COVID-19:

The Impact the Pandemic had on Teaching in Schools

A THESIS

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By

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ABSTRACT

This thesis is a quantitative study on the impacts that COVID-19 has had on teaching instruction and student learning. Data were collected from a sample of teachers who taught pre-Kindergarten through 8th grade in schools throughout Bergen County, New Jersey. The focus of this study was on factors related to teaching dynamics and how these factors affected the social and academic well-being of students. The results of this study indicated that the pandemic created several challenges for teachers, especially in urban school districts. Additionally, teachers believed students encountered several challenges both with school and home life that impacted their ability to learn. Overall, the findings and results of this study highlight the influence the pandemic had on teaching and learning. Due to the newness of the pandemic and the ongoing changes to instruction and thus learning strategies, there are still important implications for future research on this topic.

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Introduction

During the height of the COVID-19 pandemic, school closures were common with 191 countries and approximately 1.6 billion students not attending school due to lockdowns globally (Sheikh et al. 2020). The COVID-19 pandemic had a profound impact on the nature of education. COVID-19 forced educational institutions to operate with a fundamentally altered mode of service delivery due to restrictions on in-person gatherings. At its peak, there were a limited number of schools open, and the virus necessitated the rapid adoption of online learning through different tools, some of which had never been used before the pandemic. The pandemic pushed instruction to be either fully online or in split online/in-person classrooms. According to the U.S. Department of Education (2020), 77% of public schools and 84% of college classes moved to online-only instruction. Prior to the pandemic, students were mainly taught in person in K-12 education.

In many cases, teachers were forced to convert in-person classes to online classes without proper time to produce a strategic plan. Teaching online classes increased the workload for teachers and increased inequality between students. Online teaching is not suitable for every student, yet many were taught through online methods. The pandemic forced teachers to create social experiences for students online, but an online classroom does not substitute for the social environment of regular in-person instruction (Kaden, 2020). These technologies also created gaps in education because of lack of access to technology; some teachers might have been overwhelmed because they were not able to reach every student depending (Kaden, 2020). These inequalities between students created additional problems for teachers to grapple with. It was found that the change in modality affected students, teachers, and students' parents.

Students were impacted by the pandemic in diverse ways, including changes in their learning environments and methods. A primary concern for parents arising from the shift to remote learning was the potential for students to fall behind in their studies (Horowitz & Igielnik, 2020). Income played a huge part in effective online education. Students of lower-income families did not have the technology to facilitate full-time online learning (Horowitz & Igielnik 2020). Some parents needed to bring outside educational resources to help their children learn, which means lower income families faced additional challenges with accessing necessary resources.

Social interaction is an important contributor to positive social development (Martin & Sorensen, 2020). However, the social element of life was undermined by COVID-19 pandemic, particularly within educational contexts. As schools shifted to remote instruction, children were less able to socialize and play with peers. The enforced closures of schools from kindergarten through 12th grade, implemented in response to the pandemic, have raised concerns about the long-term consequences on students' psychological and emotional well-being (Martin & Sorensen, 2020). Furthermore, the disruption caused by closures resulted in adverse effects on some students' physical health, as some were unable to access essential services like free or reduced lunches. School lunch participation improves academic outcomes, reduces fatigue, and bolsters the immune system (Martin & Sorensen, 2020). The global pandemic clearly introduced numerous challenges for both educators and students.

The Purpose of this Study

This essay examines the pandemic's impact on education, focusing on how the pandemic-motivated changes to instruction influenced the experiences of pre-K through 8th grade teachers. These experiences included emotional, physical, and social changes that affected

students and teachers. Additionally, teachers' perceptions of students' struggles and challenges were explored. COVID-19 illustrates how a global pandemic has the potential to affects students, families, and teachers. Therefore, the question posed in this study is how has the COVID-19 pandemic affected the experiences of pre-K through 8th grade teachers and their concerns about students' ability to learn?

Literature Review

The COVID-19 pandemic was sparked by the global transmission of a respiratory syndrome that resulted in high mortality and morbidity rates. This syndrome or infection was highly contagious and caused other respiratory and physical issues. It ultimately led to a nationwide shutdown and numerous deaths globally (Lu & Shi, 2020). This pandemic affected daily life, education, mental and physical health. According to Gudi & Tiawari (2020), the COVID-19 pandemic has significantly affected the day-to-day life of humans through the resulting public health emergency and global shutdown. The economic ramifications of the pandemic have been particularly severe, leading to substantial financial distress among families who lost their homes, jobs, and businesses. In addition, the pandemic forced an educational transformation that impacted teachers, parents, and students. According to Black et al. (2021), students, teachers and parents were unprepared for the shift to online learning. This literature review will highlight the changes the virus imposed on education and inadvertently on students and teachers.

Parental Involvement

According to Bansak et al (2020), there were significant differences in parental abilities during the pandemic, as parents from a variety of backgrounds worked to teach their children from home. It was found that parents from low socioeconomic backgrounds struggled more with computer and internet access than those of higher socioeconomic status. According to Horowitz (2020), parents of students who were receiving in person instruction were very satisfied while parents of students receiving hybrid or fully online instruction were not. Students from higher income families learned better than those from lower income families due to differential access to resources. As a result, in both studies, all children were impacted by the pandemic but

particularly lower-income children. However, the socioeconomic status of the child and family was not the only contributing factor to how well a child learned.

