswell &

Creswell, 2018). This study will be a qualitative research study where there will be an

attempt to capture from K-16 students their true intellectual thoughts, learning outcomes,

experiences, and emotions within the environment of the virtual classroom through the

lens and perspectives of their parents. Unlike quantitative research studies, where

researchers would serve as outside observers and apply theories, hypotheses, and

variables to examine relationships by using such designs as surveys and experiments, the

researchers in qualitative research studies would serve as interior investigators to gather

data from their research participants through interviews, open-ended questionnaires,

and/or observations among others in natural settings in qualitative research studies

(Chivanga & Monyai, 2021; Creswell & Creswell, 2018). In a qualitative research study, the researcher makes arduous attempts to collect data to create methodical and educated interpretations of the phenomenon from the experiences of research participants in their studies (Chivanga & Monyai, 2021). In the case of this study, the phenomenon of interest and research participants would be the remote learning experiences of K-16 students in the United States.

According to Chivanga and Monyai (2021), the qualitative research methodology allows for more of a subjective measure to comprehend the deeper meanings of the phenomenon from the perspectives of the research participants. In addition, the qualitative research methodology presents better opportunities for researchers to attain the most favorable research outcome in a subjective fashion from research participants who are being studied (Chivanga & Monyai, 2021). With quantitative research studies, individuals who are being studied act independently from their observers without any descriptive components necessary, whereas with qualitative research studies, individuals who are being studied act dependently on the researcher, thus, allowing for a descriptive component to ensure the effectiveness of the study (Chivanga & Monyai, 2021). In the case of this study, the research participants comprising parents of K-16 students would share and describe both the positive and negative experiences of their learners in the remote learning environment, from the years 2020-2022, through interviews or open-ended questionnaires in more of a natural setting for the researcher of this study to obtain the most comprehensive research outcome as possible that are also the features under the qualitative research methodology (Creswell & Creswell, 2018).

According to Creswell and Creswell (2018), there are five recommended qualitative research designs - ethnography, case study, phenomenology, narrative, and grounded theory - as they are known to be popular and commonly used today, although there are others within the qualitative research methodology. Creswell and Creswell (2018) described these research designs further as follows: (1) with phenomenology and narrative, the researcher studies individuals in a much deeper manner, (2) with the case study and grounded theory, the researcher investigates activities in a deeper manner, and (3) with ethnography, there is the opportunity for the researcher to learn about the behaviors that are being shared among people within or between cultures. Among the research designs just explained, phenomenology and narrative would be considered as most suitable for the focus of this study. However, to assist this researcher in having a better understanding of phenomenology and narrative research designs, phenomenology uses the approach where experiences are described in-depth by the individuals who lived through them, thus, being described as the lived experiences with the what and the how of the experiences as the focus (Neubauer et al., 2019), whereas with the narrative research design, the focus is to discuss about the life of individuals and not really concern about their lived experiences of any particular activities (Islam & Aldaihani, 2022). Therefore, the explanations just described for the phenomenological research design would be the rationale to indicate that the use of phenomenology would be the best option for this qualitative research study.

According to Neubauer et al. (2019), the phenomenological research design is best explained "as the study of phenomena as they manifest in our experience" (p. 92). With this being said, Neubauer et al. (2019) further stated that phenomenology opens the

doors for researchers to examine the experience as it is and was lived by the individual, also known as the research participant in a qualitative phenomenological research study. Hence, the experience that is subjectively told by the research participant would have a greater chance of creating new meaning and appreciation for this and other researchers to inform the audience of the future (Neubauer et al., 2019).

With the phenomenological research design in this qualitative research study, this researcher will collect data from research participants representing the parents of the K-16 student demographic, which would be the parent population of grades K-16 students in the United States. The data collection process would be through in-person interviews at the research participant's home or at a mutually agreed upon location or virtual face-to-face interviews via the Zoom platform. If applicable, open-ended questionnaires will be used with research participants to capture the most lived experiences from the parents of the K-16 student population on the topic of remote learning from the years 2020-2022, inclusive, which would be the phenomenon of interest of this study. Regardless the interviews are in-person or virtual, the spoken data will be recorded after informing the research participants in this study.

<center>**Target Population, Sampling Method, and Related Procedures**</center>

**Target Population**

The target population of a study is the total number of research participants with similar characteristics addressing a particular research problem of concern (Chivanga & Monyai, 2021). In this study, the research interest is remote learning in the years 2020-2022 inclusive. The target population for this study will be approximately 15-20 participants consisting of parents of grades K-16 students in the United States. The target

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population for this study is 15 to 20 research participants to ensure that the research

participants are adequately represented to cover more than one state in the United States

to address the research problem of this study.

**Sampling Method**

All the research participants in this study will be in the United States and will be

selected based on the current and past three years of experience with remote learning of

their learner(s) in K-16 schools and their residences within the United States. Therefore,

the sampling method used to gather data in this study is purposive sampling, which

allows researchers to select research participants based on certain selected objectives

(Islam & Aldaihani, 2022). Creswell and Creswell (2018) described purposive sampling

as purposefully selecting participants that will best provide researchers with solutions and

understanding of the research problems and research questions in their studies.

To assist this researcher in determining if a member of the target population is

eligible or not eligible to participate in this study, this researcher will consider the

inclusion and exclusion criteria, which are also known as the eligibility criteria, and non-

probability sampling, which is a sampling method that allows the researcher to draw

conclusions and easily collect data that might be based on other criteria (McCombes,

2022;  Nikolopoulou, 2022). The inclusion and exclusion criteria that will be applied to

this study to determine the eligibility of the potential research participants consist of

demographic characteristics (Nikolopoulou, 2022). The inclusion criteria of the

demographics of the research participants in this study will be, from 2020-2022, (1)

parents of grades K-16 students in the United States, (2) parents having grades K-16

students living and studying in the United States, and (3) parents having grades K-16

students experiencing remote learning in the United States. The exclusion criteria of the demographics of the research participants in this study will include, from 2020-2022, parents of K-16 students who were not living and studying in the United States and/or did not experience remote learning in the United States. Non-probability sampling and the inclusion and exclusion criteria are both features of qualitative sampling techniques (McCombes, 2022).

**Sample Size**

The sample size for a qualitative phenomenological research study is generally involving a small number of 3-10 research participants, as a very large sample can be very difficult to manage, and it depends on the number of sites used in the study, the duration of the study, and when saturation could be reached based on the sample size that is already available for the study (Chivanga & Monyai, 2021; Creswell & Creswell, 2018). Saturation occurs when there would be no new data or insights to be revealed from the existing sample size, thus, causing this researcher to decide to stop collecting data or searching for research participants for this study (Creswell & Creswell, 2018). Since this study will consist of only one site, which is the United States, the anticipated minimum sample size for this study is 10 research participants. The proposed sample size for this study is approximately 15-20 research participants comprising parents of K-16 students within the United States. Appropriate attention will be placed on ensuring that the research participants were parents who have learners representing the relevant grade levels of K-16, which would comprise learners in elementary grades of K-5, learners in middle school grades of 6-8, learners in high school grades of 9-12, and learners in post-secondary undergraduate grades of 13-16 in the United States in this study. The proposed

sample size of approximately 15-20 research participants in this study is more than the minimum of 10 research participants in the United States to account for participant attrition.

**Setting**

Qualitative research studies occur in natural settings where face-to-face interactions at a long duration of time are allowed, and there is a greater chance of focusing on the problem or issue that the research participants in the study have experienced or are experiencing (Creswell & Creswell, 2018). In addition, data from qualitative research studies are collected in "real-life and day-to-day settings, not in controlled or laboratory settings" (Mohajan, 2018, p. 17). In this study, face-to-face interviews will be the main instrument. Some attempts will be made to have an in-person interview, mostly at mutually agreed upon locations of the parents of the K-16 learners. Most of the face-to-face interviews will be conducted virtually via the Zoom platform, which would be ideal to resemble as close as possible to remote learning, as it is the topic of this study. Few face-to-face interviews in this study will take place at the research participant's place of residence. The research participants in this study will be mostly recruited through face-to-face and text conversations, emails, and social media communication platforms, including WeChat, LinkedIn, and Messenger via Facebook because many of the research participants already have some form of a relationship or connection with the researcher of this study.

**Recruitment**

The research participants of this study will comprise parents of K-16 learners. The parents will be mostly acquaintances and colleagues of this researcher and this

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researcher's friends and family members in the United States. The criteria for the selection of this sample of research participants will be as follows: First, the potential research participant will be identified as an acquaintance, a colleague, or a distant relative having at least one previous or current K-16 learner in the family. Second, the parent will have at least one K-16 learner who will have experienced remote learning between the years 2020-2022, inclusive. Third, the parent of the K-16 learner(s) will have had a place of residence in the United States between the years 2020-2022, inclusive.

To locate the potential research participants for this study, this researcher will have brief telephone, text, social media, or face-to-face conversations as part of the initial communication. In addition, this researcher will send a letter in the form of a written request to serve as a recruitment effort when friends and family members assist by referring and recommending potential research participants in the United States (See Appendix B). Moreover, this researcher will follow up with the potential research participants by sending them a brief email to confirm that they do meet the certain selected objectives of this study, thus, also serving as an initial screening process or preliminary screening email (See Appendix C). The written letter and email requests will follow the inclusion and exclusion criteria mentioned earlier. A few acquaintances have already declined this researcher's request to be research participants in this study.

The recruitment efforts shared in this study will continue until enough research participants are attained. However, initial face-to-face interviews will be planned to take place in late September or early October of 2023. A friend of this researcher requested a follow-up communication as another or last attempt to assist this researcher in attaining enough research participants. Therefore, the follow-up communication to the friend of

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this researcher will be planned to be made in early October of 2023 if necessary. A small incentive in the form of an e-gift card of an amount less than $25.00 will be offered to the research participants of this study. In the end, any disparity of research participants in the United States will be noted in this study, as it was also considered a limitation of this study.

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

Instrumentation is the act of measuring the subject of interest, such as human participants, with a data collection tool, also called the instrument to gather data in a process (Biddix, n.d.). In a qualitative phenomenological research study, the researcher is the primary instrument collecting the data from research participants by using different data collection tools, which makes researchers the ideal people to interact with their research participants to get real-life, lived experiences (Creswell & Creswell, 2018). Data collection tools used by researchers of qualitative research studies include interviews, open-ended questionnaires, observations, public and private documents, audiovisual and digital information, photographs, etc. (Creswell & Creswell, 2018). This researcher will use an existing instrument via digital information as a guide in conjunction with a combination of interviews and, if applicable, open-ended questionnaires for this qualitative phenomenological research study. The existing instrument selected will consist of relevant remote learning questions that will be applied to the interviews and open-ended questionnaires in this study. This researcher will not develop any new data sources for this study or modify the existing data source of this study but will use the existing digital information as a template guide or sources of data to create questions to

be used in the interviews and placed on the open-ended questionnaire of this study. The existing instrument selected will be elaborated further under Sources of Data below.

**Sources of Data**

This study will use the following data source:

"*80+ Remote Learning Survey Questions for Students, Teachers, and Parents*" (Natarajan, 2022, Best Of section).

There are more than 80 questions under this data source instrument. However, only some questions in this instrument are more closely related to this study; therefore, this data source will be used merely as a guide, but it will be considered a primary source of data or data collection tool in this study because it serves as digital information. Digital information is another option for data sources in qualitative research methodology comprising sources that could be found on the internet, such as from a company's website pages (Creswell & Creswell, 2018). This is particularly true for this instrument data source because it was found on the website owner of SurveySparrow (Natarajan, 2022).

A written request for permission to incorporate this instrument into this study would have been sent to this instrument owner of SurveySparrow by this researcher (See Appendix D). This instrument owner of SurveySparrow would be chosen to use in this study due to certain factors demonstrating reliability, including (1) being a better alternative to Survey Monkey with SurveySparrow having a cheaper subscription pricing than Survey Monkey and 100% user satisfaction with SurveySparrow when compared to 91% user satisfaction with Survey Monkey (FinancesOnline, 2023), (2) having a strong global presence with "over 8000 customers in 108 countries" (SurveySparrow, 2019,

para. 5) according to a 2019 SurveySparrow Press Release, and (3) garnering increased

customer engagements and interactions and positive experiences with honest feedback

responses (SurveySparrow Inc., 2023) in industries, including education and healthcare

(SurveySparrow Inc., 2023b). Multiple email communications would be exchanged as

applicable with written permission granted from this instrument owner of

SurveySparrow, allowing this researcher to incorporate this instrument by means of being

as a guided template to create questions for this researcher's qualitative research study

(See Appendices E-I). The purpose of this instrument is to measure the level of student

engagement experienced through the remote learning environment and the number of

possible challenges faced by students when engaging with remote learning, so

improvements and enhancements can be made (Natarajan, 2022). This is an existing

instrument that was founded online through a Google search and was created by a

Product Marketer at SurveySparrow (Natarajan, 2022). SurveySparrow, which is the

owner of this instrument, is based in the state of California and mostly serves large

corporations in the Western United States, such as Warner Bros., Honda, Grant Thorton,

and McKinsey & Company, just to name a few, according to its website (Natarajan,

2022). Therefore, this instrument would be considered credible based on its population of

customer base. This instrument is not found to be represented by an acronym. To

encourage accurate responses, the research participants in this study will be informed

verbally prior to the start of interviews and in writing on the open-ended questionnaire to

respond to up to said 10 questions of this study in the manner that the questions relate to

them and their experience in the remote learning environment during the 2020 to 2022

Covid-19 pandemic years only and not to relate to any other years of the past, the present, or the future (Appendix J).

The rationale for the selection of this instrument is that the question samples are more comprehensive in the category of parents and the questions related to remote learning (Natarajan, 2022). The descriptive responses of the research participants from the questions created by the researcher of this study will align well with a feature and characteristic of qualitative research study and phenomenology research design (Creswell & Creswell, 2018; Jan, 2020). Thus, this will also allow this researcher to be more able to obtain a detailed reality of the experiences of this study's specific groups of research participants, who will be the parents of grades K-16 learners, in the remote learning environment (Creswell & Creswell, 2018; Jan, 2020). Furthermore, the questions under this instrument are intended to answer the research questions: "How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? What are the educational benefits and challenges that K-16 students face in remote learning? How does remote learning influence some essential thinking skills in K-16 students?" The researcher of this study will create questions for this study to ensure that the questions would not be closed-ended, meaning merely have yes or no responses, which are not fitting for a qualitative research study but rather more suitable for a quantitative research study or do not align well with the research problem, the research questions (Bloomberg & Volpe, 2018), or the full sample size of this qualitative research study. Achieving alignment is an important component where it is necessary to have research data to answer the research questions of the qualitative

research study well and to have the proper instrument(s) to resolve the research problem (Bloomberg & Volpe, 2018).

In reference to the scoring of the question responses, there are not intended to be any correct or incorrect responses. The instrument will intend to place the response data into themes to possibly discover trends and a pattern of similarities and/or differences from the participants' experiences through their responses. This portion will be completed as part of the analysis process with the NVivo computer software (Sutopo, 2023).

**Validity and Reliability**

The instrument indicated in this study will comprise questions that will be asked of the research participants through interviews or open-ended questionnaires. Thus, their validity and reliability strategies and findings would be considered similar. In qualitative research studies, validity is a strength represented by the accuracy of its findings from the perspectives of the researcher, the participant, or even the reader, if applicable, through applying one or more certain validity strategies, thus, connecting to the trustworthiness of the instrument(s) (Creswell & Creswell, 2018). Trustworthiness will be further discussed later in this chapter.

