How the COVID-19 Pandemic Has Shaped Our Teaching Practices

Jenna Dean

Department of Education, Rider University

BHP490: Baccalaureate Honors Program Independent Research Project

Faculty Advisor: Dr. Dougherty

December 1st, 2020

Abstract

The onset of the Coronavirus strain 19 in late 2019 disrupted many aspects of our lives, including education. This paper describes a study that examined how COVID-19 affected teaching practices. Data collection involved the distribution of two surveys created in Google Forms to primary school educators living and teaching in the United States, Australia, and France. The survey questions were designed to collect demographic information as well as information about the transition to remote learning, the routines established for remote teaching, and the transition into to face-to-face/hybrid/remote learning for the new school year. The results showed that the pandemic has changed the ways participants are educating their students, with my data showing feedback from participants mainly in general education, public school classrooms. Teachers were obligated to utilize more technology in their classroom, some of which they have not been trained to properly use, and continue to educate students with access to fewer resources than usual. Many participants juggled concerns for their own personal health and safety, caring for dependents at home, and diminished feelings about the teaching profession. The following paper delves into background information regarding the Coronavirus pandemic, the effect past pandemics have had on schools, and the data collected through the two questionnaires.

How the COVID-19 Pandemic Has Shaped Our Teaching Practices

Introduction

In December 2019, a new strain of coronavirus, COVID-19 emerged and resulted in a world-wide pandemic. While many have compared this virus to the Spanish Flu of 1918, in our time of technological advancement, the effects and horrors of this virus, with no FDA approved vaccination – until nearly a year later – have superseded this previously known pandemic. Countries globally have been ravished by this virus and have had to take extreme measures to protect their inhabitants, including closing schools, businesses and other places of work. As of late December 2020, nearly 1,758,000 confirmed deaths worldwide have been reported by the World Health Organization, with the United States reporting the most at 329,310. Quickly, 2020 became the year of wearing masks, quarantining, and working from home. As an education major, I witnessed first-hand the effects this novel coronavirus strain had on our primary level school systems. I embarked on this study to explore more deeply where the coronavirus originated, how it is affecting our world, and how the disruption of schooling impacted learners and teachers alike. I hoped to collect data from primary educators in the United States, France, and Australia — three different parts of the world, with different ways of handling this virus and different timelines for returning to previously closed classrooms. In the end, the majority of my collected data was based in the United States. This research is important as schools begin adjusting teaching practices to include more online elements and challenging the typical set-up of an everyday classroom with students interacting face-to-face. It is important to the field of

education that we begin to understand how to best teach our students whether we are in person or are forced to do so remotely and to use other educators as resources for new ideas and methods. Due to the COVID-19 outbreak, education looks very different and has had a wide impact on students, teachers, and families, possibly with long lasting effects.

Summary of Coronaviruses

In the 1960's the first coronavirus was identified (Yang et. al., 2020). The coronaviruses received their name after being observed under a microscope and revealing the crown-like spikes that surround the virus (Park, 2020). Since the initial identification, there have been discoveries of many variations of coronaviruses (CoVs) including seven currently identified HCoVs or human coronaviruses. Three of these seven include severe acute respiratory syndrome (SARS-CoV), Middle East respiratory syndrome (MERS-CoV), and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is more commonly known today as Coronavirus Disease 2019 or COVID-19. The other four are more common, and less deadly, strains of HCoVs including 229E, OC43, NL63, and OC43 (Yang et. al., 2020).

In general, coronaviruses infect vertebrates and have three main paths of transmission including touch, person-to-person, and aerosol transmission. Furthermore, it has been discovered that "CoVs can transmit across species barriers," (Yang et. al., 2020, p. 2) meaning animal-to-person spread is also possible. All three strains of the aforementioned CoVs originated from bats and made their way to infecting humans (Park, 2020). When transmission occurs, the virus normally mutates which typically makes it more fatal to infected humans.