Bansak et al. (2020) also found a relationship between student's educational outcomes and parental factors such as: single parent households, education levels, accessibility to internet and technology devices, racial demographics, and parental time spent helping students to learn. The traditional educational experience was disrupted for students because of these differences, independent of any changes to the classroom experience. Additionally, Bansak et al. (2020) found that parents' ability to spend time with their children, combined with several factors such as access to technology, parents' ability to properly use technology, access to devices, and live teacher hours, contributed to educational gaps between families. They found that students who learned completely online, compared to the blended modality, were less likely to learn effectively because of accessibility issues. Additionally, parents were more likely to be able to effectively help support their child in their learning when they met with a teacher during live hours. Thus, a student worked more independently and effectively if a parent could better support the student which was determined by whether the teacher and parent could engage.

This study concluded that a child was more likely to effectively learn if they had reliable accessibility to technology, internet and devices, if the teacher had live hours, and if a parent was more involved with their learning through teacher/parental collaboration. If these circumstances were met, the child would be more likely to be independent and successful in their education. Black and colleagues' (2021) findings were essentially the same: "Individual students need to be motivated, organized, and supported. Differences in their environment, meaning their access to instructional support as well as their internet access, can cause significant variations in student success" (p. 119).

According to Gillis & Krull (2020), college students also faced a variety of factors that impacted their online learning during the pandemic. Like studies that focused on the impact of the transition of modalities for K-12 students, Gillis & Krull (2020) found a relationship between students learning at home versus in class. The difference was that students did better on schoolwork and homework while in-person classes were in session. As a result, students did significantly worse during online classes due to various factors, including distractions, increased anxiety, and feeling less motivated. These factors were especially prevalent for those who did not have reliable internet, technology, or other resources to properly complete their online course. Such hardships often resulted in heightened anxiety and depression.

Gillis & Krull (2020) found four major factors were imperative for effective teaching: 1) communication, 2) accessibility, effectiveness and enjoyability, 3) social interactions, and 4) creating flexible course options to decrease student anxiety, distraction, and lack of motivation. Communication during the pandemic was hampered because of inconsistency with the internet or lack of access altogether. In addition, communication was limited because of the lack of open public spaces that offer free Wi-Fi. Social interactions were also substantially minimized in online learning.

Effectiveness of Instruction

The effectiveness of instruction was also based upon the instructional strategies and digital tools (Gillis & Krull, 2020). Teachers used the resources available and tried to make learning fun and interactive but did not know if students found their teaching strategies effective or enjoyable. Finding ways for students and teachers to connect better during online learning helps teachers lower the barriers in accessibility to learning. For example, Gillis recorded mini lectures in addition to giving her students notes for classes. Similarly, Bansak (2020) found that

students learned more effectively from blended teaching instruction as opposed to fully online instruction. The engagement from teachers directly resulted in students learning because the teacher was present to help in additional ways. Both Gillis & Krull and Bansak (2020) found that the more a teacher was involved and present during online instruction, the more students' abilities to learn improved.

Student Experiences

According to Middleton (2020), the pandemic has had an impact on students too. The pandemic affected the classroom through situational and external factors. The "classroom" turned into a space where student learning caused stress, anxiety, and illness. Learning differentiated in the availability of standardized tests, or the lack thereof. Teachers were not able to adequately assess their students to ensure that they were learning properly. Middleton found that student growth and learning could not be properly monitored because online learning was different from the type of learning the students were used to. In addition, the study found that new material was rarely taught in high-poverty schools.

Oster and colleagues (2021) found that reduced access to in-person learning is associated with poorer learning outcomes and adverse mental health and behavioral effects in children. Limited in-person learning caused students to experience mental health and behavioral challenges due to the poor learning outcomes caused by online instruction. Between September and December 2020, virtual learning was similar for all students. However, between January and April 2021, the differences in background and ethnicity had an impact. Students who were white had a 37% chance of access to full-time in person learning, while Black students had a 31% chance. Hispanic students had a 23% chance and students from other ethnic and racial backgrounds had a 30% chance of access to full-time in person learning. Disparities throughout

K-12 were apparent due to differences in race and ethnicity. Like the results found in Horowitz & Igielnik's study, children from all socioeconomic statuses learned differently depending on which one they fell under (2020). Thus, finding a relationship between factors like race, ethnicity, and socioeconomic status, and the impact it can have on learning.

These studies found that students experienced anxiety, distraction, and lack of motivation. Students from lower socioeconomic statuses were faced with more barriers in learning, which could have caused stronger feelings of anxiety. This highlights just one of the layers of inequality in learning during the pandemic. While the pandemic is ongoing, the barriers in technology and education will continue to grow and put stress on students while learning.

Factors that Impact Learning

Furthermore, many aspects of the above literature review articles and findings are similar to what is found in the following article. Lixiang and colleagues (2021) found lower primary schools had a hard time with online learning because of the cognitive skills needed to maintain online learning, such as using a computer or numerous online platforms. Students felt isolated during online learning because of the lack of social interaction and a feeling of isolation can negatively affect student success. Therefore, it is imperative teachers finds a way to incorporate social interaction while using online learning platforms to ensure students are learning successfully.

According to Chu (2022), five concepts are important to learning: positive emotions, engagement, relationships, meaning and accomplishment (PERMA). These positive psychological strategies positively influence education for students. The PERMA model focuses on the psychological aspects of education and offers ways it can be improved. Positive emotions and engagement were less apparent during online learning because of the lack of socialization.

Relationships through K-12 are mainly built through face-to-face interaction, which was not available during the pandemic and negatively impacted the ability to make relationships. Meaning and accomplishment come from the interaction with other students and feeling like they belong. During online learning, these aspects were limited and impacted students' mental health.