Creswell and Creswell (2018) shared eight validity strategies that are recommended to be considered in qualitative research studies: (1) triangulating or incorporating multiple data sources to understand how their evidence could justify the themes stemming from the data sources of the same phenomenon of interest (Anderson, 2010), (2) member checking to ensure accuracy by confirming some of the more important findings with the research participants through follow-up interviews and/or

subsequent opportunities for their comments, for example, (3) using descriptions to relay and have a deeper understanding of findings for richer experiences, (4) clarifying any bias potentially observed, (5) making contradictory information available, (6) researcher spending more time in natural settings with the research participant, (7) having a person, such as a debriefer, to review the study content, and (8) having a person, who is unfamiliar with this researcher or the study to audit or provide an objective assessment of the study content. Based on the above-mentioned validity strategies, members checking, using descriptions to relay and have a deeper understanding of findings for richer experiences, and the researcher spending more time with the research participant in natural settings would be seen as more suitable validity strategies for this study. The selected validity strategies would allow this researcher to communicate and validate the findings with the respective research participants to obtain the most accurate picture possible of the experience with remote learning and to have a richer reflection of the experiences. Thus, the selected validity strategies would also validate the existing instrument in this study. In referencing the reliability of the instruments in this study, Creswell and Creswell (2018) pointed out that it is suggested that qualitative researchers would document more than enough data points, such as gender and ethnicity, as possible within the data collection period so that this researcher will ensure the reliability of the instruments in this study and that other researchers can also mimic in the future.

For years in the past, there were discussions on the need for qualitative research studies for investigations on a phenomenon of interest, but this was later convinced to be a necessity for further inquiry by writers and researchers (Creswell & Creswell, 2018). Thus, the qualitative research methodology has unique characteristics, which are also

formed by a collaboration of subsets. Van Schalkwyk et al. (2018) defined subsets as a part of a large group. In the case of qualitative research methodology, which comprises a subset of (1) research designs, namely narrative, phenomenology, grounded theory, case study, and ethnography, each research design has its own requirement for (2) sample size when considering the target population of the study, and (3) data collection tools, which include the options of interviews, open-ended questionnaires, observations, documents, etc. (Creswell & Creswell, 2018). The data collection of this study will be discussed further in the next section.

## Data Collection

Data collection in qualitative research studies comprises steps to set guidelines from sampling and recruitment to recording of data using such data collection tools as interviews and open-ended questionnaires by the researcher (Creswell & Creswell, 2018). As shared earlier, this researcher will be the primary instrument in this qualitative phenomenological research study. First, this researcher will have made contact with potential research participants who will be the parents of K-16 learners. The contact may be made in person at this researcher's places of employment and through text, social media, and email communications, as this researcher has relationships and connections with the potential research participants and will have applied purposive sampling to purposefully screen and select potential research participants based on certain selected objectives (Creswell & Creswell, 2018; Islam & Aldaihani, 2022). Second, this researcher will have confirmed with the potential participants, who will have pre-agreed to be research participants by themselves prior to obtaining informed consent with the goal of protecting the rights and well-being of the study participants and ensuring their

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understanding of this study. Third, this researcher will have obtained a necessary number of informed consents from this researcher's potential research participants. Fourth, this researcher will have gathered together other relevant and required research supporting materials, including the completed Institutional Review Board (IRB) Application, and will have submitted them to this researcher's university's IRB for review and approval prior to obtaining signed informed consent and scheduling and beginning the interviews with research participants (Creswell & Creswell, 2018).

The data collection tools for this study will consist of face-to-face interviews and, if applicable, open-ended questionnaires. The face-to-face interviews will take place either in person at a mutually agreed location or virtually via the Zoom platform. If open-ended questionnaires are necessary, they will be sent via email in PDF format to the respective research participants. Open-ended questionnaires will be provided as an available option in place of face-to-face interviews, as it will also be noted on the informed consent form. Both interviews and open-ended questionnaires will be administered by this researcher, who is the primary instrument of this qualitative research study and will be audiotaped and videotaped using the recording feature of the Zoom platform for virtual interviews and will be audiotaped using a digital recorder device with making handwritten notes as documentation for in-person interviews (Creswell & Creswell, 2018). Both audiotaping and videotaping will be performed after informing the interview participants. The interviews for data collection will occur at least one time with follow-up interviews as necessary and as agreed by the interview participant. The duration of each interview will be approximately 45-60 minutes. However, the duration of each interview can be and will be adjusted to include a second interview as needed to

accommodate the respective interview participant at the time of the interviews. Therefore, this interview format will follow a semi-structured interview format, where there is flexibility for changes during the interview, such as the duration of each interview and the interview questions that are prepared prior to the scheduled interview (Creswell & Creswell, 2018; Islam & Aldaihani, 2022). In reference to completing the open-ended questionnaires, as applicable, the duration for research participant completion is expected to be between 48 hours to 72 hours per research participant to give them more time to reflect on their K-16 learners' remote learning experiences between the years 2020-2022, inclusive. Since this study is a qualitative research study, this researcher will follow the trustworthiness procedure of applying the validity strategies of members checking, using descriptions to relay and have a deeper understanding of findings for richer experiences, and having the researcher spend more time with the research participant in natural settings in an attempt for this researcher to validate the data collected while also utilizing reflective journal to jot down information while it is still fresh in the mind (Creswell & Creswell, 2018).

As indicated earlier, this study will utilize one data collection tool of Natarajan (2022), also known as the data source instrument. This data collection tool will be the only existing instrument guide intended to assist this researcher in creating questions that will respond to the three research questions of this study. No other data collection tools will be incorporated into this study.

After data collection is completed by validating the data collected while utilizing a reflective journal to jot down information to be the last step of data collection, data analysis procedures will take place. This will be discussed further in the next section.

During and after data analysis procedures, certain data management procedures will be in place to protect the identifiable information of the data collected from open-ended questionnaires and face-to-face interviews and the data stored in electronic analytical software. Once data analysis procedures are completed, research records, including Zoom-recorded audio and video data, will be kept and stored securely in a locked container or on password-protected electronic storage devices and will be destroyed by being shredded and permanently deleted from electronic storage devices at the end of seven years, and only the Principal Investigator will have access to the records, to protect the confidentiality of the data in which this information is also noted on the informed consent form provided to research participants (Creswell & Creswell, 2018).

## Data Analysis Procedures

The research questions that will guide this study are:

**RQ1**. How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning?

**RQ2**. What are the educational benefits and challenges that K-16 students face in remote learning?

**RQ3**. How does remote learning influence some essential thinking skills in K-16 students?

### Analysis and Procedures

Once data is collected from interviews and open-ended questionnaires, researchers will exercise analysis procedures to uncover the meanings of the findings. This researcher prefers manual coding to analyze the data. However, it is understood that manual coding, or hand coding as it is called, can be very time-consuming as the

researcher would also need to perform the transcription manually (Creswell & Creswell, 2018). Therefore, qualitative computer software programs are more reliable and utilized by researchers to complete their research studies. As a result, this researcher will opt to use NVivo to analyze the data collected because it is recommended by experienced users.

According to Creswell and Creswell (2018), data analysis can occur simultaneously with the process of data collection and writing up of the data collection findings still taking place, which is different from quantitative research, where collecting data comes first before data analysis and then writing up the research findings would follow at the end. When data is collected with findings being written up, this researcher will winnow the data in order to aggregate data into more relevant themes because not all data are useful and applicable to the current study (Creswell & Creswell, 2018). The data collected focusing on the lived experiences of K-16 learners through the perspectives of their parents will be analyzed using the software NVivo. NVivo is a qualitative computer software program that assists researchers in organizing, sorting, and searching for qualitative information in databases (Creswell & Creswell, 2018; Sutopo, 2023). Thus, NVivo would be an efficient computer software program used to store and find qualitative data (Creswell & Creswell, 2018; Sutopo, 2023).

The data analysis procedures that this researcher will follow to respond to the research questions indicated in this study using the key features of the qualitative computer software program NVivo, according to Sutopo (2023), will include: (1) importing data collected from interviews and the open-ended questionnaires, (2) organizing data collected by coding for ease of identifying common themes and trends, (3) analyzing and visualizing qualitative data to identify which words and phrases are

used more frequently from interview and questionnaire responses, thus, arranging them into a word cloud, (4) exploring data through emerging topics to assist researchers in realizing meanings to their data, and (5) transcribing raw data files collected from interviews and open-ended questionnaires to text files for further study in NVivo.

Raw data collected from interviews and open-ended questionnaires will be organized and prepared for analysis through a data management plan that will consist of the data analysis process. Creswell and Creswell (2018) suggested that researchers follow a process of sequential steps to perform their qualitative data analysis: (1) transcribe data from interviews and, if applicable, open-ended questionnaires, in the case of this study, and organize the data into relevant types based on its responses, (2) review and reflect on the meaning of the data, such as the thoughts, ideas, impressions, etc. of the participants, (3) perform data coding by organizing data into categories and labeling the categories with terms that are often based on the language, tone, and wording used by the participant, (4) create descriptions to represent people, places, ideas conveyed from the data resulting from the coding process and link it to phenomenology, which is the research design of this study, and (5) consider how the descriptions will be conveyed, which is usually done in the form of a qualitative narrative by telling a story in a chronological manner with relatable themes.

**Coding**

Creswell and Creswell (2018) and Sutopo (2023) pointed out eight steps to the coding process:

1. Import data for coding into the computer software program. In the case of this study, the computer software program would be NVivo.

2. Create nodes in NVivo from the imported files. If necessary, this researcher would create additional nodes based on the topic of this study.

3. Organize the data of the nodes as known in NVivo and create queries, which are similar to reports in NVivo.

4. Review the codes to remove duplicate nodes or topics.

5. Group the related topics into themes in NVivo.

6. Group the codes and themes into expected codes, surprising codes, and unusual codes to show diversity in this researcher's findings.

7. Use text search in NVivo to find words that are frequently used by interview participants to create more specific pictures and charts through the feature of visualization.

8. Prepare a narrative from the findings in the charts in NVivo.

Since this researcher chooses to use a qualitative computer software program to perform the analytical portion of this study, the relevant coding procedure is involved. While there are steps to follow within the coding procedure, Creswell and Creswell (2018) noted that attention should be placed when developing codes, thus, ensuring that the newly created codes align with the particular study's analytical approach. There are three categories of codes to ensure diversity will exist in the study, according to Creswell and Creswell (2018): (1) "Expected codes" (p. 310), which focus on topics commonly found in literature, (2) "Surprising codes" (p. 310), which focus on surprising topics that could not be foreseen prior to the start of the study, and (3) "Codes of unusual or of conceptual interest" (p. 310), which focuses on unusual details that could also be of conceptual interest to the public. From the three codes stated, this researcher will identify

this study with the use of "Expected codes" (Creswell & Creswell, 2018, p. 310) because the topic of remote learning is not a new concept and has received much attention in the past three years from 2020-2022 due to the Covid-19 pandemic. The codes will be generated with the computer software program NVivo. In addition, the codes will be created based on the emerging data that are expected to be collected from the research participants (Creswell & Creswell, 2018) of this study. During the coding procedure, this researcher will group related nodes, as used in NVivo, to represent categories of topics into one theme (Sutopo, 2023).

**Analytical Approach**

To move the findings for further analysis, the analysis process will involve a more complex layer of analytical approach connecting to the qualitative research design of this study, which is phenomenology, to share and describe the lived experiences of the research participants (Creswell & Creswell, 2018), thus, becoming the rationale for selecting this analysis strategy. According to Moustakas (1994), there is the modified version of van Kaam method of analysis, which comprised of steps to follow in the analysis: (1) use horizontalization to list relevant experience as described by the research participant, (2) test findings to see what data needs to be reduced and eliminated, (3) apply clustering to describe themes, (4) validate the themes against the research participants' lived experiences through the use of textural description, which includes verbatim data of their separate lived experiences, and the use of structural description in which the separate lived experiences are shared in the form of illustrations, thus, leading to the final step (5) combine and group and reveal into one whole component representing the research participants' lived experiences.

**Credibility**

When a particular analysis of data is completed, there needs to be an assurance of the validity of the findings and an understanding of the truthfulness of the data since data collection and data analysis can occur simultaneously in qualitative research studies (Creswell & Creswell, 2018). Creswell and Creswell (2018) stated that the validity of the findings is the strength of qualitative research studies, and as such, needs to be carefully addressed to ensure the accuracy, credibility, and trustworthiness of the data that was collected from research participants and the instrument(s) implemented to collect the data. In the case of this study, the instruments will be this researcher, interviews, and, if applicable, open-ended questionnaires. The finding will stem from the lived experiences, which is a feature of the phenomenology research design (Creswell & Creswell, 2018), of the research participants of this study from interviews and/or open-ended questionnaires, if applicable. Then the data will be validated through steps including member checking and this researcher spending more time with the interview participants in the natural setting for accuracy and credibility of the data (Creswell & Creswell, 2018). Any concerns of threats, such as the selection of research participants and this researcher's interactions with potential research participants prior to data collection (Ohlund & Yu, 2022) would have been addressed prior to beginning data collection, so no such incidents of threats would occur that could influence the results of the findings. For example, since this qualitative research study will utilize purposive sampling to select research participants, the threat of selection could be seen through selecting an imbalance of gender and/or ethnicity. However, the inclusion and exclusion criteria implemented in this study would override this threat concern.

In research studies, whether it be qualitative research, quantitative research, or mixed-method research, it is necessary to assess the rigor of the respective research study. For example, in quantitative research studies, the researchers use elements such as internal validity and external validity to assess the rigor of their quantitative research studies (Forero et al., 2018). With qualitative research studies, there are similar strategies for assessing the rigor of the study. Forero et al. (2018) pointed out a strategy of following particular criteria by incorporating "credibility, dependability, confirmability, and transferability, also known as the Four-Dimensions Criteria (FDC) to establish trustworthiness" (p. 2) or as Lemon and Hayes (2020) noted, "the trustworthiness criteria" (p. 605). Trustworthiness means having shared consensus in the analysis of data (Rodham et al., 2015). In addition, credibility is defined by Guest et al. (2012) as having confidence that there is truth and accuracy in the findings from the analysis of the data. Furthermore, credibility replaces internal validity in assessing the rigor of qualitative research studies (Lemon & Hayes, 2020), being that qualitative research methodology is different from quantitative research methodology. Hence, the use of strategies to assess the rigor of qualitative research studies would also be reflected. The following will be a further look into the other three criteria of trustworthiness – transferability, dependability, and confirmability.

**Transferability**

Transferability refers to any content, data, or findings that might have some sense of relevancy and be used in similar situations or scenarios but in potentially different settings (Mohajan, 2018). Burchett et al. (2013) defined transferability as research and data collected from one environment being useful in another environment. For example,

in the case of this study, where the topic is remote learning, it will be shown in this study

that the effects of learning remotely can impact students regardless of their locations or

sites at the time of the learning process, thus, justifying that the same data collection

instrument(s) can be used or the data collected can be applied in multiple locations or

sites at different times. Therefore, the trustworthiness of the contents, data, findings, and

instrument(s) will be displayed in this study. Furthermore, transferability replaces the

element of external validity, thus, validating that the finding proves to be applicable to

other locations or sites (Lemon & Hayes, 2020) within the United States in this study.