COVID-19 first emerged in Wuhan, Hubei Province, China in December 2019 and then rapidly spread around the world. This coronavirus strain quickly gained the title of pandemic and became a Public Health Emergency of International Concern (PHEIC) as per the World Health Organization (WHO) (Boulos & Geraghty, 2020). In late January, France was the first European country to report cases, followed quickly by many others (Tezer & Demirdag, 2020). In March of 2020, the disease had spread to at least 114 countries and caused over 4,000 deaths (Park, 2020). By April of 2020, over 1,436,198 cases were confirmed worldwide with a six percent mortality rate (Tezer & Demirdag, 2020). In July of 2020, over 13,000,000 cases had been confirmed, with over 550,000 deaths and 215+ infected countries. In November 2020, there had been 53,164,803 confirmed cases with 1,300,576 deaths (World Health Organization). The exact mode of transmission of COVID-19 is still unknown, but the onset of symptoms usually comes within 2-14 days of contact and indicators of the disease range from minor respiratory symptoms to fatal pneumonia (Park, 2020). What is known is that people can become contagious as early as 5 days before the onset of symptoms and that 40% of infections as of June 2020 have come from asymptomatic people (Sparks, 2020). As the virus continues to spread, research is taking place regarding transmission patterns of the disease. Respiratory viruses typically spread more when a patient shows symptoms, but studies suggest that it is possible that COVID-19 does not abide by this norm. Furthermore, results have shown that isolation and quarantine may not be enough to stop the spread of this disease depending on transmission abilities during the incubation period of the virus (Park, 2020).

Given that schooling is the topic of this study, it is important to consider the impact of COVID-19 on children. According to an article released in April 2020, early on, children made

up approximately one to five percent of all diagnosed COVID-19 cases and 90% of children who were diagnosed were either asymptomatic or had symptoms ranging from mild to moderate at most (Tezer & Demirdag, 2020). In children, some long-term health effects post COVID-19 infection have been noted. Some adolescents exposed to this particular coronavirus strain have experienced MIS-C or Multisystem Inflammatory Syndrome. MIS-C most likely occurs after the child's immune system has fought off the virus, but then gone into overdrive causing a sort of toxic shock syndrome response. Typically, MIS-C can be treated with steroids and antibody therapy if it is identified early enough and a full recovery can be made. Therefore, while children may be diagnosed with COVID-19 less often than adults, there are still great health risks at stake (Sparks, 2020).

According to information released in early December 2020 by the Centers for Disease Control and Prevention, there have been fewer cases of COVID-19 in children than in adults. While there are not definite numbers due to a lack of testing in children, the rate of cases in children is rising, but their hospitalization rates are much lower as is the likelihood of developing severe illnesses and complications. As of late December 2020, in the United States of America, children 0-4 years old make up 1.8% of cases, children 5-17 make up 8.7%, and people ages 18-29 make up 22.9%, the largest of any age group. The death rate for children 0-4 years old is less than 0.1%, for children 5-17 it's 0.1%, and for those 18-29 it's 0.5%. The group with the largest death rate is those that are 85+ at 32.8%. Overall, a study showed 16% of children are asymptomatic, but the incubation period and symptoms remain the same in children as in adults (CDC).

Viruses of the Past

One virus that spread around the world and caused major global change of lifestyle was the Spanish Flu of 1918. This infamous flu, named after the country it was initially believed to have originated in, Spain, most likely was actually started either in France or Kansas, USA and then was brought to Europe as troops joined the World War. The pandemic received its name due to the overwhelming spread of the flu throughout Spain at the time. Overtime, the virus slowly started spreading until it gained its title of pandemic. Similar to what we faced at the beginning of the current pandemic, no one seemed to know exactly how to treat the virus or how it was spreading. While this 1918 pandemic had a notable effect on the war effort, it also caused major problems regarding education. According to Heffer (2020), "Towns in affected areas closed schools not to stop the spread of infection, but because so many teachers were ill," (p. 36). Furthermore, as summer break approached in London, schools shut down as people were rapidly dying from the disease. Similar to our lives currently, people wore masks, shops were forced to close, quarantines were imposed, social distancing was required, and the economy took a major hit. The death rate was so high, that schools and apartment buildings became hospitals and burial sites. Overall, it was estimated that over 50 million people died from the Spanish Flu (Center for Disease Control, 2019).