Additionally, the presence of teachers is imperative in facilitating a positive learning experience. Rapanta and colleagues (2020) discussed how a teacher's presence can impact students by creating relationships with their students. Teacher presence can be divided into three categories: cognitive presence, social presence, and facilitatory presence. Cognitive presence refers to the teacher's ability to consider students' readiness in terms of learning in the online modality. Social presence refers to the communication teachers facilitate in ensuring ongoing student-teacher interaction. Facilitatory presence refers to the teachers' ability to direct instruction and discourse with the use of materials, resources, and online tools/platforms (Rapanta et al., 2020). When teachers can provide the above presences and students have access to technology, a positive learning experience can be enjoyed. However, as noted in previous articles, while positive educational experiences can be facilitated by the teacher and their presence alone, inequalities in access to resources may also impact the student's experiences.

As seen in the literature review, the COVID-19 pandemic continues to have an impact on students and teachers. Students are faced with social and emotional challenges that make learning difficult. Teachers are faced with a lack of resources and technological issues that influence their ability to teach. There was an overwhelming presence of inequality in online learning, specifically among students of lower socioeconomic backgrounds. Some students did not receive support, such as proper technology, to aid their online learning. As many of the studies suggested, the rapid changes resulting from the pandemic introduced multiple layers of

negative impacts on students' abilities to learn. Students faced mental health challenges such as depression and anxiety because of the changes in teaching style and the lack of social interaction caused by COVID-19. However, at the beginning of the pandemic, there were few sources detailing the impact COVID-19 has had on teachers from the teachers' point of view. Most resources focused on how students and the learning process were impacted.

Current Study

The COVID-19 pandemic has negatively impacted teaching and learning for students and their parents. The literature review described numerous impacts such as the lack of social interaction, the increase of anxiety, stress, and illness. Therefore, the purpose of this study is to identify the effects that COVID-19 had on teachers' abilities to teach effectively and the influence they believed the pandemic had on their students. To address this goal, the current study collected survey data from a sample of Pre-K through 8th grade teachers regarding teachers' experiences with the shift to online learning (if any), the challenges they faced as teachers during the pandemic, and their perceptions of the challenges their students faced.

Based upon past research, this study analyzes the chances that the pandemic influenced teachers and that influence caused teachers would be frustrated by the rapid and unguided introduction of online instruction and pandemic-necessitated lack of transitional period. Teachers had to quickly adapt to changing circumstances; therefore, their inability to plan and the inevitability of the switch to online teaching may have impacted teachers' perceptions of teaching and the challenges they encountered with students. This study will help highlight the influence the pandemic had on education by looking at how teachers perceived the changes to their modalities and changes they saw in their students. The research question is how has the

COVID-19 pandemic affected the experiences of pre-K through 8th grade teachers and their concerns about students' ability to learn?

Research Methods

The method used in this study was a survey. A survey was used because it was the best method for collecting data at the height of the pandemic in Spring 2021 when some schools were still not meeting in person. The survey was developed using Qualtrics, a web-based survey platform used to collect data, and consisted of 26 questions, including 16 multiple choices, 6 multiple answers, and 4 open-ended questions. The survey targeted academic professionals teaching grades pre-K through 8 and included a series of questions regarding teaching and learning challenges that arose because of the pandemic. The survey was distributed by email to a convenience sample of twenty-five school districts in New Jersey. Then, the survey was distributed to teachers within the district. School districts in the area were researched and emails were collected for survey distribution. The survey was also advertised on social media. By the end of the data collection period, 38 people responded in some capacity. Results were converted from Qualtrics to SPSS for analysis. Prior to the distribution of the survey, the study was approved by the William Paterson University Institutional Review Board.

Before responding to the survey, participants were advised that the survey was designated for pre-K through 8th grade teachers. Participants were informed that the information they shared was anonymous and their participation in the survey was voluntary. The results from the survey were stored on Qualtrics, which was password protected. At the end of the survey, the participants were thanked for their time and were reassured that the information they shared was anonymous.

Measures

Independent Variables

My independent variables are related to changes in teaching. These variables are based upon teacher's perspective and how they were affected by the COVID-19 pandemic.

Content delivery. There were numerous ways content for teaching was delivered, including online learning. Due to the pandemic, students transitioned from in-person learning to online learning. This variable was measured through questions like, "How has the coronavirus changed the way you can teach?" The answer categories of this question consisted of different types of online learning such as fully online or teaching hybrid classes. Another question asked, "how has the coronavirus changed the way you can teach?" The answer categories of this question were teaching entire online, teaching hybrid, teaching in person with masks, and teaching half students in class and half students online simultaneously. Another question asked, "how have your lesson plans changed?" The answer categories were same learning goals, fewer learning goals, and more learning goals. The last question asked, "what type of challenges, if any, were experienced because of the switch to online classes?" The answer categories were internet issues, finding a quiet place at home, technology issues, and coordinating class schedules. These answer categories allow respondents to reflect on the changes experienced during the pandemic.

Communication. Communication was measured in this study as the ability for teachers to interact with students and their parents. There were three questions that measured communication between teachers and their students. The first question asked, "how did you communicate with your students before the pandemic?" with answer categories of phone, email, and in person meetings. The second question asked, "has the pandemic changed the way you

communicate with students' parents?" with answer categories of more often, the same, and less often. The last question asked, "how often have you been meeting individually with your students when compared to pre-pandemic time?" with answer categories of less often, more often, and the pandemic has not impacted how often I meet with my students.

Dependent Variables

My dependent variables are variables based upon teacher's perspective of challenges and issues that students faced due to the COVID-19 pandemic.