**Dependability**

When data and findings in respective studies are shown to be valid, a good

amount of dependability is displayed for the research methodology, research design, and

instrument(s) being utilized. In addition, whenever the strategy of FDC is implemented, it

would showcase the dependability of the findings (Forero et al., 2018). While

transferability pertains to having trustworthiness in potentially different settings with

similar content, dependability pertains to trustworthiness when obtaining and having

consistency in the findings across the data collected (Lemon & Hayes, 2020). In the case

of this study, dependability would refer to the data and findings representing the lived

experiences of what was learned, what benefits and challenges encountered, and the

effects of remote learning on essential thinking skills obtained through the remote

learning environment by having similarities in responses whether it be positive, negative,

or indifference in the responses of the research participants in connections to their

learners. Guest et al. (2012) defined dependability as ensuring that the research process is

consistent and to have careful attention placed by following the guidelines of a qualitative

research methodology. Hence, dependability takes the place of reliability when referencing trustworthiness (Lemon & Hayes, 2020).

**Confirmability**

Confirmability is the fourth criterion of trustworthiness or of FDC. Guest et al. (2012) defined confirmability as having the validity or truth to accurately represent the phenomenon of interest. With confirmability, the criteria of trustworthiness or of FDC is intended to ensure that the data collected in this study is factual and truly from the lived experiences of the research participants and not reflecting this researcher's biases, thus, reaffirming the objectivity of the phenomenon of interest (Forero et al., 2018; Lemon & Hayes, 2020) pertaining to this study, which is on the topic of remote learning. Thus, confirmability refers to verifiable proof from the lived experiences of research participants (Mohajan, 2018). A concern of threat referencing this trustworthiness criterion would be mostly connected to the threat of interaction (Ohlund & Yu, 2022), especially when this researcher has a working relationship with some of the research participants in this study. The strategy that this researcher will implement to minimize this threat will be to conduct all interviews virtually via the Zoom platform when the interview participants are colleagues of this researcher, thus, preventing any possibilities of personal biases.

<div align="center">

**Ethical Issues**

</div>

**Researcher's Position Statement**

The potential conflict of interest and this researcher's position statement that could influence this researcher's ability to remain open-minded and avoid allowing any personal biases to get in the way of any part of this study will be addressed here.

**Conflict of interest assessment.** This researcher will ensure that at no time during the process of this study would there be any possibility of a conflict of interest occurring connecting the college and university and the non-profit organization that this researcher currently employs. In the event that there would be any chances of a conflict of interest taking place, this researcher will seek proper permission from any and all relevant person(s) in writing. In addition, this researcher will be liable to provide justification that any relevant person(s) might seek to ensure that no conflict of interest will take place.

This researcher will ensure that the findings in this study will prove to be a necessity to this study and bridge the gaps that have existed for years, such as scarcity of information representing the remote learning infrastructure and the necessity of adequate research in existing literature, without any moments of conflict of interest to get in the way.

**Position statement.** This researcher is currently a parent and a faculty member at one or more higher education institutions and non-profit organizations. The current research study will examine and perceive to understand what was learned by K-16 students during the years 2020-2022 inclusive while they were in the remote learning environment. As a faculty member of higher education institutions, this researcher had experience with remote learning during this period from 2020-2022. As a parent, this researcher observed their own learners experiencing remote learning during this period from 2020-2022. In both cases, this researcher observed that not all students would learn well when they were in the remote learning environment, as some learners did struggle when they were

learning in the remote learning environment. This researcher has an established

relationship or connection with the research participants in this study. In several

instances, this researcher is an acquaintance of the research participant. In

addition, this researcher is a colleague of a few research participants. It is here

where it could easily be seen of having personal biases with research participants

if the mutually agreed upon location of the interviews was to be at this

researcher's place of employment, thus, creating opportunities of impacting FDC

or the trustworthiness criteria of credibility (Forero et al., 2018; Lemon & Hayes,

2020). To minimize the chance of having this bias concern, all interviews relating

to this researcher's colleagues will occur virtually via the Zoom platform to

ensure accuracy and credibility in data and findings, and reflexivity is activated.

Reflexivity is the ability to react and reflect on personal emotions, situations,

influences, etc., so as not to impact others and the present (Creswell & Creswell,

2018; Robinson & Wilson, n.d.). Lastly, this researcher is a distant relative to one

or more research participants, who live either in a different town or a different

state from this researcher, in this study.

**Ethical Issues in the Study**

Qualitative researchers focus their research studies on exploring, collecting,

analyzing, and describing people's or research participants' lived experiences in their

natural environments. From the start, qualitative research methodology and

phenomenology research design comprise qualities that could be seen as a relationship

existing between respective researchers and their research participants. As such, ethical

issues could naturally be a concern, and ethical considerations are essential (Creswell &

Creswell, 2018). In this study, ethical considerations will begin with the informed consent form (See Appendix K), either sent by email or hand-delivered to research participants. The research participants will be fully advised of the content of the study, including all data collection and data analysis devices and activities that will be used and implemented, their rights to confidentiality, and how their data will be protected (Creswell & Creswell, 2018). It will be understood that research participants can reconsider their participation at any time before and/or during their participation.

In addition, as indicated in this study, the proposed sample size for this study will be approximately a total of 15-20 research participants. The research participants will comprise the parent population of K-16 learners: their learners in elementary school grades K-5, middle school grades 6-8, high school grades 9-12, and post-secondary undergraduate grades 13-16 within the United States. To ensure that there will be an ideal coverage of grades K-16 learners as much as possible in the United States, there will be an anticipated minimum of 10 parents who have learners in grades K-16 in the United States. This anticipated sample size of the minimum of 10 research participants for one site of the United States meets the sample size requirement of a small number of 3-10 research participants in one site for the phenomenological research design (Creswell & Creswell, 2018). Thus, the anticipated and proposed sample size will also create a higher chance of having an adequate amount of research participants to avoid any possibilities of ethical issues concerning the sample size of research participants (Laerd Dissertation, 2022).

To echo what has been discussed in this study, this researcher will gather together relevant and required research supporting materials, including the completed Institutional

Review Board (IRB) Application, and will submit them to this researcher's university's IRB for review and approval prior to obtaining signed informed consent forms and scheduling and beginning the interviews with research participants (Creswell & Creswell, 2018). At the appropriate time, an IRB approval letter with the protocol number will be provided to this researcher, signifying approval for this researcher to commence data collection. To reiterate what was discussed in this study, when data analysis procedures are completed, certain data management procedures will be in place to protect the identifiable information of the data collected from open-ended questionnaires, if applicable, and face-to-face interviews and the data stored in electronic analytical software. In addition, research records will be kept and stored securely in a locked container or on password-protected electronic storage devices and will be destroyed by being shredded and permanently deleted from electronic storage devices at the end of seven years, and only the Principal Investigator will have access to the records, to protect the confidentiality of the data in which this information also will be noted on the informed consent form that will be provided to research participants prior to the start of the data collection period (Creswell & Creswell, 2018).

**Chapter 3 Summary**

This chapter describes the selection of the research methodology and the research design, data collection methods, data analysis process and procedures, data management plans, validity and trustworthiness concerns and criteria, and potential ethical issues. When considering all of the above, it is necessary to ensure that the selected qualitative research methodology, the phenomenological research design, and data collection instruments will work well and in conjunction with the research questions of this study to

obtain true lived experiences from research participants in their natural environments (Creswell & Creswell, 2018). Furthermore, with instrumentation and data and findings being involved, it will be necessary for this researcher to address any validity and trustworthiness concerns, such as accuracy, credibility, and reliability in the data and findings (Creswell & Creswell, 2018; Forero et al., 2018; Lemon & Hayes, 2020) to minimize potential threats (Ohlund & Yu, 2022) and prevent possible ethical issues concerning confidentiality, privacy, etc. from occurring (Laerd Dissertation, 2022). Chapter 4 will present a description of the sample and findings in-depth to allow this and other researchers and readers to see how the analytical results will work and align well with the research questions of this study.

# CHAPTER 4. DATA ANALYSIS AND RESULTS

## Introduction

The purpose of this qualitative study was to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. This study was necessary because many instructors and learners worldwide had to adapt to or even adopt alternative methods of education at the start of 2020 due to the entrance of the Covid-19 virus that became known to many people in late 2019. Moreover, it was shared in various media that many instructors and learners were ill-prepared for the new mode of learning, in this case, remote learning, later understood as remote education because it had not been the norm in educational institutions. For example, the news broadcasting media CNBC noted that the Covid-19 pandemic had revealed how ill-prepared educational institutions had been regarding remote learning by emphasizing that many institutions struggled to provide their learners with the same degree of education as they did during pre-Covid-19 pandemic time (Dickler, 2020), these were evident from some of the research participants in this study.

Although the concept of remote learning has existed with studies done linking technological usage to remote learning, the data collected from those studies were reportedly done mostly from surveys and experimentations (Burdina et al., 2019; Medicine, 2018). Hence, this is an indication that the research done was more for quantitative research studies (Creswell & Creswell, 2018). Therefore, the rationale of this study was to highlight the need for more qualitative research studies, to address the problem of how much effective learning was achieved through remote learning, and to

explore and obtain true lived experiences from research participants in their natural environments. More specifically, the following research questions guide this current qualitative study:

**RQ1**. How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning?

**RQ2**. What are the educational benefits and challenges that K-16 students face in remote learning?

**RQ3**. How does remote learning influence some essential thinking skills in K-16 students?

To appropriately respond to the research questions above, the qualitative research methodology and the phenomenology research design, as explained by Creswell and Creswell (2018), were determined to be most suitable for this study and to be applied to this study. Phenomenology uses the approach where experiences are described in-depth by the individuals who lived through them, thus, being described as the lived experiences with the what and the how of the experiences as the focus (Neubauer et al., 2019). This study used 19 in-depth interviews and open-ended questionnaires with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. Data were analyzed using the modified version of van Kaam method as explained by Moustakas (1994). This analysis resulted in a number of themes that emerged in alignment with the technology acceptance model (TAM) (Aguilera-

Hermida, 2020) and the constructivist theoretical model framework (Ananga, 2020), which formed the theoretical framework of remote learning in this study.

The significance of this study is that it uncovered the aspect of student learning outcomes that prior research did not place full attention on. Prior research studies focused more on building caring relationships between teachers and students with the student interaction and engagement levels and challenges during remote learning (Hobbs & Hawkins, 2020; Miller, 2021; Tulaskar & Turunen, 2022). The sample of parents of grades K-16 learners in the United States was asked to respond to 10 questions in the manner that the questions relate to them and their experiences of remote learning in the remote learning environment during the 2020-2022 Covid-19 pandemic years only and not to relate to any other years of the past, the present, or the future.

## Description of the Sample

The current study used 19 in-depth interviews and open-ended questionnaires with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. The breadth of this study was limited to the parents of K-16 learners who lived in any of the 50 states in the United States (U.S. Department of Labor, n.d.) and did remote learning during the 2020-2022 Covid-19 pandemic years. Limiting the breadth of this study was necessary to allow this researcher to focus on collecting data on remote learning experiences and effects on K-16 learners in the United States (1) to ensure diversity exists in the study (Creswell & Creswell, 2018) and (2) to

more clearly demonstrate the said remote learning experiences and effects apply to all K-16 learners, at least in the United States, regardless of their locations, thus, validating the trustworthiness criteria of transferability. Transferability refers to any content, data, or findings that might have some sense of relevancy and be used in similar situations or scenarios but in potentially different settings (Mohajan, 2018). The parents of K-16 learners involved in this study were identified simply as Participant #. The actual names were not included in this study and were only available to this researcher. Some demographic characteristics of the participants in this study are provided in Table 1.

**Table 1**

*Participant Demographics*

| Participant identification | Gender or gender pronoun | Age group | Profession or occupation | Highest level of education | Race or ethnicity | Socio-econ. status |
|---|---|---|---|---|---|---|
| Participant 1 | She/Her | 40-50 | HR Applications Specialist | Bachelor's Degree | Asian | Middle |
| Participant 2 | Female | 40-50 | Basic Skills Instructor | Master's Degree | Asian | Middle |
| Participant 3 | She/Her | 40-50 | Program Coordinator | High School | Asian | Middle |
| Participant 4 | She/Her | 50-60 | Data Conversion Consultant | MBA | Caucasian | Middle |
| Participant 5 | She/Her | 50-60 | School Secretary | Bachelor's Degree | Asian | Do not want to disclose |
| Participant 6 | Male | 40-50 | Server (in Hospitality) | Bachelor's Degree | Asian | Middle |
| Participant 7 | Female | 50-60 | Tech. Dir. Ent. Cybersecurity and Risk | MBA | Asian-American | Do not want to disclose |
| Participant 8 | She/Her | 40-50 | CPA | Masters in Tax | Caucasian | Middle |
| Participant 9 | She/Her | 40-50 | Nonprofit Executive | Master's Degree | Asian | Do not want to disclose |
| Participant 10 | Male | 40-50 | Teacher | Master's Degree | Caucasian | Middle |

| Participant identification | Gender or gender pronoun | Age group | Profession or occupation | Highest level of education | Race or ethnicity | Socio-econ. status |
|---|---|---|---|---|---|---|
| Participant 11 | Female | 50-60 | Higher Ed.- Registrar | Master's Degree | African-American | Middle |
| Participant 12 | She/Her | 30-40 | Stay-at-home Mom | High School | Hispanic | Middle |
| Participant 13 | She/Her | 40-50 | Children's Librarian | Master's Degree | Caucasian | Middle |
| Participant 14 | She/Her | 40-50 | Teacher | Master's Degree | Asian | Middle |
| Participant 15 | Male | 50-60 | Professor | Doctorate | Jamaican-American | High |
| Participant 16 | Male | 40-50 | High School Teacher/Coach | Masters in Ed. Admin. | Caucasian | High-Middle |
| Participant 17 | She/Her | 40-50 | Elementary/Sp. Ed. Teacher | Master's Degree | Caucasian | Upper-Middle |
| Participant 18 | She/Her | 50-60 | Teacher | Bachelor's Degree | Caucasian | Middle |
| Participant 19 | He/Him | 40-50 | Finance | Master's Degree | Asian | Middle |

## Summary of the Results

The purpose of this qualitative study was to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. The current study used 19 in-depth interviews and open-ended questionnaires with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. Data were analyzed using the modified version of van Kaam method as

explained by Moustakas (1994). This analysis resulted in a number of themes, which arose from the detailed discussions of themes (Creswell & Creswell, 2018), emerged in alignment with the technology acceptance model (TAM) (Aguilera-Hermida, 2020) and the constructivist theoretical model framework (Ananga, 2020), which formed the theoretical framework of remote learning in this study.

In reference to RQ1: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? A good number of participants shared similar thoughts and concerns about how much academic knowledge their K-16 learners can actually acquire from remote learning during the Covid-19 pandemic period from 2020-2022. Although the participants' occupations or professions and the highest level of education are rather different from one another, the drivers and factors that led them to the conclusion of their thoughts and concerns were generally similar. Hence, the participants' responses were subdivided into three themes.

The three themes were (1) one-to-one discussions with teachers, (2) best efforts, and (3) focus. The first theme related to how all 19 participants' learner(s) had frequent or less frequent one-to-one discussions with their teachers in the remote learning environment. In this regard, these participants said they developed feelings of being fortunate, encouraged, and/or discouraged in reference to the ability of learners to communicate and seek help from their teachers during and outside of remote learning sessions when the transition to the remote learning environment is again triggered by sudden unexpected issues or natural disasters. The second theme related to nine participants describing how they observed their learner(s) tried their best when their

learner(s) were in their online classes. The third theme related to how learners had or lacked focus when they joined their online classes; this was shared by six participants.