Two different coronavirus strains have previously spread throughout the world. In 2012, the Middle East respiratory syndrome caused by a coronavirus strain known as MERS-CoV originated in Jeddah, Saudi Arabia (Park, 2020). This coronavirus strain infected 2,494 people in 27 different countries and resulted in 858 deaths (Yang, et. al., 2020). In 2002-03, the outbreak of severe acute respiratory syndrome or SARS, which is causes by a coronavirus strain, resulted in

the first pandemic of the 21st century (LeDuc & Barry, 2004). SARS spread to 32 countries and regions, infected approximately 8,422 people, and caused roughly 919 related deaths. Originating from bats, this coronavirus strain was first seen in Guangdong Province, China and eventually made its way from bats to human infection and person-to-person transmission (Yang, et. al., 2020). Since 2004, there have been no reports of infection with this strain in the world (Park, 2020). This SARS-CoV pandemic provided information that has helped us to implement better precaution and treatment techniques for our current coronavirus pandemic; although, until December, 2020, no FDA approved vaccine was available for either strain. The lessons of SARS-CoV included the importance of early detection, rigorous control through means such as quarantine and closures of public places, and working towards a vaccine and treatments as quickly and thoroughly as possible (Yang, et. al., 2020).

Due to efforts to develop vaccines and other means of combating SARS-CoV, the scientific community was able to respond more quickly to COVID-19 and vaccines were developed and tested quickly (in comparison to typical vaccine development, testing, and release.) In the United States, the Food & Drug Administration released a press announcement on December 11th, 2020 that issued authorization for the Pfizer vaccine to be distributed in the United States, followed a few weeks later by a vaccine developed by Moderna. The very first vaccine in the world was administered on December 8th in the United Kingdom, according to BBC. As of late December 2020, there were two vaccines being given to US citizens, Pfizer and Moderna. All COVID-19 vaccines were made available after data collection for this study was completed. It is still early on in the process to see their effectiveness on a global scale.

Coronavirus and Children

While school closure poses multiple threats for the well-being of students and the economic functions of the world, re-opening them also has its imminent dangers. While research surrounding the coronavirus and its effects globally has been intense since the breakout of COVID-19, children under the age of 18 have not been researched as closely as other groups. According to Thomas Hwang of Harvard Medical School and his co-workers, "Of 275 COVID-19 treatment studies started by early April, only 30 have included patients younger than 18," (Sparks, 2020). This leaves major gaps in information regarding what we know about the contraction, spread, and long-term complications of this virus in children.

As COVID-19 became a pandemic, schools closed, leaving many school-aged children little opportunity to interact with those in their community, much less anyone outside their immediate family. Research regarding transmission and tracking shows that of 700 studies of children with COVID-19, transmission rates from children to others were low and children were rarely the first cause of an outbreak, instead they usually caught the virus from someone they were living with who was already exposed (Sparks, 2020). According to a study done in February, 71.2% of children that were infected were reported having household contact with a sick member of their home (Tezer & Demirdag, 2020).

Typically, viruses and influenzas do tend to affect children differently. More specifically, different coronavirus strains can also affect children differently from others. The effect of SARS-CoV on children was not widely studied, but during a two-year global study of MERS, data reveals that this particular strain of infection was not prevalent in children across the globe (Sparks, 2020). Overall, there were no recorded fatalities in pediatric cases attributed to SARS or