Student Engagement. Student engagement measures how active students are during class. This can range from being present in class or participating in activities during class. There were three questions within the survey that measured student engagement. These questions asked, "has student participation changed?" with answer categories of less participation, more participation, or the same as before the pandemic. The second question asked "how has your class attendance been since classes have been online" with answer categories of higher than usual, same as before the pandemic, and lower than before the pandemic. The last question asked "have you been more concerned by student distraction since the pandemic?" The answer categories were more, less, and more time in the house.

Resources. The access to adequate resources was pertinent for students to learn. These resources could range from access to the internet or technology needed to successfully learn online during the pandemic. There were two questions that measure resources in the survey. These questions asked, "do you think your students have had the resources needed to successfully learn?' The answer categories were yes and no. The second question asked, "what challenges do you think your students what they needed to successfully switch from in-person to

online classes?" The answer categories were internet issues, finding a quiet place at home, technology issues, and coordinating class schedules.

Academic activity. Academic activity in this survey was measured by looking at student motivation and the possibility of student cheating while online learning during the pandemic. There were two questions that measured student academic activity. One was "since the pandemic began, have you seen a change in student motivation?" The answer categories were students are much more motivated, students are slightly more motivated, and no change at all. Another question asked, "has there been a high concern regarding student plagiarism and/or change?" The answer categories were yes, no, and have not considered it.

Demographic Information

At the end of the survey, demographic information was collected. Questions regarding race, age, gender and location and content area were asked and recorded in the findings. Race was measured through responses of white, Latinx, black, Asian, Native Hawaiian, and other. Age was asked as an open question where the respondent can write in their age. Gender was measured through female, male, non-binary and prefer not to say.

Analytic Plan

The dataset was downloaded into Statistical Package for the Social Sciences (SPSS 29) for analysis. Descriptive statistics were used to examine the distribution of responses. Relationships between variables were tested using bivariate analyses, namely crosstabs. Because of the small number of survey respondents, the likelihood ratio test is reported instead of the chi-square statistic.

Findings

This chapter focuses on the substantively meaningful and statistically significant findings. With the use of SPSS, the participants' responses were translated into descriptive statistics and then crosstabs were used to analyze the findings. In this survey, there are three sets of questions: how teachers were impacted by the pandemic; teachers' perceptions of how students were impacted by the pandemic; and demographic questions.

The purpose of the three sets of questions in the survey was to examine whether the pandemic affected teachers' ability to work effectively. Additionally, another goal was to examine whether teachers believed their students were impacted by both school-related factors (e.g., changes in teaching) and external factors (e.g., lack of resources to adapt to online learning). First, a description of the survey responses is presented below.

Descriptive Statistics

Demographics. Thirty-seven people took part in the survey. However, only eighteen participants completed the entire survey. Out of the thirty-seven participants who participated in some of the survey, nineteen were white, three were Latinx or Hispanic, and two classified themselves as other. Twenty-two of said participants were female, one was male, and one participant preferred not to record their gender identity. In addition, eighteen of said participants recorded their age. The minimum age of these eighteen participants was twenty-eight years old and the maximum was sixty-seven. The average age of these eighteen participants was forty-two years old.

Table 1

Descriptive Statistics

Descriptive Statistics					
	N	Min.	Max.	Mean	Std. Dev.
Gender	24	0	1	0.92	0.282
Race/ethnicity	24	1	6	1.67	1.494
Grade taught	28	1	10	4.32	3.151
Type of community	24	1	3	2.00	0.780
Age	18	28	67	42.83	9.550
Years as teacher	28	1	2	1.79	0.418
Pandemic impact (yes/no)	28	1	3	2.50	0.745
Teaching entirely online	28	0	1	0.64	0.488
Teaching hybrid	28	0	1	0.25	0.441
Teaching in person with masks	28	0	1	0.36	0.488
Teaching half students in class and half students online simultaneously	28	0	1	0.14	0.356
Lesson plans changed	27	1	2	1.63	0.492
Parent communication	27	1	3	2.59	0.694
Class attendance	24	1	3	2.58	0.654
Student participation	25	1.00	3.00	1.3600	.63770
Plagiarism/cheating concerns	25	1.00	3.00	2.2000	.76376
Individual student meetings	24	1.00	3.00	1.9167	.92861
Student resources	25	1	2	1.44	0.507
Teaching challenge - Internet issues	28	0	1	0.57	0.504
Teaching challenge - Quiet place	28	0	1	0.64	0.488
Teaching challenge - Technology	28	0	1	0.68	0.476
Teaching challenge - Schedules	28	0	1	0.21	0.418
Student challenge - Internet issues	28	0	1	0.57	0.504
Student challenge - Quiet place	28	0	1	0.68	0.476
Student challenge - Technology	28	0	1	0.68	0.476
Student challenge - Schedules	28	0	1	0.14	0.356
Less time with other students	28	0	1	0.71	0.460
Less playtime	28	0	1	0.54	0.508
More time in the house	28	0	1	0.61	0.497
Student motivation changes	27	1	4	2.93	0.917

Years as teacher. Years as teacher had a minimum score of 1 (less than 2 years) and a maximum of 2 (3-5 years).

Pandemic impact. Responses included 1 (a great deal), 2 (a lot), and 3 (a moderate amount).

Lesson Plans changed. Lessons plans had a minimum score of 1 (same learning goals) and a max of 2 (fewer learning goals).

Parent Communication. Parent communication had a minimum score of 1 (yes, more often) and a max of 2 (no, the same).

Class Attendance. Class attendance had a minimum score of 1 (higher than usual) and a max of 3 (lower than before the pandemic).