Regarding RQ2: What are the educational benefits and challenges that K-16 students face in remote learning? A higher number of participants were open with their experiences on the educational benefits and challenges that their K-16 learners faced in the remote learning environment. The drivers and factors that led to the benefits and challenges were similarly encountered and faced by many participants if not all 19. Hence, the participants' responses were subdivided into three themes.

The three themes were (1) benefits, (2) challenges, and (3) online problems. The first theme related to how eight participants were able to observe and/or experience their learner(s) receiving help from their teachers while their learner(s) were learning online. The second theme related to five participants sharing and describing the challenges encountered and faced by their learner(s) in connection to the hardest part for their learner(s) about completing their coursework while being in the remote learning environment. The third theme related to seven participants describing the common online problems their learner(s) experienced when their learner(s) used remote learning technology.

In regards to RQ3: How does remote learning influence some essential thinking skills in K-16 students? There was also a large number of participants who were more open in expressing their opinions and thoughts on how remote learning might have positively or negatively influenced some essential thinking skills in their learner(s) due to learning in the remote learning environment. The drivers and factors that led to the primary influential areas relevant to the thinking skills generated similarities in responses

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by many of the participants if not all 19. Hence, the participants' responses were subdivided into four themes.

The four themes were (1) satisfaction, (2) least enjoyable subject(s), (3) influenced thinking skills, and (4) rating of confidence level. The first theme related to how 11 participants how satisfied and good remote learning worked for their learner(s). The second theme related to eight participants sharing the parts or subjects of the online class that were least enjoyed by their learner(s). The third theme related to 18 participants describing with specific detail how remote learning had influenced some essential thinking skills of their learner(s). The fourth theme related to all 19 participants giving a rate based on a scale of 1 to 10 of their confidence level that teachers can motivate students to learn well.

### Detailed Analysis (organized by theme or research question)

The qualitative analysis of 19 in-depth interviews and open-ended questionnaires with parents of grades K-16 learners in the United States as participants produced several themes representative of their learners' experiences in the remote learning environment. The themes were attained in direct response to the three research questions that guided this study and the technology acceptance model (TAM) (Aguilera-Hermida, 2020) and the constructivist theoretical model framework (Ananga, 2020), which formed the theoretical framework of remote learning in this study. The aforementioned theories and their relevancy to this study were highlighted in Chapter 2. The themes that are produced by utilizing the analytical approach of thematic analysis for data analysis and conducted in NVivo 14 are thoroughly explained as they pertain to the research questions as follows. The thematic analysis comprised responses, including direct quotes, and

frequency tables of responses of participants from transcripts are used to support claims (Crossley, 2021).

**RQ1**: **How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning?**

The first research question focused on the amount of academic knowledge K-16 learners learned in the remote learning environment when they suddenly had to transition from an in-person classroom learning environment. The learner(s) of the participants were in their respective relevant grade levels while the learner(s) had to transition to the remote learning environment. Therefore, the first research question also explored how the learner(s) of the participants tried to do their best when the learner(s) were in their online classes. Moreover, this exploration examined the amount of attention the K-16 learner(s) were able to put into their online classes. Although the K-16 learner(s) can be placed in the same relevant grade levels, certain drivers and factors contributed to producing different and indifferent results without having the indications of being positive or negative. However, participants shared their subjective views of the remote learning experiences of their learner(s) in the remote learning environment. The participants' responses were subdivided into three themes: (1) 1 - 1 discussions with teachers, (2) best efforts, and (3) focus. All 19 participants shared roughly the same perspectives on the remote learning experiences of their K-16 learner(s) in connection with the three themes of the first research question. All themes were thoroughly discussed in the next sections. Direct participant quotes extracted from the interview transcripts and open-ended questionnaires were used to illustrate and support claims. Table 2 provides key information on which participants shared perspectives on the respective theme under the

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first research question in reference to their learner(s) being in the remote learning environment. Table 3 provides key information on how often K-16 learners had individual discussions with their teachers while being in the remote learning environment from 2020-2022 based on the perspectives of their parents with the theme of 1 - 1 discussions with teachers.

**Table 2**

*Table Themes RQ1: Academic Knowledge Learned in Remote Learning*

| Themes | Participant code | Percentage (%; n=19) |
|---|---|---|
| 1 - 1 Discussions With Teachers | P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19 | 100% |
| Best Efforts | P1, P2, P4, P5, P6, P10, P13, P14, P18 | 47% |
| Focus | P5, P6, P8, P13, P16, P19 | 32% |

**Table 3**

*RQ1 First Theme: 1 – 1 Discussions With Teachers*

| Participant code (P #) | Relevant grade level of learner(s) | Frequency per academic year |
|---|---|---|
| P1 | K - 5 | Less Frequent (<5) |
| | 6 - 8 | Less Frequent (<5) |
| P2 | K - 5 | Less Frequent (<5) |
| P3 [a] | K - 5 | More Frequent (>=5) |
| | 6 - 8 | More Frequent (>=5) |
| P4 | 6 - 8 | Less Frequent (<5) |
| P5 | 6 - 8 | Less Frequent (<5) |
| | 9 - 12 | None |
| P6 | K - 5 | More Frequent (>=5) [b] |
| | K - 5 | None |

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| Participant code (P #) | Relevant grade level of learner(s) | Frequency per academic year |
|---|---|---|
| P7 | 9 - 12 | None |
| P8 | K - 5 | Less Frequent (<5) |
|  | 6 - 8 | None |
| P9 | K - 5 | None |
|  | 6 - 8 | None |
| P10 [c] | K - 5 | More Frequent (>=5) |
|  | 6 - 8 | More Frequent (>=5) |
|  | 9 - 12 | More Frequent (>=5) |
| P11 | 9 - 12 | Less Frequent (<5) |
| P12 | K - 5 | More Frequent (>=5) |
|  | 9 - 12 | None |
| P13 [d] | K - 5 | Less Frequent (<5) |
|  | 6 - 8 | Less Frequent (<5) |
| P14 | K - 5 | More Frequent (>=5) |
|  | 6 - 8 | None |
| P15 | 6 - 8 | None |
|  | 6 - 8 | None |
| P16 | 9 - 12 | More Frequent (>=5) |
|  | Post Sec. Undergrad. Grades 13-16 | Less Frequent (<5) |
| P17 | K - 5 | More Frequent (>=5) [e] |
|  | 6 - 8 | Less Frequent (<5) |
| P18 | Post Sec. Undergrad. Grades 13-16 | More Frequent (>=5) |
| P19 | K - 5 | None |
|  | K - 5 | None |

[a] The learners of Participant 3 (P3) in the relevant grade levels of K-5 and 6-8 had daily (weekdays) 1 - 1 discussions with their teachers. [b] Second-grade learner of Participant 6 (P6) had 1 - 1 discussions with her teacher two to three times per week. [c] All the learners of Participant 10 (P10) had 1 - 1 discussions with their teachers approximately three times per week. [d] The learners of Participant 13 (P13) had 1 - 1 discussions with their teachers approximately one time per week during synchronous learning in the 2020-2021 school year, but both learners had very limited 1 - 1 discussions with their teachers during asynchronous learning in the 2021-2022 and 2022-2023 school years. [e] Third-grade learner of Participant 17 (P17) had 1 - 1 discussions with his teacher two to three times per week.

**1 - 1 Discussions with teachers**. The first theme related to how all 19 participants described the frequency of their K-16 learner(s) having 1 - 1 discussions with their teachers while learning in the remote learning environment according to per weekly, monthly, or academic year. However, Table 3 displayed the frequency amount based on per academic year of 2020-2022 unless noted otherwise with superscript lowercase letters. Table 3 showed nine participants labeled with superscript lowercase letters stating that their learner(s) had 1 - 1 discussions with their teachers either daily, weekly, or every other week. These learners had frequent 1 - 1 discussions with their teachers mostly due to their teachers, schools, relevant grade levels, or individual learner's program.

Participant 3, for example, stated that her learners in relevant grade levels of K-5 and 6-8 had 1 - 1 discussions with their teachers "every day during the school year, Monday through Friday." With Participant 5, it is similar. Participant 5 stated, "In middle school, during the initial pandemic shutdown, my 2 boys said they had no 1 - 1 … with their teachers at all (different schools). The following year in high school, they each had 2 -3 (again different schools). My older son (junior/senior in high school) had no 1:1 time with his teachers." Meanwhile, Participant 10 stated that all his learners in relevant grade levels of K-12 had 1 - 1 discussions with their teachers "on average of three times a week." Participant 13 shared that her both learners had 1 - 1 discussions with their teachers "approximately once a week…for the 2020 - 2021 school year when the first full year was doing synchronous learning where they were having live instruction from teachers." Participant 13 continued that after the first year of synchronous learning, 2020

- 2021, "it was very, very limited with the one-on-one with the teacher" because daily learning became asynchronous the following two years in 2021 - 2022 and 2022 - 2023.

Participant 6 stated, "My younger daughter in the second grade had individual reading 2 to 3 times per week, so it's like 1 to 1 because she was still in the group that is like for the English as a new language, so she did get like the extra support from the teacher for the reading."

Participant 14 added, "…my son is in special ed program IEP program, so for all the classes…they only have eight students, so…for his class, it's going to be kind of like an individual for all the classes, so it will be always 1 to 1." Participant 14 continued, "For my daughter, it's none because, um, she was in a big, like, a bigger classroom, probably like a 30 to 32, so the teachers won't have the time for them … like a 1 to 1." Participant 17 shared a similar sentiment, "Our third grader met with teachers (he was in a cotaught inclusion class, so 2 teachers) about 2-3 times per week. Our 8$^{th}$ grader could request time with her teachers, but there was no scheduled time, maybe 1x/month…"

**Best efforts**. The second theme related to how K-16 learners tried to do their best when they were in their online classes and was described by nine participants in their perspectives of their learner(s). The nine participants gave their accounts of how they observed their learner(s) in trying to do their best when their learner(s) were in the remote learning environment and how the participants, as parents, played a role in supporting their learner(s) when their learner(s) were in their online classes. Participant 1, for example, stated: "They tried to listen to the lesson or assignment…to the best they could…barring the distractions that they may have, you know, at home. There are other people working from home, too,

and …whatever is on their desk distracts them too." Participant 10 mentioned similarly, "…we had to make sure he kept his video on and things like that. Make sure he wouldn't slouch and turn the camera off and begin to get distracted or do other things."

Participant 4 stated, "…she sat at the desk…closed her door, and she just did her best to listen." Participants 10 and 13 shared similar sentiments as Participant 4 by providing the proper space. Participant 10 explained, "We tried to set the house up in such a way that they all had their own separate space…to set everyone up with like a little desk and a little area that was kind of their own…"

Participant 13 added:

…they sat at desks in their bedroom, and they had school supplies and workbooks and textbooks really readily available to them. They also participated in class discussions and listened to their teacher's lessons, and they were on time for synchronous instruction. They tried to begin their asynchronous lessons at the same time each day…and took notes while listening to each of the pre-recorded lessons…to help on like quizzes and exams.

Participant 14 shared about her older learner differently for trying the best. Participant 14 continued:

…she had to deal with time management…like how to use Google Classroom, those technologies, digital parts, and how they can use those digital to do the homework to submit it…because they have to learn how to type better…and faster. For the little one, …he was trying to be focused …to focus, it is hard,

…and trying to do the work and homework with the computer and learn how to use the computer.

Participant 5 simply stated, "Two of my remote learners tried to do their best by attending any/all live online classes and getting homework submitted on time." Meanwhile, Participant 18 stated, "She tried to do her best by being present and being on time, having her camera on and participating in the class, and turning in the work that was due."

Both Participants 2 and 6 did not see anything significant in how their learners were trying to do their best as both learners were in relevant earlier grade levels of K-5.

Participant 2 stated:

In the online class, I didn't see --- was trying his best. He just thinks like, 'Oh, this is the time slot. I have to be present there and then listen to the teacher.' And if the teacher plays some games, maybe he would try to engage there, but most of the time, I don't think he is really there.

Participant 6 stated, "It's mostly for my younger one. She's in the first to second grade. So, for the online learning, because she's at home, she is like very comfortable where she is, so it's hard for her to stay focused."

**Focus**. The third theme related to the amount of attention K-16 learners were able to put into their online classes. Six participants used more vivid words to describe the level of focus their learner(s) were able to place into learning when their learner(s) were in the remote learning environment with a few learners receiving negative effects and another few learners not impacted so much.

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Participant 5 stated, "My two younger learners in 8-9th grade had a hard time focusing in online classes. They admit to having maybe 30-50% focus in online classes. They were distracted by other things online. My eldest in 11-12th grade had a very hard time attending classes at all and paying attention if he did make it."

Participant 6 said his learners experienced a higher percentage with both learners due to having parental supervision.

Participant 6 stated:

So for my little one, I think she may be 50% to 60% attention, but my wife she we both work in a hospitality group, so we have time to spend with the kids during Covid. So my wife's basically…stayed with her like 100% besides her, so she was able to help her to focus in the class.

Participant 8 had different experiences between her two learners with one being able to put more attention and focus than the other.

Participant 8 stated:

So my daughter was fine. She, you know, …kind of stayed in her room and was very focused. Um, there were days when I could see my son getting distracted. He would get up repeatedly to get a drink, to get a snack, even though class was still kind of in session.

Participant 13 indicated:

My, I mean, like when they were doing the synchronous learning, I think it was maybe like closer to maybe 75%. I mean, with the asynchronous mean, oh my goodness, it might even be as low as like. I don't know, like closer to 30 or 40%. Yeah, I mean especially I mean this past school year, they like totally gave up.

Participant 16 shared that his learners "all worked on their online classes with the same attention as they would have it in the classroom having two parents working from home (teaching) helped them to stay focused and performed well." Meanwhile, Participant 19 described his older learner as being "90, 95% engaged, surprisingly. Whereas my younger one, …this was his first time, you know, in a school setting, um, you know, at times I felt like he was a bit lost like he didn't know, you know, what was happening. I would say 30 to 40%."

**RQ2**: **What are the educational benefits and challenges that K-16 students face in remote learning?**

The second research question focused on the benefits and challenges that K-16 learners faced when the learners were in the remote learning environment. Again, the learner(s) of the participants were in their respective relevant grade levels while the learner(s) had to transition to the remote learning environment. Therefore, the second research question explored how the learner(s) of the participants had their teachers' help while the learner(s) were in their online classes. Moreover, this exploration examined the hardest part the K-16 learner(s) experienced when the learner(s) were completing their coursework together with the problems the learner(s) encountered when using remote learning technologies.

Although the K-16 learner(s) can be placed in the same relevant grade levels, certain drivers and factors contributed to producing different and indifferent results without having the indications of being positive or negative. However, participants shared their subjective views of the remote learning experiences of their learner(s) in the remote learning environment. The participants' responses were subdivided into three

themes: (1) benefits, (2) challenges, and (3) online problems. All 19 participants shared

roughly the same perspectives on the remote learning experiences of their K-16 learner(s)

in connection with the three themes of the second research question. All themes were

thoroughly discussed in the next sections. Direct participant quotes extracted from the

interview transcripts and open-ended questionnaires were used to illustrate and support

claims. Table 4 provides key information on which participants shared perspectives on

the respective theme under the second research question in reference to their learner(s)

being in the remote learning environment.