MERS (Tezer & Demirdag, 2020). As of May 23, 2020, the CDC tracked over 100,000 deaths in the US and found that only 176 of them involved people under the age of 25. Furthermore, St. Jude Children's Research Hospital tracked over 1,000 COVID-19 cases in children and found only 1 in 5 needed to be hospitalized for the virus, and only four had died at the time. By late spring 2020, by case counts alone, it appeared that children were less affected, but we must not forget that at that time far fewer children were tested for COVID-19 than adults. Early research studies on COVID-19 focused on more vulnerable groups such as older people, those in underprivileged areas of the world, and those with pre-existing illnesses such as asthma. Preliminary research did seem to point to the idea that school-aged children were more resistant to the current coronavirus strain (Sparks, 2020). For example, a study done in China regarding the epidemiology of COVID-19 in children, backed by the Chinese CDC, reported that in cases where children were infected with the novel coronavirus, symptoms were much less severe and there was a much lower fatality rate overall (Yuanyun, Zi, Yabin, Xin, Fan, Zhongyi, & Shilu, 2020).

School Systems Today

United States of America

In the United States of America, formal schooling starts with kindergarten. In addition, some states and communities offer public preschool education to some children. Upon entrance to formal schooling, students go through elementary school, middle school, and high school (also known as secondary school). High school marks the end of compulsory schooling in

the United States. During the years of compulsory schooling, children may attend public, private, or charter schools, some of which are religiously affiliated or have other enrollment determining characteristics. Public schools, before the university level, are funded by federal, state, and local property taxes. Meanwhile, private schools are mostly funded by the attendees, with some government subsidies, and charter schools are funded by a combination of tuition paid by attendees and by district or state resources. As of 2015-2016 data taken by the National Center for Education Statistics, there were about 98,277 public schools and 35,547 private schools, not including post-secondary schools in the United States of America (https://nces.ed.gov/fastfacts/display.asp?id=84). As of 2011, about 49,521,669 students were enrolled in schools across the U.S. (https://nces.ed.gov/programs/digest/d13/tables/dt13_203.20.asp). Upon graduation from high school, students have the option to attend a 2-year or 4-year college program, vocational school, or another type of degree-granting institution, or go right into the work force.

Australia

In Australia, there are four main types of schools: traditional public schools, independent public schools, charter or free schools, and non-government schools. Public schools are managed by the government and follow residential zoning while free and non-government school management usually falls under private organizations with application enrollment. Public schools and free schools are fully funded by the government and cannot charge fees, unlike the non-government schools which only receive partial funding, so they have the option to additionally charge fees. Finally, public schools and non-government schools must follow the

national curriculum, unlike free schools (Jha & Buckingham, 2015). Within these school types are also faith based and other independent schools. All schools have different approaches depending upon the state and territory they are located in. According to the Australian Education Technology regarding the Australian education system, in 2016 there were over 9,400 schools, 6,200 of them being primary schools. Regarding technology, an initiative was passed in 2016 for $112.2 million dollars to be used to further digital literacy (The Australian Education System, 2016). According to reports from 2013, approximately 3.65 million students enrolled in Australian schools with about 2.13 million being at the primary level and 1.52 million being at the secondary level (National Report on Schooling in Australia, 2013).

France

In France, public school is free and children are required to attend school from ages six to 16 and are enrolled by the government (Ministère de l'Europe et des Affaires étrangères, 2012). The system is split up into three main levels: primary education, secondary education, and higher education. At the primary level, students can attend day care as early as age two and then kindergarten if enrolled by their parents. Then at age six, the student attends primary school for five years. Following that, they move to stage one of secondary school. The first stage is known as collège and is four years long. At the end of this time, students receive a certificate of completion. Following that, students move to stage two of secondary school which is the lycée (French for high school) for their last three years. After completion, students study for and take an exam that, with passing marks, grants them what is known as a baccalauréat — which is in comparison to a US high school diploma. Finally, based on their baccalauréat exam

scores, students have the opportunity to participate in higher education in the form of a vocational or academic diploma (Fulbright). In France, higher education is part of the State budget, so funds are allocated to universities annually (Higher Education Funding, 2018). As of 2017, 6,783,300 students were enrolled in primary education institutions in France (Gautier, 2020).