Student Participation. Student participation had a minimum score of 1 (less participation) and a max of 3 (same as before the pandemic).

Plagiarism/cheating concerns. Plagiarism and cheating concerns had a minimum score of 1 (yes) and max of 3 (have not considered it).

Individual student meetings. Individual student meetings had a minimum score of 1 (less often) and a max of 3 (pandemic has not impacted how often I meet with my students).

Student Resources. Student resources had a minimum score of 1 (yes, my students have what they need to successfully switch from in-person to online classes and a max of 2 (no, my students do not have what they need to successfully switch from in-person to online classes).

Student Motivation. Student motivation had a minimum score of 1 (students are much more motivated) and a max of 4 (students are slightly less motivated).

Bivariate Analyses

After looking at the characteristics of the sample, the next step would be looking at the variables found in the survey. This was mostly done by chi-squared tests.

Teacher Characteristics and Teaching Outcomes

The first set of analyses examines the relationship between demographic characteristics and teaching-related impacts of the pandemic. For space considerations, only significant results are presented in this section. A marginally significant relationship was found between school type and online teaching (LR = 5.954, df = 2, $p < .10$). Specifically, 100% of urban teachers reported teaching entirely online compared to only 60% of suburban and 57% of rural teachers.

Table 2

Community type by teaching modality

			What bests describe the kind of area you teach in?			
			City	Suburbs	Rural	Total
How has the coronavirus changed the way you can teach?	Not online	Count	0	4	3	7
		Percent	0.0%	40.0%	42.9%	29.2%
	Teaching entirely online	Count	7	6	4	17
		Percent	100.0%	60.0%	57.1%	70.8%
Total		Count	7	10	7	24
		Percent	100.0%	100.0%	100.0%	100.0%

Additionally, there was a marginally significant relationship between career length and online teaching (LR = 3.078, df = 1, $p < .10$). Teachers who have been teaching for longer than 8 years were somewhat more likely to report teaching entirely online during the pandemic compared to prior to the pandemic. Additional analyses suggested that rural teachers (57%) were more likely to teach hybrid classes than suburban (30%) and urban (0%) teachers (LR = 7.197, df = 2, $p < .05$). Only suburban teachers (40%) reported teaching half of the class online and half in person at the same time (LR = 8.167, df = 2, $p < .05$).

Table 3

Career length by teaching modality

			How long have you been teaching?		
			Under 8 years	Over 8 years	Total
How has the coronavirus changed the way you can teach?	Not online	Count	4	6	10
		Percent	66.7%	27.3%	35.7%
	Teaching entirely online	Count	2	16	18
		Percent	33.3%	72.7%	64.3%
Total		Count	6	22	28
		Percent	100.0%	100.0%	100.0%

Teachers who have been teaching longer also reported a greater belief that their students had the resources needed to successfully learn remotely compared to their junior colleagues (LR = 5.191, df = 1, $p < .05$). However, junior teachers were much more likely to teach entirely online, so they have may have experienced student struggles with online learning more often.

Table 4

Career length by student resources

			How long have you been teaching?		
			Under 8 years	Over 8 years	Total
Do you think your students have had the resources needed to successfully learn remotely?	Yes	Count	1_a	13_b	14
		Percent	16.7%	68.4%	56.0%
	No	Count	5_a	6_b	11
		Percent	83.3%	31.6%	44.0%
Total		Count	6	19	25
		Percent	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of categories whose column proportions do not differ significantly from each other at the .05 level.

Teacher Characteristics and Challenges

Respondents were asked about four challenges they may have experienced as teachers because of the pandemic: internet issues, finding a quiet place at home, other technology issues, and coordinating class schedules. Most of the tests were not significant. A cumulative scale of the four items also yielded no significant differences based on teacher demographics. However, many teachers reported experiencing problems with internet access, especially urban (100%) and suburban (60%) compared to rural (43%) teachers (LR = 7.532, df = 2, $p < .05$). Suburban teachers (50%) found it harder to coordinate class schedules than urban (14%) and rural (0%) teachers (LR = 7.388, df = 2, $p < .05$).

Table 5

Community type by internet problems

			What bests describe the kind of area you teach in?			
			City	Suburbs	Rural	Total
What type of challenges if any, did you have because of the switch to online? Internet issues	No	Count	0	4	4	8
		Percent	0.0%	40.0%	57.1%	33.3%
	Yes	Count	7	6	3	16
		Percent	100.0%	60.0%	42.9%	66.7%
Total		Count	7	10	7	24
		Percent	100.0%	100.0%	100.0%	100.0%

Teachers similarly reported on their perceptions of challenges students have faced during the pandemic: internet issues, finding a quiet place at home, general technology issues, and coordinating schedules. Urban teachers (100%) were most likely to believe students experienced internet access problems compared to suburban (70%) and rural (29%) teachers (LR = 9.960, df = 2, $p < .01$). Most teachers believed students had a hard time finding a quiet place at home to

work, especially urban teachers (100%) and rural (86%) teachers compared to suburban (60%) teachers, though this finding was marginally significant (LR = 5.362, df = p < .10). Similar percentages of urban (100%), suburban (80%), and rural (57%) teachers believed students experienced general technology issues (LR = 4.995, df = 2, p < .10). The overall sum of items was marginally significant, with urban teachers reporting more problems faced by students compared to suburban and rural teachers. Specifically, 100% of urban teachers reported either 3 or 4 cumulative problems faced by students, compared to 50% of suburban and 29% of rural teachers (LR = 14.414, df = 8, p < .10).