**Table 4**

*Table Themes RQ2: Benefits and Challenges*

| Themes | Participant code | Percentage (%; n=19) |
|---|---|---|
| Benefits | P4, P5, P8, P9, P10, P12,P14, P16 | 42% |
| Challenges | P5, P6, P13, P14, P16 | 26% |
| Online Problems | P5, P6, P10, P12, P14, P16, P18 | 37% |

**Benefits**. The first theme related to how some teachers of the K-16 learners had

the ability or competency to provide support or additional support to the learners

while the learners were in the remote learning environment. Eight participants

were more open to discussing their perspectives on the benefits that their

learner(s) were able to receive from the teachers of their learner(s) while being in

the remote learning environment whether it was during class time or outside of

class time. According to the eight participants, teachers provided help in ways of making themselves available, offering additional resources, and assisting with technology usage if the teacher was tech-savvy. However, one participant pointed out that the help observed was mostly instructional.

Participant 4, for example, stated:

So one of the ways that the teachers helped is that they actually had rooms in Zoom I don't know much about. They had breakout rooms in Zoom, so it's not as if it helped her just directly, but they would have the Zoom breakout rooms and then the kids were in smaller groups discussing whatever topics the teacher would, you know, discuss, and then the teacher would pop into each of the rooms to see if anyone had any questions or needed any help with anything.

Participant 5 similarly shared, "The teachers helped our learners by holding office hours. It was great to have them available in case they needed help, but often it was still difficult for the kids to want to attend them." On the same note, Participants 12 and 16 agreed with having Participant 12 stating:

I noticed that the teachers offered a variety of ways to contact them during online learning. They had their emails listed. They left their Google Classroom open so that students were able to write messages/questions on the stream, and answered any private comments left under assignments.

Participant 16 simply added, "The teachers made themselves available during the day. Teachers also seemed to be more attentive to responding to emails that their learners sent."

In reference to offering resources and technology assistance to help the learners, six participants had something to say about it.

Participant 8 pointed out:

So the one thing that most of the teachers had in common is they continually posted, whether it was YouTube videos of, you know, math lessons or little short clips of, you know, specific history lessons, you know, whatever the topic was, there were always, I feel like videos posted or articles posted that they could read something kind of outside the core textbook. The something that would be maybe a little bit more interactive for the child to either watch or read, and there were many. I guess probably because of the pandemic. A lot of like applications that came up that helped them kind of study, you know, there's like Quizlet and so forth where they enter some information and then it creates a little quiz for them to kind of study and take, and there's, you know, a couple of other applications like that, and those were all made accessible to the kids through their school iPads.

Participants 12 and 16 mentioned similar sentiments. Participant 12 stated, "Oftentimes, they offered other resources, such as articles, videos, or links to websites that held more information on their lesson. These were helpful to my learners as they amplified their understanding of the concepts they were being taught." Meanwhile, Participant 16 added, "Also, all work and completed notes were posted on Google Classroom to help our learners to be able to go back and check on things they may have missed during the class."

Participant 9 explained:

I would say they really kind of tried to help them with technology, because back

then it was basically, you know, at the beginning of the pandemic, you know, you

throw them the device and then it's like, okay, yeah, they're supposed to know

how to do it, but then just teaching them how to navigate the different, and I think

we're all learning together in the beginning. Right. So how to navigate, you know,

Google Classroom, how to get into a class, get into a subject. That was all that

took a lot more time than, I would say, actual learning per se, like on the platform

in the beginning, and then afterward they would, you know, post questions, and

then they did a little bit better where they tried to make it more interactive with

the classes so they would have the kids play, like online trivia with each other.

Participants 10 and 14 shared slightly different experiences.

Participant 10 stated:

I guess it was vary greatly depending on the teacher. Um, like for the first grade

teacher and the second grade teachers, I remember them being much more hands-

on and giving much more structured kind of learning time, almost like a daily

kind of checklist. You know, from like 8:20 to 8:35, we're going to be doing this,

from 8:35 to 8:55, we're going to be doing that, so they had like I felt like more of

a regimented structure for the younger kids. Um, for the older kids in high school

and in grade school, I felt like there was less structure. Um, and I felt like for

certain teachers there was less helping the learners learn online, …but I think it

was more prevalent as it went up in grades. So I think at younger grades there was

more structure and more kind of support throughout the day and making sure they

were sort of on task and things of that nature, but as it went up in grades, I felt

like that lacked a little bit.

Participant 14 stated:

Um, for the older one, so I don't think the teacher will help. Um, because it's a

middle school, so it's kind of like, um, mostly it's instructional, like the it's like,

um, teacher-centered, I think mostly. So the teacher just teaches and the student

just listen. So, um, I think unless the students have a special like, like my daughter

has special questions, but otherwise, it's just in the lecture hours, instruction

hours, …but for the little ones, um, the teachers would because it's too little, so

it's easy to get distracted, so the teacher would try to work with the parents to

help the kids to learn. I think the teacher will try to use different ways to teach,

like use a lot of apps, maybe websites, um, online resources, and they will try to

use a whiteboard, hold the whiteboard to teach.

Based on the responses that the eight research participants shared, teachers played

a significant role in helping and providing benefits to their learners while being in the

remote learning environment.

**Challenges**. The second theme related to what the learner(s) thought was the

hardest part for them about completing their coursework but from the perspectives

of their parents. Five parent participants were more open to discussing the

challenges that their learner(s) encountered while their learner(s) were in the

remote learning environment. The five parent participants provided similar

microscopic views of the hardest part for their learner(s) about completing their

coursework including the ability to avoid distractions, to be able to concentrate, to

have their peers bounce ideas, and to deal with remote learning versus in-person learning.

Participant 5, for example, stated, "Hardest part was that there were so many distractions when…online, and sometimes the lessons online were not good enough to learn the material well, thus, making it difficult to complete the work."

Participant 14 commented similarly:

They're trying to do their best, and it's the hardest part, um, for the little one, concentration. Honestly, it's really, really easy to distract it, and for the completing the courses, um, I have to help a lot for him to understand because sometimes, honestly, sometimes during the class because of a Wi-Fi may be the school one, the teacher's house or the school has internet problems. Sometimes it would get like it would stop. The class even disconnected.

Participant 6 shared, "For the remote learning, they have to put it in the Google Classroom to hand in the homework, so I think that's the most challenge for them."

Participant 13 explained:

So the hardest part for them was their inability to focus on the schoolwork itself, um, and completing assignments in a timely manner because of, of all the distractions at home …and honestly…some of it too was their disinterest in many of the topics. …I felt like them not having other maybe students that maybe they could like bounce ideas off of there, …with the exception of the …2020-2021 school year, where it was synchronous and there were other students with them …it was more interactive, so…that first school year was really the best. The asynchronous didn't really work very well.

Participant 16 further added, "The hardest part for the learners was easily bouncing ideas off of other students, and at times, prioritizing work over play when everything was done at home, not at school. Time management was a challenge for completing coursework."

**Online problems**. The third theme related to the problems that the K-16 learners experienced when the learners used remote learning technology. Some problems of remote learning technology were more seen happening to the younger learners with having adult assistance to resolve while other problems were not within their control. Seven participants were more open to discussing the online problems, if any, that their learner(s) faced while their learner(s) used remote learning technology when their learner(s) were in the remote learning environment. Common technology problems shared by some of the seven participants that their learner(s) experienced are either the learner(s) or their teachers not knowing how to use certain technology, not being able to log into technology with ease, or not having smooth internet connectivity when the learner(s) were in their online classes.

Participant 5, for example, stated:

My remote learner rarely encountered internet problems at home, but sometimes their teachers did. At times, my kids were told to download apps or use Google extensions, but the software did not always work well. One time were impacted by a power outage.

Participants 12, 16, and 18 shared similar sentiments.

According to Participant 12:

Learning to use the new platforms (Google Classroom, Zoom, Google Meets, etc.) was difficult for my learners at first. Overtime, they learned their way around those platforms and grew comfortable using them. Regarding technology, both my learners had their own devices during that time, so they did not have much trouble using it for online learning. During online learning, it was clear that since these learning platforms were reliant on Wi-Fi, it became difficult and near impossible to complete assignments and go to their meetings when the Wi-Fi was down in the area. These unforeseen circumstances were obstacles to their learning.

Participant 16 explained:

Overall, the remote learning technology worked well. Everyone had to get used to the Zooms, but the computers worked well, and the internet in the house did not cause too many problems. There were times when the learners were dropped from the class, but they usually got back in without a problem.

Participant 18 added:

…I'm sure she had technical issues with her computer. I was not really aware of those, but I'm sure that happened as well. As far as the internet, because were away from our home, we went to my brother's house, so it wasn't the best internet connection.

Participants 6 and 14 indicated that most of the remote learning technology problems occurred because of being younger learners. Participant 6 stated, "My wife would help her to do it in front of iPads. So adult supervision for my…first to second grade. She cannot do it."

Participant 14 also stated:

Uh, for the little one, I always have to help…always even logging like the video

conference, um, for using the computer and like Google Classroom to upload the

class, the homework assignment. He couldn't do it, so I had to do it. For the older

one…because nobody taught them how to use…so suddenly to go remote, um,

she has to learn by herself like how to use Google Slides, how to upload, how to

use everything, from the school requirement, so that will be the problems.

In major contrast to most other fellow participants, Participant 10 did not

experience many remote learning technology problems. Participant 10 stated, "I don't

remember a lot of problems technology-wise that the kids had. Um, I mean, we have

pretty reliable internet at the house. As long as they kind of kept their equipment sort of

charged up, I think they were largely good to go."

**RQ3**: **How does remote learning influence some essential thinking skills in K-16**

**students?**

The third research question focused on how remote learning influenced some

essential thinking skills of K-16 learners while they were learning in the remote learning

environment. Like the first and second research questions, the learner(s) of the

participants were in their respective relevant grade levels while the learner(s) had to

transition to the remote learning environment. Therefore, the third research question

explored how remote learning had been good for the learner(s) of the participants.

Moreover, this exploration examined the parts or subjects of the online class that the K-

16 learner(s) found the least enjoyable and evaluated how remote learning influenced the

critical thinking, creative thinking, and problem-solving skills of the learner(s) of the

parent participants while their learner(s) were in the remote learning environment. Furthermore, the parent research participants had the opportunity to rate on a scale of 1 to 10 their own confidence level that teachers can motivate their students to learn well while being in the remote learning environment.

Although the K-16 learner(s) can be placed in the same relevant grade levels, certain drivers and factors contributed to producing different and indifferent results without having the indications of being positive or negative. However, participants shared their subjective views of the remote learning experiences of their learner(s) in the remote learning environment. The participants' responses were subdivided into four themes: (1) satisfaction, (2) least enjoyable subject(s), (3) influenced thinking skills, and (4) rating of confidence level. All 19 participants shared roughly the same perspectives on the remote learning experiences of their K-16 learner(s) in connection with the four themes of the third research question. In addition, many of the participants had something to share about the experiences of their learner(s) in regard to the thinking skills of their learner(s). All themes were thoroughly discussed in the next sections. Direct participant quotes extracted from the interview transcripts and open-ended questionnaires were used to illustrate and support claims. Table 5 provides key information on which participants shared perspectives on the respective theme under the third research question in reference to their learner(s) being in the remote learning environment.

**Table 5**

*Table Themes RQ3: Thinking Skills*

| Themes | Participant code | Percentage (%; n=19) |
|---|---|---|
| Satisfaction | P1, P2, P4, P5, P9, P10, P11, P15, P16, P18, P19 | 58% |
| Least Enjoyable Subject(s) | P1, P4, P8, P9, P10, P11, P14, P18 | 42% |
| Influenced Thinking Skills | P1, P2, P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, P14, P15, P16, P17, P18, P19 | 100% |
| Rating of Confidence Level | P6, P7, P12, P13, P15, P17, P18, P19 | 42% |

**Satisfaction**. The first theme related to how the participants described remote learning as being good for their learner(s) from 2020-2022. This theme had 11 parent participants to give input. Most parent participants shared the common responses of remote learning is good in regard to their learner(s) not needing to commute to school, having more or adequate sleep, having adequate time to spend on completing work and assignments, creating a sense of independence in their learner(s), forcing their learner(s) to have responsibilities for their own learning and developing problem-solving skills. In contrast, one parent participant indicated that remote learning has not been good for her learner(s). One parent participant indicated that remote learning has been good for her learner(s) who have a disability. Another parent participant indicated that remote learning has been good for the issue of social pressures.

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Participants 4, 9, 15, and 16 all stated that remote learning has been good for their learner(s) in regard to teaching their learner(s) to be independent and to develop their problem-solving skills.

Participant 4 shared:

I feel lucky that she was in middle school, so she was independent…she got good grades during that time period. Um, she has ADHD, so, you know, I think initially we were concerned because it's remote, but it actually worked out well. Um, to go for help, …she really leveraged her friends, um, you know, to get help in certain subjects when she needed help, so she felt more comfortable going to her friends, so that forced her to be proactive in that regard.

Participant 9 stated:

I think it's been good in the sense that it…forced them to learn how to type, which was very important for them to learn. I think that that's because it helps them speed up certain responses to the questions…also had to do …more group projects or more learning on their own so that is learning more independently.

Participant 15 added and elaborated:

It has been good because what it has done, …has allowed them to become more self-sufficient. It has allowed them to mature in some ways where they had to take…charge of managing their time because they didn't have the classroom and the teacher…there with them, so they had to take more responsibility for their learning…made them more independent learners.

Participant 16 further added:

Remote learning has been good for our learners, one of the best things. They got

out of it was problem-solving skills and self-development. Whether it was

technology-based or just learning-based, the learners had to teach themselves how

to find a way to solve the problem that they came across each day.

Participants 1, 5, 11, and 19 all shared the sentiments that remote learning has

been good for their learners by merely allowing their learners to have more sleep and a

normal lunch schedule without having to be concerned about commuting to school and

back home. However, Participant 5 added another good thing about remote learning by

stating, "…our hearing impaired students had less trouble hearing the teacher and

classmates since they were using headphones and others generally spoke into a

microphone."

In a slightly different perspective, Participant 10 stated:

…it took off a lot of the social pressures. My one daughter definitely struggled in

middle school with some social anxieties and things of that nature. The remote

learning guess was helpful because she didn't have to go into the building.

**Least enjoyable subject(s)**. The second theme related to the parts or subjects of

the online class that the learner(s) of the participants found the least enjoyable.

Eight participants gave their accounts with more vivid descriptions of the parts or

subjects that their learner(s) found to be the least enjoyable while their learner(s)

were in the remote learning environment. Common areas mentioned as least

enjoyable were not having interactions and taking science, physical education

(PE), and English Language Arts (ELA) or reading classes to be the least

enjoyable parts or subjects for their learner(s). One participant thought learning

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remotely did not make a difference in the subject(s) that her learners always liked or disliked, and one participant said that her learner simply did not enjoy being on camera.

Participants 8, 9, 11, and 14 all stated in some fashion that subject areas and/or the lack of interactions were the least enjoyable experienced by their learner(s) when their learner(s) were in the remote learning environment.

Participant 8 indicated:

The part of not being able to interact with other students made it even more boring for my son who doesn't like school. Um, certain subjects like science, where they're maybe more hands-on with, you know, experiments or whatnot, that didn't really happen. They were sitting there kind of watching the teacher do it, which is not the same as doing it themselves and getting involved. Um, for my daughter, she just found it very unchallenging. The assignments weren't very hard. The material covered maybe was not as in-depth as it would have been were they in class to discuss it more.

Participant 9 stated:

The least enjoyable, I think would be reading online…so they got a lot of assignments too because they were already online this whole time looking at a screen, …but then it was like, okay, why don't you go read something online again online…And science. No experiments.

Participant 11 added:

My learner found PE to be the least enjoyable because he still had to take it while also being in his room, which was the farthest thing from a suitable environment

for exercising. The lack of the opportunity to really get to know his peers/teachers and the bonds that are normally created in the in-person environment.

Participant 14 further added, "For both of them, the hardest part is socializing. Um, I think for the subjects …ELA because it's hard to memorize, and for the teacher, it's hard to teach through the articles, so I think they don't like it." Both Participants 10 and 18 shared the sentiments that sitting through lectures was the least enjoyable.

**Influenced thinking skills**. The third theme related to how remote learning influenced critical thinking, creative thinking, and problem-solving skills in the learner(s) of the parent participants. This theme had all 19 parent participants contribute meaningful perspectives of their learner(s). Some perspectives were direct while others had the intention of letting opinions be known.

Participants 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 16, and 17 all shared fairly brief and direct perspectives to get to the points in both senses of positive and negative. Most of these participants stated that remote learning did not help the thinking skills of their learner(s) greatly though a few participants offered a little more insights into their opinions. Participant 4, for example, stated, "I think it forced her to be more of an independent learner because she, you know, because the teachers weren't as readily available." Participant 7 echoed similar thoughts, "She had to become more independent self-directed learners and manage her motivation level to keep up with assignments." Participant 5 stated, "Remote learning was probably a detriment to these skills. They often turned to Google for answers. My kids report they were mentally relaxed but probably not learning much. And, assignments were harder because they were mentally checked out."

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Participant 6 shared:

I could only think of that we didn't lose one year of like a school during Covid, but it's very hard to say how much we can learn, but I think the kids can still like, interact with teachers. They called me during Covid, and I think the remote learning keeps the kids at grade level. I think that's the answer.

Participant 12 echoed a similar sentiment:

Overall, my learners did not demonstrate an improvement or decline in their thinking and problem-solving skills. It mostly remained the same throughout their time in remote learning. The only noticeable improvement would be my learners' creative thinking. With the help of technology and access to everything the internet had to offer, my learners were able to use those tools to help better understand their lessons and search up any questions or concerns that they had.

Participant 8 explained:

So definitely with problem-solving, they didn't have that ability to work in teams and discuss, you know, theories and outcomes and possibilities. So that lack of discussion certainly help hinder them in problem-solving because all they had was their own thoughts to progress with other than bouncing ideas off, you know, me or my husband, that was their only sounding board. Um, and probably the same with creative thinking and critical thinking, like not having a group of peers to have a discussion about a topic certainly doesn't give them the opportunity to see other points of view that they many not have thought of.

Participant 10 further elaborated:

I think it definitely decreased. During these two years of remote learning, …it seemed like the tasks being required of them were not quite as in-depth with critical thinking. They weren't like, they weren't being pushed quite as hard, um, which I guess also means you're thinking less creatively it felt like, and the teachers were just trying to sort of get the kind of basic facts down. Um, I guess the same sort of thing with problem-solving skills. They just weren't the problems being asked, just weren't as quite complex. Um, so there weren't necessarily as many problem-solving skills or creative thinking or critical thinking needed to solve some of the problems. It was definitely hindered, I think.

Participant 13 had a similar take:

Um, I would say that they both had to apply the content and knowledge that they were gaining from each class on their own in order to complete the assignments since there wasn't much guidance from the teachers unless they had issues with the coursework and honestly, the remote learning environment, um, was lacking, and I thought it was just very lacking in influencing critical thinking and creative thinking and problem-solving skills since the learners would have benefited more just from being in person and having…in-person instructions.

On a little more positive note, both Participants 16 and 17 pointed out that remote learning did in some way help develop the thinking skills of their learners, such as having the need to troubleshoot technology or figure things out on their own.

Participants 9, 14, 15, 18, and 19 all shared extensive perspectives on how remote learning had positive and/or negative influences on the critical thinking, creative thinking, and problem-solving skills of their learner(s).

Participant 9 stated:

I don't know that they were necessarily more creative than this. I think it was

definitely less creative. It's just kind of really responding to what's at hand. I

think problem-solving, …I think that they learned how to organize their work. I

don't know where that would fall in, but because, you know, sometimes,

depending on which teacher or which subject matter, that teacher would not

necessarily be tech-savvy, I think that's the way to put it. And they had to

organize their work on their own sometimes. I feel like because you feel like they

didn't do any critical thinking, but that's really not true because they did have

assignments that stretched them in that way.

Participant 14 explained:

In good ways and bad ways, um, honestly, for the critical thinking, creative

thinking, not going to help a lot. It's really bad, I think, because, um, for the class,

I think, okay, if the teacher is trying to teach or let them think because it's online.

Mostly it's muted, so I don't think the students would think, my kids would think

or would reply back, so they probably don't think. They do, …for remote

learning, inference a lot because everything is a problem.

Participant 15 elaborated in depth:

As it related to critical thinking, they had to really make some great assessments

as what needs to be done and to evaluate, which is to prioritize in terms of the

work that they had to do. They had to do time management. They had to think

about things that they would normally have a teacher to give them feedback on, to

actually work through those problems on their own, and to figure things out on

their own. As it related to creative thinking, they had to think creatively in terms of how to get an assignment. For example, --- had an assignment where he had to complete a form, but the form the teacher gave him was not a right form of a PDF, so he had to take a screenshot of the form on his computer. Use some other paint method to write on it using a paint software, and then scan it back in for the picture to get the assignment. Because he had a due date and it was too near to the due date to contact the teachers on the weekend, he looked at it and therefore, he had to figure out how to get it, so he had to be creative in how to complete the assignment. The third one, problem-solving, they had to do that on a daily basis, because the technology did not work, and have to figure out ways in which they had to get the work done, so their problem-solving skills actually got enhanced, their creativity got enhance, and so did their critical thinking skills.

Participant 18 indicated:

I think the problem-solving of just doing the whole online learning, uh, was an asset to learn the new platform that everyone was going to be using and figuring out the problems of getting online and staying in the classroom, having the internet, sharing your screen, going into breakout room. That was all new. As far as critical thinking, I'm not really sure it helped her critical thinking to tell you the truth. Yes, I think the online learning helped the creative thinking because you had a lot of tools at your fingertips to present, and you had the internet to readily find things for presentations and visuals, maps, and things that could help you learn. Through your visuals, which I think helped the creativity in my daughter.

Participant 19 elaborated much further:

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…I felt like as a parent, we had to be more engaged in terms of the critical

thinking aspect and the creative thinking aspect because normally that would

obviously happen in the classroom…maybe in the evenings or when we have

some downtime, we would try to understand, you know, what actually went over

or transpire in class and then sort of engage kids to, hey, maybe you should think

of this story this way or…have you thought about from a different perspective.

Obviously we're not teachers, but at the same time we try to, you know,

supplement or fill those gaps, if you will, from a critical thinking and creative

thinking perspective…when we switched over to online, …I felt like it was a little

bit of a struggle for both our kids to kind of think, let's say, think outside the box

a little bit. Problem-solving part, for the most part, I think my older one was

okay…like in math or something that's sort of somewhat analytical, he was able

to operate on his own for the most part, and occasionally he would ask questions.

For my younger one, that was a bit more challenging because, you know, the

teachers will go over, let's say, a math problem or something analytical in

class…if he doesn't understand, it's not like, I mean he could raise his hand in

Zoom…maybe he was just a little shy, or maybe he didn't want to, or maybe he

was just kind of operate on his own… I think my wife and I again, tried to be

more involved …we will spend the time to kind of supplement that.

**Rating of confidence level**. The fourth theme had the parent participants rate

their confidence level on a scale of 1 to 10 that teachers can motivate students to

learn well in the remote learning environment from 2020-2022. All 19 parent

participants gave a rating, but only eight participants shared further thoughts on

the rating that they provided. Table 6 provides the rating of the parent

participants.

**Table 6**

*RQ3 Fourth Theme: Rating of Confidence Level*

| Participant code | Rating (Scale of 1 to 10) | Participant code | Rating (Scale of 1 to 10) |
|---|---|---|---|
| P1 | 5/10 | P11 | 7/10 |
| P2 | 3-4/10 | P12 | 8/10 |
| P3 | 8-9/10 | P13 | 8/10, 3/10 [a] |
| P4 | 7/10 | P14 | 4/10 |
| P5 | 4/10 | P15 | 6/10 |
| P6 | 10/10 | P16 | 8-9/10 |
| P7 | 5/10 | P17 | 7-8/10 |
| P8 | 5/10 | P18 | 10/10 |
| P9 | 8/10 | P19 | 4-5/10 |
| P10 | 6/10 | | |

[a] Participant 13 (P13) gave a rate of 8 out of 10 when remote learning was synchronous in

the 2020-2021 academic year and a rate of 3 out of 10 when remote learning was

switched to asynchronous in the 2021-2022 and 2022-2023 academic years.

Participants 6, 12, 17, and 18 all gave fairly high or perfect ratings with both

Participants 12 and 17 giving fairly high ratings to indicate that teachers had to deal with

a lot of stress themselves and that they saw teachers put in a great amount of effort to

teach and help their students. Participant 12 added, "…some students do not learn that

well remotely and learn better in a physical setting where they can get hands-on." Both

Participants 6 and 18 gave a rating of 10 out of 10.

Participant 6 stated:

So I would really like ten out of ten. But because it happened so like suddenly and then the school and the teacher can put like everything all together, like from the classroom setting to a digital setting. So the teacher works hard and they, they speak very well in front of the computer and, and pick on the student who may not pay attention in the class, and they and they do a lot of things they do games. They, they have um video, I think, I think the school …and the teacher do very well for them.

Participant 18 has a different take on her rating of 10 out of 10. Participant 18 went on to say:

Ten for sure. No question. Well, that's what teachers are supposed to do. That's what. That's why they're there. That's their passion and that's their job. Or they shouldn't be teachers. I think most teachers do, or they stop teaching if they don't.

Participants 7, 15, and 19 all gave lower ratings because of the lack of social aspects and interactions and inadequate preparedness to help and train teachers.

Participant 7 stated:

For grades K to 16, I would rate 5. The social hands on learning aspect is key to learning in the early years of school. Eye contact is missing. Technology is challenging for families as well. Plus many teachers did not have the skills to use technology well nor train students initially.

Participant 15 had this to say:

It's a really good question, and I would say it's dependent on the teacher how prepared they are for an online learning environment. Some of the teachers were well prepared, and they had appropriate knowledge of how to use the technology

and how to still interact within their classroom. Others were not as prepared, and it was evident in what they were asking students to do, and it was not clearly outlined. They were using the same modality as if they were face to face in an online class, and even the instructions asked for them to print and bring into the classroom when they were not in the classrooms. They were using the old instruction for a new modality which is different than face-to-face, so some teachers were prepared, and some were not prepared. And holistically, if we weren't able to supplement their education, they would be left behind like many of their peers.

Participant 19 provided a two-fold in his explanation:

Qualitatively, I think the teachers that we had, they really tried. They really tried, but I think because of this sort of online limitation, personally, I'm not, I'm not very confident, so if I have to put a rating there, like in terms of effort, let's put it this way, in terms of effort from our teachers, I think I'll give them 8 or 9 on a scale of 1 to 10. But realistically, from my perspective, in terms of effectiveness, I would give it like 4 or 5 for both of my kids. So effort would be high because the teachers were good.

Participant 13 provided a mixture of two worlds in her rating based on her experience with her learners. Participant 13 stated:

I feel like, you know, asynchronous teaching does not, does not boost the confidence levels of students. I feel like, I mean, both of the learners did very well in the first year. They were remote learners since they, um, since they had multiple synchronous lessons with teachers who were outwardly like, encouraging

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them. So I would say that I would give like synchronous learning like an 8 with motivating students and then like asynchronous would be more like a 3 and it is not necessarily reflecting poorly on the teachers. It's more just like the student's willingness and ability to reach out to them too.

**Chapter 4 Summary**

The purpose of this study was to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. This study used 19 in-depth interviews and open-ended questionnaires with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. Data were analyzed using the modified version of van Kaam method as explained by Moustakas (1994). This analysis resulted in a number of themes that emerged in alignment with the technology acceptance model (TAM) (Aguilera-Hermida, 2020) and the constructivist theoretical model framework (Ananga, 2020), which formed the theoretical framework of remote learning in this study.

In reference to RQ1: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? Three themes were drawn from the previous writing under the first research question. These themes were (1) one-to-one discussions with teachers, (2) best efforts, and (3) focus. Regarding RQ2: What are the educational benefits and challenges that K-16 students face

in remote learning? Three themes were drawn from the previous writing under the second research question. These themes were (1) benefits, (2) challenges, and (3) online problems. In regards to RQ3: How does remote learning influence some essential thinking skills in K-16 students? Four themes were drawn from the previous writing under the third research question. These themes were (1) satisfaction, (2) least enjoyable subject(s), (3) influenced thinking skills, and (4) rating of confidence level.

In Chapter 5, a more detailed discussion of the results in relation to the literature is provided. Limitations, implications of the results for practice, and recommendations for further research are discussed. In closing of this study, there is a comprehensive conclusion.

# CHAPTER 5. CONCLUSIONS AND DISCUSSION

## Introduction

The purpose of this study was to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. The qualitative research methodology and the phenomenology design, as explained by Creswell and Creswell (2018), were incorporated and applied in this study. With these tools, this researcher saw that it should be considered essential to discover alternative solutions to enhance remote learning because remote learning was not ready to be placed under the one-size-fits-all idiom.

The entrance of the Covid-19 pandemic in late 2019, thus, bringing forth a forced transition of education from in-person learning to remote learning inevitably brought the long-time concept of remote learning to the spotlight or center of attention. As explained by Kalimullina et al. (2021), digitalization and globalization have been playing more of a role in influencing teaching strategies, teaching assessments, and teacher and student interactions in the 21st century even though studies and problems connecting to digital learning technologies including remote learning tools have existed much early on.

This study will be a qualitative research study where there will be an attempt to capture from K-16 students their true intellectual thoughts, learning outcomes, experiences, and emotions within the environment of the virtual classroom through the lens and perspectives of their parents. According to Chivanga and Monyai (2021), the qualitative research methodology allows for more of a subjective measure to comprehend the deeper meanings of the phenomenon from the perspectives of the research participants. The phenomenological research design would specifically allow research

participants, in this case, the parents of K-16 students, to describe the lived experiences of their learner(s) during remote learning sessions in detail (Islam & Aldaihani, 2022).

The significance of this study is to target the aspect of student learning outcomes that prior research did not place full attention on. Prior research studies focused more on building caring relationships between teachers and students with the student interaction and engagement levels and challenges during remote learning (Hobbs & Hawkins, 2020; Miller, 2021; Tulaskar & Turunen, 2022). In another prior research, it is evidently shown that learning strategies applied with active learning play a critical role in attaining knowledge in remote learning (Jeong et al., 2019). A review of the literature shows limited information on the topic of remote learning as it relates to diverse grade levels of students in the K-16 education sector, including students with disabilities. This study intends to close the gap in knowledge by placing emphasis on students' academic achievements during remote learning. Included in Chapter 5 is a summary of the study in connection to the outcomes from interviews and open-ended questionnaires highlighted in Chapter 4. In Chapter 5, these results are discussed in relation to the literature and emergent knowledge about the topic. Furthermore, the limitations, implications of the results for practice, and recommendations for further research are examined before giving the dissertation a concise conclusion.