Table 6

Student internet access by community type

			What bests describe the kind of area you teach in?			
			City	Suburbs	Rural	Total
What challenges do you think your students have faced because of the switch to online classes? Internet issues	No	Count	0_a	$3_{a, b}$	5_b	8
		Percent	0.0%	30.0%	71.4%	33.3%
	Yes	Count	7_a	$7_{a, b}$	2_b	16
		Percent	100.0%	70.0%	28.6%	66.7%
Total		Count	7	10	7	24
		Percent	100.0%	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of categories whose column proportions do not differ significantly from each other at the .05 level.

Table 7

Cumulative student challenge score by community type

			What bests describe the kind of area you teach in?			
			City	Suburbs	Rural	Total
What challenges do you think your students have faced because of the switch to online classes?	.00	Count	0_a	1_a	0_a	1
		Percent	0.0%	10.0%	0.0%	4.2%
	1.00	Count	0_a	2_a	4_a	6
		Percent	0.0%	20.0%	57.1%	25.0%
	2.00	Count	0_a	2_a	1_a	3
		Percent	0.0%	20.0%	14.3%	12.5%
	3.00	Count	5_a	3_a	2_a	10
		Percent	71.4%	30.0%	28.6%	41.7%
	4.00	Count	2_a	2_a	0_a	4
		Percent	28.6%	20.0%	0.0%	16.7%
Total		Count	7	10	7	24
		Percent	100.0%	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of categories whose column proportions do not differ significantly from each other at the .05 level.

Teachers were asked to elaborate further on the challenges faced as a teacher during the pandemic. Some respondents chose to elaborate on the challenges they believed students faced through qualitative comments. A selection of responses to these open-ended questions is reported here. One teacher lamented, “I feel like I’ve been set up for failure. I can teach those in person and in front of me or I can teach those at home, but I cannot successfully do both at the same time.” Engagement seemed to be a problem, as multiple teachers reported that students were distracted. “Some students have parents and siblings also working at home or house repairs, which are very distracting,” reported one teacher. Another noted, “They are extremely distracted by the technology. They do everything else except for the schoolwork because they are constantly on the Chromebook.”

Another common theme was the failure of adequate parental support and supervision: "parents do not follow our schedule…. They do no assigned work, they lose the materials we provided twice, they don't get dressed… that school readiness is just not there." Another reported: "Parents do not show kids the value of education or the teacher. I plan amazing days and it is oftentimes so drawn out and wasted because at 4 years old they still need some guidance and should not be left alone in front of a screen to ignore me, play a game, or do anything else except attend school. I totally believe it is the parents' fault for not taking this seriously, yet they are quick to say the virtual has failed their child. No way. They have failed every aspect of education."

Pandemic-Motivated Changes on Teaching and Learning

In this section, the relationships between changes to teaching (general pandemic impacts on teaching, teaching modality, and changes to class goals) and perceived student performance and learning (attendance, participation, motivation, cheating, etc.) are examined. Most of these tests yielded nonsignificant results. In the interest of space, only the significant and meaningful findings are presented below.

Teachers who reported greater pandemic-related teaching impacts also reported more negative changes to student motivation. Overall, 78% of respondents said students were either slightly or much less motivated compared to pre-pandemic; this effect was particularly pronounced among teachers who said the pandemic impacted them a great deal ($LR = 14.657$, $df = 6$, $p < .05$). Teachers who reported greater impacts of the pandemic on their teaching also reported greater concern about student plagiarism or cheating ($LR = 12.065$, $df = 4$, $p < .05$). However, teaching modality was unrelated to these concerns.

Table 8

Student motivation by pandemic impacts

			Have the effects of the coronavirus impacted the way you can teach?			
			Moderate amount	A lot	A great deal	Total
Since the pandemic began, have you seen a change in student motivation?	Slightly more motivated	Count	0	2	1	3
		Percent	0.0%	33.3%	5.9%	11.1%
	No change	Count	2	0	1	3
		Percent	50.0%	0.0%	5.9%	11.1%
	Slightly less motivated	Count	2	4	8	14
		Percent	50.0%	66.7%	47.1%	51.9%
	Much less motivated	Count	0	0	7	7
		Percent	0.0%	0.0%	41.2%	25.9%
Total		Count	4	6	17	27
		Percent	100.0%	100.0%	100.0%	100.0%

Table 9

Student plagiarism by pandemic impacts

			Have the effects of the coronavirus impacted the way you can teach?			
			Moderate amount	A lot	A great deal	Total
Has there been a higher concern regarding student plagiarism and/or cheating?	No	Count	3_a	$0_{a, b}$	2_b	5
		Percent	75.0%	0.0%	12.5%	20.0%
	Haven't considered	Count	0_a	4_b	$6_{a, b}$	10
		Percent	0.0%	80.0%	37.5%	40.0%
	Yes	Count	1_a	1_a	8_a	10
		Percent	25.0%	20.0%	50.0%	40.0%
Total		Count	4	5	16	25
		Percent	100.0%	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of whose column proportions do not differ significantly from each other at the .05 level.

Notably, teachers who maintained the same standards during the pandemic compared to pre-pandemic, in terms of the number of learning goals, reported more concern with student cheating compared to teachers who lowered their expectations (LR = 5.979, df = 2, $p < .10$).