## Discussion of the Results

The current study used 19 in-depth interviews and open-ended questionnaires with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the

remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. Based on the data collected and analyzed, the results are reassuring since they created awareness that further studies are indeed necessary to guide educational leaders to develop additional solutions to streamline the learning process for learners (The University of Manchester, 2022). These solutions would undoubtedly be applied to all learners, especially the early or younger learners and learners with disabilities when it is again determined that there is an urgent need to transition education to the remote learning environment.

In reference to RQ1: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? A good number of participants shared similar thoughts and concerns about how much academic knowledge their K-16 learners can actually acquire from remote learning during the Covid-19 pandemic period from 2020-2022. With regard to RQ2: What are the educational benefits and challenges that K-16 students face in remote learning? A lesser number of participants were open with their experiences on the educational benefits and challenges that their K-16 learners faced in the remote learning environment. In regards to RQ3: How does remote learning influence some essential thinking skills in K-16 students? There was a larger number with RQ3s average of 61% (an average of 19% more than RQ1s 42% and an average of 26% more than RQ2s 35%) of participants who were more open in expressing their opinions and thoughts on how remote learning might have positively or negatively influenced some essential thinking skills in their learner(s) due to learning in the remote learning environment. It is noteworthy to say that RQ3 has

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four themes whereas RQ1 and RQ2 have three themes each. Furthermore, the third theme: influenced thinking skills of RQ3 drew in 100% of participant responses.

## Discussion of the Results in Relation to the Literature

In reference to RQ1: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? A good number of participants shared similar thoughts and concerns about how much academic knowledge their K-16 learners can actually acquire from remote learning during the Covid-19 pandemic period from 2020-2022. Although the participants' occupations or professions and the highest level of education are rather different from one another, the drivers and factors that led them to the conclusion of their thoughts and concerns were generally similar. Hence, the participants' responses were subdivided into three themes: (1) one-to-one discussions with teachers, (2) best efforts, and (3) focus.

The first theme related to how all 19 participants' learner(s) had frequent or less frequent one-to-one discussions with their teachers in the remote learning environment. In this regard, these participants said they developed feelings of being fortunate, encouraged, and/or discouraged in reference to the ability of learners to communicate and seek help from their teachers during and outside of remote learning sessions when the transition to the remote learning environment is again triggered by sudden unexpected issues or natural disasters. In the context of Maslow's hierarchy of needs theory (McLeod, 2018), there is a sense of human needs to be satisfied at different points or levels such as having the ability for students to communicate and seek help as needed. The Maslow's hierarchy of needs theory works in conjunction with the learning theory of the constructivist theoretical model (Ananga, 2020) where having good interactive

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educational directions and a positive attitude towards collaboration when applicable are important and a necessity for a student's learning growth.

The second theme related to nine participants describing how they observed their learner(s) tried their best when their learner(s) were in their online classes. In the context of Piaget's stage theory of cognitive development (Huitt & Hummel, 2003), a child's or a learner's intelligence level is being developed internally and observed by others externally through the toddler and early childhood and elementary and early adolescence stages, which are among this theory's four stages. The descriptions shared by the nine participants of their learner(s) in the remote learning environment agreed well with Jean Piaget's role as a social learning psychologist (Sigel et al., 1981) with his expertise in learning theories. The second theme also hit home with Jerome Bruner's theory of play and discovery learning (Adams, 2011) with the much younger learners in the relevant grade levels of K-5, in which the important role of play is emphasized through activities and games.

The third theme related to how learners had or lacked focus when they joined their online classes; this was shared by six participants. Participants shared various distractions around the house ranging from objects on their desks, other family members walking around in the background or working from home, the desire to get snacks or drinks, other more interesting activities on the internet, nonworking technology or devices, and boring or less desirable subject can cause learners to lose focus. In the context of Vygotsky's sociocultural theory of learning (Yousef & Mahameed, 2022), students' learning habits could be defined by their cognitive orientation in a cultural context.

Regarding RQ2: What are the educational benefits and challenges that K-16 students face in remote learning? A lesser number of participants were open with their experiences on the educational benefits and challenges that their K-16 learners faced in the remote learning environment. The drivers and factors that led to the benefits and challenges were similarly encountered and faced by many participants if not all 19. Hence, the participants' responses were subdivided into three themes: (1) benefits, (2) challenges, and (3) online problems.

The first theme related to how eight participants were able to observe and/or experience their learner(s) receiving help from their teachers while their learner(s) were learning online. Teachers were shown to be the best role models according to the participants. Although learning effectiveness was not universally in agreement among the parent participants, most parent participants did agree that the teachers tried to give their learners a positive learning experience. In some cases, the teachers were learning on the job as well a different modality in teaching their young learners. In the context of Jerome Bruner through his role as a constructivist, he encouraged teachers to incorporate problem-solving within the curriculum (Stapleton & Stefaniac, 2019).

The second theme related to five participants sharing and describing the challenges encountered and faced by their learner(s) in connection to the hardest part for their learner(s) about completing their coursework while being in the remote learning environment. Common complaints from participants have been related to difficulties in avoiding distractions and focusing when connecting to their learner(s). In addition, these difficulties did not prepare learners with disabilities to learn in the remote learning environment. Moreover, the literature incorporated into this study did not note how

remote learning can negatively affect students with disabilities. Thus, this could be taken as a sign that having students with disabilities as part of a future area of study with remote learning as the topic when there is a natural disaster or another natural disaster would be essential. From further research by this researcher, evidence showed that the Covid-19 pandemic has disproportionately affected students with disabilities due to unavailable hands-on instructional support  (Morando-Rhim & Ekin, 2021).

The third theme related to seven participants describing the common online problems their learner(s) experienced when their learner(s) used remote learning technology. Complaints by the participants and their learner(s) with using remote learning technology existed but few. The reason could be that the world has been living in the technology and digital era for quite some time. Therefore, the problems experienced by K-16 learners with using remote learning technology were seen as short-lived by families. In the context of David Kolb's experiential learning theory (Kolb, 2014; Mainemelis et al., 2002) with the technology acceptance models (TAMs) (Aguilera-Hermida, 2020) in which learning is defined as being a process where knowledge is created when experience occurs, especially with online educational activities through the use of technology being easily accessible when learning remotely.

In regards to RQ3: How does remote learning influence some essential thinking skills in K-16 students? There was a larger number of participants who were more open in expressing their opinions and thoughts on how remote learning might have positively or negatively influenced some essential thinking skills in their learner(s) due to learning in the remote learning environment. The drivers and factors that led to the primary influential areas relevant to the thinking skills generated similarities in responses by

many of the participants if not all 19. Hence, the participants' responses were subdivided into four themes: (1) satisfaction, (2) least enjoyable subject(s), (3) influenced thinking skills, and (4) rating of confidence level.

The first theme related to how 11 participants expressed how satisfied and good remote learning worked for their learner(s). This theme involved how remote learning has been working well with the participants and their learner(s), thus, meeting the educational needs of the learners. In the context of literature, this theme would also fit well with Abraham Maslow's hierarchy of needs (Gawel, 1996; McLeod, 2018) in which to achieve educational satisfaction, certain needs are necessary to be met first.

The third theme related to all 19 participants describing with specific detail how remote learning had influenced some essential thinking skills of their learner(s). Some participants in this study were educators themselves. Therefore, they also served as role models for their learners. In the context of Vygotsky's sociocultural theory of learning, there is a mediator involved in influencing learners (Yousef & Mahameed, 2022) which could hold true for learners who have parents as educators themselves.

## Limitations

This study entailed a number of limitations. The first limitation pertained to the sampling size with 19 participants interviewed and completed open-ended questionnaires and purposive sampling used as the recruitment method. As a result, only parents of K-16 learners in the United States who have experienced remote learning from the years 2020-2022 were qualified and invited to participate in this study. Therefore, selected research participants representing parents having learners in K-5th grades, 6th-8th grades, 9th-12th

grades, and undergraduate students grades 13th-16th in the United States were disproportionate (Chivanga & Monyai, 2021).

Another limitation was the possibility of having researcher bias. A handful of research participants were current colleagues of this researcher, and the research participants had inquired about having the interview at their place of employment, thus, creating opportunities to impact FDC or the trustworthiness criteria of credibility (Forero et al., 2018; Lemon & Hayes, 2020). To minimize the chance of having this bias concern, all interviews relating to this researcher's colleagues occurred virtually via the Zoom platform to ensure accuracy and credibility in data and findings, and reflexivity was activated.

A third limitation is that all data collected in this study related to the subjective view (Chivanga & Monyai, 2021) of the parents of K-16 learners from the lens and perspectives of the parents. If the research participants were to be educators rather than parents, the results could be different with the research design easily and unexpectedly changed to a case study, for example, thus, possibly focusing on a specific school district (Creswell & Creswell, 2018). However, the participant group of educators in a future study could also be parents themselves, so the decisions they possibly make by playing a dual role of being an educator and a parent could be reflected in their actions and opinions. In addition, the instrument might also need to be modified accordingly. Furthermore, the demographic characteristics in this study did not include the socioeconomic status of low-income. The results could also be different if the setting was limited to a particular location.

**Implication of the Results for Practice**

In this section, the practical implications of the results were highlighted. The first

implication is that the findings provided insights into the factors that drive the success of

remote learning in K-16 learners in the United States. The findings clearly illustrate why

remote learning could potentially work well for some learners and not others. In addition,

the findings could imply that remote learning can work for all if certain drivers and

factors are understood and met for the relevant grade levels of learners. These drivers and

factors would include access to one-to-one discussions with teachers, the ability to put in

the best efforts, and reduced intimidation to focus.

The second implication is to have the appropriate resources including additional

professional development training for teachers to assist younger learners and learners

with disabilities more. It seems that necessary instructional support and preparedness in

educators for the younger or early learners were missed in regard to remote learning.

Instead, the responsibilities were left for the most part to parents, guardians, or other

family members, who might not be trained as educators. In addition, it is necessary to

prepare and provide professional development training to educators to teach in different

modalities with using appropriate teaching materials to suit the modality.

**Recommendations for Further Research**

In relation to this study, a number of recommendations for further research were

developed. The first recommendation pertained to addressing the sample size. Although

the current sample size comprised a diverse demographic of participants, including in

relation to socio-economic status, this researcher was not able to recruit participants from

low-income socio-economic status. It would be beneficial to see if income or financial

status would impact access to reliable technology, learning devices, and internet access for use with remote learning. Most of the participants in this study fell into the middle-income socio-economic status. Therefore, there were few to no complaints about having reliable internet connections or services or purchasing school supplies for the K-16 learners to be used at home.

A second recommendation is to build on this current study to include educators as a research participant group. This educator participant group could themselves possess a dual role being both an educator and a parent. This researcher was restricted in using more than one target population due to the duration of this study. The future study with educators as research participants would still be using the qualitative research methodology and phenomenology research design to gain the perspective from an educator's point of view of K-16 learners.

A third recommendation for further research would be to have only educators as research participants, also playing the dual role of an educator and a parent, with using the qualitative research methodology and the case study research design. The target population would be from a particular school district in the United States to explore the effectiveness of remote learning in a school setting. Focus groups can be considered with a select group of students within the school together with interviews and digital questionnaires. The select group of students would include students with disabilities to ensure appropriate instructional support is arranged and implemented for use in the remote learning environment as evident in this study there were few to no mentions of appropriate instructional support provided to students with disabilities during the years 2020-2022 from the relevant parent participants.

A fourth recommendation for future research would be to broaden the geographical area further to have a much more diverse sample size. The qualitative research methodology with the case study research design would be utilized with multiple cases across the United States. The purpose is to make a comparison of the effectiveness of remote learning across the country.

A final recommendation is to adjust the interview and open-ended questionnaire protocol of the current study with the current research participants as-is if those same K-16 learners are still learning remotely. The qualitative research methodology and phenomenology research design would remain the same. The purpose is to see if the learning attitude of their K-16 learner(s) has changed between then and the years 2020-2022.

## Conclusion

The purpose of this qualitative study was to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from remote learning. This study was necessary because many instructors and learners worldwide had to adapt to or even adopt alternative methods of education at the start of 2020 due to the entrance of the Covid-19 virus that became known to many people in late 2019. As noted in an article in The Washington Post that teachers did not receive adequate training in remote education early on, and students were reported to have low attendance and student engagement rates while being in remote education in various school districts (Natanson & Strauss, 2020), these were evident from some of the research participants in this study. Therefore, it is concluded that interactions between a teacher and students and between peer to peers are important

to increasing student engagement rate for academic achievement while being in a remote learning environment (Ananga, 2020).

Although the concept of remote learning has existed with studies done linking technological usage to remote learning, the data collected from those studies were reportedly done mostly from surveys and experimentations (Burdina et al., 2019; Medicine, 2018). A review of the literature shows limited information on the topic of remote learning as it relates to diverse grade levels of students in the K-16 education sector, including students with disabilities using the qualitative research methodology. Therefore, the rationale of this study was to highlight the need for more qualitative research studies, to address the problem of how much effective learning was achieved through remote learning, and to explore and obtain true lived experiences from research participants in their natural environments.

To appropriately address the goal of this study, 19 in-depth interviews and open-ended questionnaires were used with a sample of parents of grades K-16 learners in the United States representatives of the years 2020 to 2022, which were the Covid-19 pandemic years. Through individual semi-structured interviews and open-ended questionnaires, data were collected about the remote learning experiences of grades K-16 learners in the United States through the lens and perspectives of their parents. Data were analyzed using the modified version of van Kaam method as explained by Moustakas (1994). This analysis resulted in a number of themes that emerged in alignment with the technology acceptance model (TAM) (Aguilera-Hermida, 2020) and the constructivist theoretical model framework (Ananga, 2020), which formed the theoretical framework of remote learning in this study.

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In reference to RQ1: How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? A good number of participants shared similar thoughts and concerns about how much academic knowledge their K-16 learners can actually acquire from remote learning during the Covid-19 pandemic period from 2020-2022. Although the participants' occupations or professions and the highest level of education are rather different from one another, the drivers and factors that led them to the conclusion of their thoughts and concerns were generally similar. Hence, the participants' responses were subdivided into three themes: (1) one-to-one discussions with teachers, (2) best efforts, and (3) focus.

The first theme related to how all 19 participants' learner(s) had frequent or less frequent one-to-one discussions with their teachers in the remote learning environment. The second theme related to nine participants describing how they observed their learner(s) tried their best when their learner(s) were in their online classes. The third theme related to how learners had or lacked focus when they joined their online classes; this was shared by six participants.

Regarding RQ2: What are the educational benefits and challenges that K-16 students face in remote learning? A lesser number of participants were open with their experiences on the educational benefits and challenges that their K-16 learners faced in the remote learning environment. The drivers and factors that led to the benefits and challenges were similarly encountered and faced by many participants if not all 19. Hence, the participants' responses were subdivided into three themes: (1) benefits, (2) challenges, and (3) online problems.

The first theme related to how eight participants were able to observe and/or experience their learner(s) receiving help from their teachers while their learner(s) were learning online. The second theme related to five participants sharing and describing the challenges encountered and faced by their learner(s) in connection to the hardest part for their learner(s) about completing their coursework while being in the remote learning environment. The third theme related to seven participants describing the common online problems their learner(s) experienced when their learner(s) used remote learning technology.