Table 10

Student plagiarism by learning goals

			How have your lesson plans changed?		
			Same learning goals	Fewer learning goals	Total
Has there been a higher concern regarding student plagiarism and/or cheating?	No	Count	2_a	3_a	5
		Percent	22.2%	18.8%	20.0%
	Haven't considered	Count	1_a	9_b	10
		Percent	11.1%	56.3%	40.0%
	Yes	Count	6_a	4_b	10
		Percent	66.7%	25.0%	40.0%
Total		Count	9	16	25
		Percent	100.0%	100.0%	100.0%

Each subscript letter denotes a subset of categories whose column proportions do not differ significantly from each other at the .05 level.

There were few differences between teaching modalities on the various pandemic-related impact items. Respondents who taught entirely online reported internet issues being a problem for their students (72% vs 30%; LR = 4.755, df = 1 , $p < .05$). Online teachers also reported more frequent communication with parents compared to other modalities (83% vs 44%; LR = 5.992, df = 2, $p < .05$). Overall, in-person teachers reported a smaller number of student social problems compared to the other modalities. For example, 70% of in-person teachers reported either 0 or 1 total student social concerns out of the total possible of 3 items compared to other modalities, where 56% of respondents reported all 3 items (LR = 8.099, df = 3, $p < .05$). Compared to other

modalities, teachers who held classes fully in person with masks reported less concern about students having less playtime (20% vs 80%, LR = 7.395, df = 1, $p < .01$) and less concern about students spending more time in the home (30% vs 78%, LR = 6.234, df = 1, $p < .05$).

Discussion

As discussed in the literature review, The COVID-19 pandemic was a drastic change with many fall out effects that were not expected. As it was still new, it was not possible to analyze the global effect it would have until after it occurred. The COVID-19 pandemic introduced a global shutdown that impacted educational modalities, teaching and ultimately students' ability to learn (from the teacher's perspective). It has had many impacts and can continue to impact lives all over the world. Three years has passed since the offset of the pandemic, and it is still affecting people. The research included in this paper is exploratory and collected one year of data via surveys. These surveys were included and are attached the end of this essay. Data will continue to be collected if COVID-19 impacts the world. Teaching and learning will continue to be affected because instruction has changed. The discussion is not how but when. When will teaching and learning be the same as it was pre-pandemic? This is a discussion prone question, because society can remember a time before coronavirus, but will there be a time after coronavirus? At the time of this research, the world is living amongst viruses. A virus that has truly changed the lifestyle of people around the world. The main aspect of this pandemic is that life as society knew it has changed.

There were many strengths to conducting this research. One of them is to analyze the cause and effect of the pandemic's impact on education. Another a strength of this research is its intended impact on society. The research intends to show society that the pandemic impacted socially and mentally for students. The importance of this research is to show the influence the pandemic has had on education, and it showed that the younger generation faced limitations while learning during the pandemic.

The purpose of this thesis was to highlight whether the pandemic had an impact on education and teaching and sought to answer: “does the pandemic have an impact on student’s ability to learn?” The results consisted of three sets of questions that explained different ways the pandemic had on learning. Through data analysis, the results found that teachers, students, and parents were impacted by the pandemic. However, they were impacted in different ways. Teachers had to change their teaching styles, students had to adjust to their new teaching styles and parents had to adjust to their children’s new schooling styles. The common factor here is the change in styles, whether it is learning, teaching, or supporting, things changed, and the cause was the pandemic. Students faced adversities during learning because of the changes teachers had to make in their teaching styles. Teachers faced adversities because they had to accommodate students and their different ways of learning through a limited number of ways to teach and parents had to make accommodations to help their children successfully learn. There were a lot of changes that occurred in a short period of time that caused technology issues, lack of resources, lack of time and space, and lack of social interaction that negatively impacted students' ability to learn. Similarly, throughout the literature review, research found that the pandemic had numerous impacts that affected teacher’s ability to teach, and the effect was affecting student’s ability to learn. Some of these impacts affected students socially and emotionally, while others focused on the lack of resources certain students and teachers did not have. The pandemic had a great impact on students' ability to learn because it took away the way students knew how to learn. Prior to the pandemic, students were taught in a face-to-face modality. When the pandemic occurred, teachers and students transitioned into numerous modalities of teaching and learning that were new for them. Teachers had to find the best way to educate their students and students had to find the best way to learn. To conclude, the literature

review and results share that concern of the wide range of impacts the pandemic has had on learning. With change comes impact, and the pandemic caused a lot of change.

Limitations

One limitation this study faced was a low response rate in a survey typically means that there is a lack of diversity in the respondents. Therefore, when looking at the results, race was a factor that was discussed, but it could not be used as a direct cause and effect within the findings because the respondents were not diverse. Many of the respondents were white cisgender females, which could have had on impact on the research collected. This limited the ability to look at race as a contributing factor when discussing the influence and impact the pandemic had on teachers meant the research could not examine differences in teaching methods and resources with race as a dominant factor. In any survey, it is beneficial to have a diverse audience that can offer their experience and allow the results to be well-rounded.

Another limitation faced in this survey is the lack of ability to see change overtime. The pandemic occurred in 2019 and society shut down for almost two years. Results were not able to be collected from start to finish which limits the ability to see the change teaching and learning had over the course of the pandemic. However, the study was able to look at the before and after affect. This allowed the results to be significant because there was a before and after change.

Another limitation faced in this study was the lack of data from students. The results collected were the teacher’s perspective of how their students were affected. Students were not directly heard, which could have impacted on this study. The teacher's perspective on the impact could have had an accurate display of what the students felt. However, to limit the chances of misperception, having the student's perspective highlighted in this survey would have been a

positive attribute. The limitations of the study do not negate the importance of what was found, but it helps improve the next study that could be done.