In regards to RQ3: How does remote learning influence some essential thinking skills in K-16 students? There was a larger number of participants who were more open in expressing their opinions and thoughts on how remote learning might have positively or negatively influenced some essential thinking skills in their learner(s) due to learning in the remote learning environment. The drivers and factors that led to the primary influential areas relevant to the thinking skills generated similarities in responses by many of the participants if not all 19. Hence, the participants' responses were subdivided into four themes: (1) satisfaction, (2) least enjoyable subject(s), (3) influenced thinking skills, and (4) rating of confidence level.

The first theme related to how 11 participants expressed how satisfied and good remote learning worked for their learner(s). The second theme related to eight participants sharing the parts or subjects of the online class that were least enjoyed by their learner(s). The third theme related to all 19 participants describing with specific detail how remote learning had influenced some essential thinking skills of their learner(s). The fourth theme related to all 19 participants giving a rate based on a scale of

1 to 10 of their confidence level that teachers can motivate students to learn well with eight participants among the 19 participants elaborating further on their perspectives.

In closing, the aim of this study is to apply the responses to the three research questions in this study from the research participants to broaden the knowledge of educational leaders to discover solutions to improve and enhance remote learning to benefit K-16 students in their education for the present and the future. The lived experiences of K-16 students from the perspectives of their parent(s) would certainly open doors to new concepts and innovations for remote learning in the education sector in the United States. If there were to be another similar natural disaster, resorting to remote learning would no longer be a concern but more of a safe haven or alternative avenue for receiving education for students.

# Appendix A

## Institutional Review Board (IRB) Approval Letter

**ST.THOMAS**
UNIVERSITY
Leaders for Life

Institutional Review Board | Academic Affairs
Phone. 305-628-6747 | Email. irb@stu.edu

Memorandum

**Date**: 9.29.2023
**To**: Annie Mak

**From**: Kennedy Maranga, Ph.D, Chair, Institutional Review Board
**Subject**: IRB Application # 9:2023.5- EFFECTIVENESS OF REMOTE LEARNING IN K-16 EDUCATION SECTOR

St. Thomas University Institutional Review Board (IRB) is pleased to inform you that your research protocol submitted for review has been approved after a formal review for exempt status aligning with the Common Rule, Code of Federal Regulations – Human Subjects Research provision. Please note that your approval for this study will lapse on **9.29.2024** and any changes to the provided protocol will require notification and may require additional approval. More specifically, any changes to any portion of the research project, including but not limited to instrumentation protocol(s) or informed consent must be reviewed and approved by the IRB prior to implementation. In addition, if there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the IRB Chair for consultation.

Should you have any questions feel free to contact me at 305-628-6747 between 8AM and 5PM EST Monday through Friday or via e-mail at irb@stu.edu. Thank you and have a great day.

Sincerely,

Kennedy Maranga Ph.D. Chair:
Institutional Review Board
Office of the Provost | St. Thomas University

16401 NW 37 Avenue • Miami Gardens, FL 33054 • 305.625.6000
stu.edu

## Appendix B

### Recruitment Letter

From: Annie Mak, Ed.D. Candidate at St. Thomas University

Date: _____

Subject: Searching for Parents of K-16 Learners in the United States

St. Thomas University has authorized me to conduct a study as part of my doctoral dissertation titled Effectiveness of Remote Learning in k-16 Education Sector.

The IRB authorization number for my study is _____.

I invite anyone who meets the following criteria to take part in this study:

This project is for research purposes only. Your participation is voluntary, and you can stop answering questions at any time without negative consequences. Your participation is not intended to cause any negative impacts. Pseudonyms will be used for the participants to maintain privacy.

The overall objective of the study is to answer the questions - (1) How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning? (2) What are the educational benefits and challenges that K-16 students face in remote learning? (3) How does remote learning influence some essential thinking skills in K-16 students? - or at least to get as many insights as possible into those questions to help educational leaders understand and improve the remote learning experience of the current and future generations of students in their education.

The basic demographic of the participants needed is the following:
Parents having learners in Grades K-16 in the United States ————— a minimum of 10

Participation involves completing a three-question preliminary screening process administered via email. Upon completion, if you meet the criteria, then an interview (in-person or virtual) anticipated to take around 45-60 minutes will be scheduled approximately one week after completion of the preliminary screening email. The interviews will be audio-recorded and video-recorded (if virtual via the Zoom platform) for transcription purposes only. You will be given the opportunity to review your interview once the transcription is completed. Should you wish to receive a copy of the

study once completed, please communicate your wishes to me directly at the contact information below.

Thank you very much in advance for your collaboration.

Annie Mak
Ed.D. Candidate
St. Thomas University-Florida, Online

<center>**Appendix C**</center>

<center>**Preliminary Screening Email**</center>

Welcome, and thank you for participating today. My name is Annie Mak. I am in the Doctor of Education degree program at St. Thomas University. Please complete the following three-question questionnaire to determine if you qualify to participate in this study.

1. Were you a parent of a grade K-16 learner from the years 2020-2022?

2. As a parent, did you live in the United States during this period?

3. Did your learner(s) experience remote learning in the United States during this period? It could be hybrid or, for as short as one month.

If you meet the study criteria, you will receive another email or text invitation to confirm a date and time of your time (in person or virtual). The interview will take approximately 45-60 minutes to complete.

Thank you for your participation.

Annie Mak
Ed.D. Candidate
St. Thomas University-Florida, Online
917-509-8787

# Appendix D

## Email of Introduction and Request Permission With SurveySparrow

[SurveySparrow] Re: Blog Post Inquiry

Mak, Annie

To: support@surveysparrow.com

Good Day,

My name is Annie Mak. I am a doctoral student studying fully online toward my Doctor of Education degree at St. Thomas University-Florida. Currently, I am working on the final phase of my doctoral study, which is the dissertation. The topic of my dissertation research study is remote learning. I am researching applicable instruments to assist me in my dissertation research study. I came upon your website and saw your blog post "80+ Remote Learning Survey Questions for Students, Teachers, and Parents" and am very interested in incorporating some of the questions in my dissertation research study. I would like to know how I can obtain permission to legally use some of the questions. Alternatively, am I able to purchase it? Thank you for your time.

Sincerely,
Annie Mak
EdD Candidate
St. Thomas University-Florida, Online
917-509-8787

# Appendix E

## Email Communication With SurveySparrow to Request Permission

### [SurveySparrow] Re: Blog Post Inquiry

Jay (SurveySparrow) <support@surveysparrow.com>
To: Mak, Annie
You don't often get email from support@surveysparrow.com. Learn why this is important

SurveySparrow

Dear Annie,

Thank you for reaching out and expressing your interest in our blog post, "80+ Remote Learning Survey Questions for Students, Teachers, and Parents." We appreciate your enthusiasm and congratulate you on your doctoral study focusing on remote learning.

Regarding your request to use some of the questions from our blog post in your dissertation research study, we are pleased to hear that they align with your research objectives. We understand the importance of obtaining proper permissions for such use.

To facilitate the process, we kindly ask you to provide us with the specific questions you wish to incorporate into your study. Once we receive this information, we will assess the possibilities for granting you permission to use them. Additionally, we can discuss any potential options for purchase, if applicable.

We appreciate your understanding and cooperation in this matter. Please feel free to share the details with us, and we will gladly assist you further.

Best regards,
Jay

# Appendix F

## Email Communication With SurveySparrow to Request Permission

[SurveySparrow] Re: Blog Post Inquiry

Mak, Annie

To: SurveySparrow support@surveysparrow.com

Dear Jay,

Thank you very much for your response and for considering my request. I attached the questions in a PDF file that I would like permission to legally incorporate into my dissertation research study toward completing my fully online doctoral study at St. Thomas University-Florida. Again, I would consider options to purchase it, if applicable. Thank you for your time.

Sincerely,
Annie Mak
EdD Candidate
St. Thomas University-Florida, Online
917-509-8787

**Email Communication With SurveySparrow to Request Permission**

[SurveySparrow] Re: Blog Post Inquiry

Jay (SurveySparrow) <support@surveysparrow.com>
To: Mak, Annie

SurveySparrow

Hello Annie,

I appreciate your response.
The blog post you mentioned, "80+ Remote Learning Survey Questions for Students, Teachers, and Parents" was specifically crafted to assist our customers and prospects in their survey endeavors. At Surveysparrow, our aim is to provide extensive support to students like yourself. Therefore, I am delighted to grant you permission to utilize the blog post for your research study. I wish you the best of luck with your study.

Thank you,
Jay

# Appendix H

## Email Communication With SurveySparrow to Request Permission

**[SurveySparrow] Re: Blog Post Inquiry**

Mak, Annie
To: SurveySparrow support@surveysparrow.com

Dear Jay,

Thank you very much. I am very happy that you and your team at SurveySparrow have granted me permission to incorporate the survey questions from the blog post "80+ Remote Learning Survey Questions for Students, Teachers, and Parents" into my dissertation research study toward completing my fully online doctoral study.

I do have one more request. St. Thomas University-Florida values the importance of providing proper credit where it is due. The blog post "80+ Remote Learning Survey Questions for Students, Teachers, and Parents" noted the screen name of "Pragadeesh" who I believe would be the original author or creator of the survey questions. What is the full name of this person so that I can properly provide credit for the survey questions in my dissertation research study? Thank you for your time.

Sincerely,
Annie Mak
EdD Candidate
St. Thomas University-Florida, Online
917-509-8787

# Appendix I

## Email Communication With SurveySparrow to Request Permission

[SurveySparrow] Re: Blog Post Inquiry

Jay (SurveySparrow) <support@surveysparrow.com>
To: Mak, Annie

SurveySparrow

Hi Annie,
His name is "**Pragadeesh Natarajan**".

**Appendix J**

**Interviews and Open-Ended Questionnaires Protocol**

Welcome, and thank you for participating in my research study today. I am Annie Mak. I am in the Education in Leadership and Innovation doctoral program at St. Thomas University. Please respond to the following 10 questions in the manner that the questions relate to you and your experience in the remote learning environment during the 2020 to 2022 Covid-19 pandemic years only and not to relate to any other years of the past, the present, or the future. All your responses are confidential and will only be used for research and educational purposes. Your participation in this study is completely voluntary.

RQ1. How much academic knowledge traditionally acquired through in-person schooling can students in K-16 learn from remote learning?

1. How many times did your learner(s) have 1-1 discussions with their teachers?

2. Describe how your learner(s) tried to do their best when they were in their online classes.

3. How much attention were your learner(s) able to put into their online classes?

RQ2. What are the educational benefits and challenges that K-16 students face in remote learning?

1. How did the teachers of your learner(s) help your learner(s) while they were learning online?

2. What has been the hardest part for your learner(s) about completing their coursework?

3. What problems were there when your learner(s) used remote learning technology (computer, video conferencing tools, online learning software, etc.)?

RQ3. How does remote learning influence some essential thinking skills in K-16 students?

1. Describe how remote learning has been good for your learner(s).

2. Which parts or subjects of the online class have your learner(s) found the least enjoyable?

3. How did remote learning influence critical thinking, creative thinking, and problem-solving skills in your learner(s)?

4. On a scale of 1 to 10, how would you, as a parent, have rated your confidence level that teachers can motivate students to learn well?

# Appendix K

# Informed Consent to Participate

**ST.THOMAS**
**UNIVERSITY**
**Leaders for Life**

## INFORMED CONSENT TO PARTICIPATE IN A RESEARCH STUDY
### Effectiveness of Remote Learning in k-16 Education Sector

### SUMMARY INFORMATION

Things you should know about this study:

- **Purpose**: The purpose of the study is to describe how much knowledge K-16 students located in the United States can learn from being in the remote learning environment.
- **Procedures**: If you choose to participate, you will be asked to respond verbally to a series of interview questions.
- **Duration**: This will take about 45-60 minutes.
- **Risks**: The main risk or discomfort from this research is a feeling of anxiety from answering questions while participating in this research study.
- **Benefits**: The main benefit to you from this research is (1) helping you, as the parent of a K-16 learner, to gain an understanding of what your K-16 learner learned through the remote learning environment during the years, 2020-2022, inclusive and (2) realizing some of your K-16 learner's essential thinking skills capability.
- **Alternatives**: The alternative to a face-to-face interview available to you, as the parent of a K-16 learner, in this study is to complete a questionnaire.
- **Participation**: Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

### PURPOSE OF THE STUDY

The purpose of this study is to describe how much academic knowledge traditionally acquired through in-person schooling that K-16 students located in the United States can learn from being in the remote learning environment.

### NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of at least 10 people in this research study.

## DURATION OF THE STUDY

Your participation will involve about 45-60 minutes. The timing of your participation in one sitting can be adjusted as needed.

## PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. You will tell the interviewer the answers to up to 10 questions about your experience with remote learning that the interviewer will ask while being recorded by video and audio.

## RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: A feeling of anxiety from answering questions while participating in this research study, especially since this study refers to the Covid-19 pandemic years 2020 to 2022, which was a challenging time for many individuals, including myself as a parent and an educator for over 20 years.

## BENEFITS

The study has the following possible benefits to you: (1) helping you, as the parent of a K-16 learner, to gain an understanding of what your K-16 learner learned through the remote learning environment during the years, 2020-2022, inclusive, and (2) realizing some of your K-16 learner's essential thinking skills capability.

## ALTERNATIVES

The alternative to a face-to-face interview available to you, as the parent of a K-16 learner, in this study is to complete a questionnaire. Any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you.

## CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely, and only the Principal Investigator will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

The research records, including Zoom-recorded research data, will be stored in a locked container or on password-protected electronic storage devices (computers, USB drives, or the cloud). The records will be kept for seven (7) years and then shredded or permanently deleted from electronic storage devices.

The U.S. Department of Health and Human Services (DHHS) may request to review and obtain copies of your records. The Food and Drug Administration (FDA) may request to review and obtain copies of your records.

## USE OF YOUR INFORMATION

- Identifiers about you might be removed from the identifiable private information and that, after such removal, the information could be used for future research studies or distributed to another investigator for future research studies without additional informed consent from you or your legally authorized representative

## COMPENSATION & COSTS

You will receive a payment of a small incentive in the form of an e-gift card of an amount less than $25.00 for your participation upon completion. There are no costs to you for participating in this study.

## MEDICAL TREATMENT

Routinely, STU, its agents, or its employees do not compensate for or provide free care for human subjects in the event that any injury results from participation in a research project. If you become ill or injured as a direct result of participating in this study, contact your regular medical provider. If you have insurance, your insurance company may or may not pay for these costs. If you do not have insurance, or if your insurance company refuses to pay, you will be billed. Funds to compensate for pain, expenses, lost wages and other damages caused by injury are not routinely available.

## RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

## RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study, you may contact Ms. Annie Mak at the College of Education in Leadership and Innovation Online, St. Thomas University 16401 NW 37 Avenue, Miami Gardens, FL 33054, (917) 509-8787, amak@stu.edu.

**IRB CONTACT INFORMATION**

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the STU Institutional Review Board Chair by phone at 305-628-6576 or by email at irb@stu.edu.
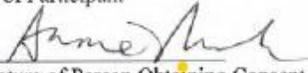
**PARTICIPANT AGREEMENT**

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. I understand that I will be given a copy of this form for my records.

_____          _____
Signature of Participant                                    Date

_____
Printed Name of Participant

_Annie Mak   *[signature]*                              9-11-23
Name & Signature of Person Obtaining Consent        Date

# REFERENCES

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