Future Research

For future studies, it would be beneficial to send the survey out as much as possible. This survey was limited to who it reached, which affected the data that was collected. To prevent this, the survey can be distributed in a variety of ways that can make it accessible to everyone. This will increase the chances of having a diverse respondent group. A diverse respondent group allows researchers to look at the possibility of the influence of specific demographics and their answers. In addition, if possible, it would be beneficial to be able to watch changes over time and use them in the results of the study. In a future study, researchers could collect data from students and focus on how students were impacted. In addition, future studies could potentially have before and after data that could support their hypothesis and literature review.

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Appendix: Survey Instrument

Pandemic's Impact on Education 2020

Hello! My name is Amanee Pettway. I am a graduate student conducting research on the social impacts the pandemic has had on education. Anyone who completes this survey will be helping me with this! This survey is for PreK-8 teachers. The information you will share with us if you participate in this study will be kept completely confidential. Your participation is voluntary. You may refuse to take part in the research or exit the survey at any time. You are free to decline to answer any question you do not wish to answer for any reason.

Q1 Are you an academic professional?

- ☐ Yes (1)
- ☐ No (2)

Q2 What grade do you teach?

- ○ Pre-K (14)
- ○ Kindergarten (15)
- ○ 1st grade (16)
- ○ 2nd grade (17)
- ○ 3rd grade (18)
- ○ 4th grade (19)

- ○ 5th grade (20)
- ○ 6th grade (21)
- ○ 7th grade (22)
- ○ 8th grade (23)

Q3 How long have you been teaching?

- ○ Less than 2 years (1)
- ○ 3-5 years (2)
- ○ 6-8 years (3)
- ○ Over 8 years (4)

Q4 Have the effects of the coronavirus impacted the way you can teach?

- ○ A great deal (1)
- ○ A lot (2)
- ○ A moderate amount (3)
- ○ A little (4)
- ○ None at all (5)

Q5 How has the coronavirus changed the way you can teach?

- [ ] Teaching entirely online (1)
- [ ] Teaching hybrid (2)
- [ ] Teaching in person with masks (3)
- [ ] Teaching half students in class and half students online simultaneously (4)

Q6 How have your lesson plans changed?

- ○ Same learning goals (1)
- ○ Fewer learning goals (2)
- ○ More learning goals (3)

Q7 Since the pandemic began, have you seen a change in student motivation?

- ○ Students are much more motivated (1)
- ○ Students are slightly more motivated (2)
- ○ No change at all (3)
- ○ Students are slightly less motivated (4)
- ○ Students are much less motivated (5)

Q8 How did you communicate with your students before the pandemic?

- [ ] Phone (1)
- [ ] Email (2)
- [ ] In person meetings (3)

Q9 How do you communicate with your students since the onset of the pandemic?

- [ ] Zoom (1)
- [ ] Phone (2)
- [ ] Sype (3)
- [ ] Email (4)

Q10 Has the pandemic changed the way you communicate with students' parents?

- ○ Yes, more often (1)
- ○ No, the same (2)
- ○ Yes, less often (3)

Q11 Has student participation changed?

- ○ Less participation (1)
- ○ More participation (2)
- ○ Same as before the pandemic (3)

Q12 How has your class attendance been since classes have been online?

- ○ Higher than usual (1)
- ○ Same as before the pandemic (2)
- ○ Lower than before the pandemic (3)

Q13 Has there been a higher concern regarding student plagiarism and/or cheating?

- ○ Yes (1)
- ○ No (2)
- ○ Have not considered it (3)

Q14 Do you think your students have had the resources needed to successfully learn remotely?

- ○ Yes, my students have what they need to successfully switch from in-person to online classes. (1)
- ○ No, my students do not have what they needed to successfully switch from in-person to online classes (2)

Q15 What type of challenges, if any, were experienced because of the switch to online classes?

- ☐ Internet issues (1)
- ☐ Finding a quiet place at home (2)
- ☐ Technology issues (3)
- ☐ Coordinating class schedules (4)

Q16 Can you say more about the challenges you have faced as a teacher?

_____

Q17 What challenges do you think your students have faced because of the switch to online classes?

- ☐ Internet issues (1)
- ☐ Finding a quiet place at home (2)

- [ ] Technology issues (3)
- [ ] Coordinating class schedules (4)

Q18 Can you say more about the challenges you have seen your student's face?

_____

Q19 How often have you been meeting individually with your students when compared to pre-pandemic time?

- ○ Less often (1)
- ○ More often (2)
- ○ Pandemic has not impacted how often I meet with my students (3)

Q20 Have you been more concerned by student distraction since the pandemic?

- ○ More (1)
- ○ Less (2)
- ○ More time in the house (3)

Q21 What social challenges do you think your students are experiencing due to the pandemic?

- [ ] Less time with other students (1)
- [ ] Less playtime (2)
- [ ] More time in the house (3)

Q22 What is your current age?

_____

Q23 What is your race/ethnicity?

- ○ White (1)
- ○ Black (2)
- ○ Latinx/Hispanic (3)
- ○ Asian (4)
- ○ Native Hawaiian or Pacific Islander (5)
- ○ Other (6)

Q24 What is your gender?

- ○ Female (1)
- ○ Male (2)
- ○ Non-binary / third gender (3)
- ○ Prefer not to say (4)

Q25 What bests describe the kind of area you teach in?

- ○ City (1)
- ○ Suburbs (2)
- ○ Rural (3)

Q26 Is there anything more you would like to add to help us understand your experience teaching during the pandemic?

_____

Thank you for participating in this survey. The information you shared with us in this study will be kept completely confidential. Your participation is greatly appreciated. Have a great day!