School Closure

In response to epidemics and pandemics, wide-spread closure and social distancing measures are commonly put in place in order to attempt to contain the virus from spreading. This regularly includes the closure of schools, which has a myriad of different outcomes depending specifically on how closure is implemented and how the virus is known to spread. According to the UN Educational, Scientific, and Cultural Organization, on March 18th, 2020 an estimated 107 countries closed their schools to some capacity due to COVID-19, affecting about half the student population worldwide (Viner et. al., 2020). Unfortunately, there are not copious amounts of data available that allows investigation of the effectiveness of school closures in response to epidemics and pandemics and even less so regarding the current COVID-19 pandemic.

According to studies done in 2014 by the UK Department of Health, "school closures can reduce transmission of pandemic influenza if instituted early in outbreaks," (Viner et. al., 2020, p. 397). Furthermore, 2018 influenza studies showed that school closures can reduce and delay peaks. Despite this information, what cannot be controlled is the social shift to other places when school is no longer in session and the surge in transmission when schools reopen. All of this information is also strictly related to influenza data, not COVID-19, but the deficits are mainly

the same. When school closures occur, parents are then forced to stay home from work or find someone, who is possibly infected or will become infected, to take care of their children. School closures are economically devastating for not only individual families, but institutions as a whole, especially compared to selective local closures (Viner et. al., 2020).

A 2018 review by BMC public health explored different social distancing methods besides full-on closure in response to influenza pandemics. Some other options that were considered included reducing student interaction by canceling unnecessary activities, spacing out students in the classroom, containing students and having the teacher move around instead, staggering lunches, shortening the school day, and keeping schools open solely for the children of healthcare workers. All of these were proposed as more effective measures to reduce social interactions and disruption, but the final conclusions shared that there was not enough information to propose that these guidelines would be enough to effectively open schools and lower transmission rates. Once again, this is all related to influenza outbreaks, not coronaviruses of the past or present, and is one point of view. Information we do have regarding the COVID-19 pandemic comes from previous variations of coronavirus outbreaks. Data from these time periods have shown that transmissions during the school day were generally very low, such as with the SARS pandemic. Data from China, Hong Kong, and Singapore during SARS show that school closures and temperature monitoring did nothing for controlling the transmission of the virus (Viner et. al., 2020). Therefore, we were not about to rely previous data to know whether the school closures that took place worldwide were in actuality slowing the outbreaks or if other social distancing efforts were the main driver behind the drop in cases.

Additionally, as of early April 2020, schools in other parts of the world started to reopen. In France, some children contracted the virus as schools reopened, but there was no data to prove that they contracted the virus from their school environment. Likewise, in Australia a study tracked 9 students and staff members who were COVID-19 positive and interacted with hundreds of school members, but results showed only two students possibly contracted the virus in school and no other teachers became ill. One of the largest threats seemed to be the gathering of adults, teachers and parents alike, around the school building during drop-off and pick-up times (Sparks, 2020).

As the 2020-2021 school year approached, education officials balanced concerns for keeping students and teachers safe with concerns for learning and students' mental health. Even with updated coronavirus tests, it was impossible to test every student before each school day. Instead, schools recognized that they would have to rely on parents and students to report symptoms and stay away from others if they feel unwell. Schools and districts that reopened made many adjustments, including the use of hybrid school schedules, increased time outdoors (where transmission seems to be lower), increased hygiene and cleaning practices, and a range of other measures to keep learning in place, but transmission rates as low as possible. As time went on (and continues beyond this study), different measures were taken to attempt to provide schooling during the time of a pandemic depending on the country, state, and district choices that are made.

Overall, a conclusion made in the United Kingdom was that school closures would reduce total COVID-19 deaths by approximately two to four percent, but other isolation methods and a combination of social distancing methods were the most effective together in lowering

COVID-19 spread (Viner et. al., 2020). The UK originally closed schools, but reopened them for the new school year (UNESCO). Regarding the COVID-19 pandemic, there is no overwhelming data regarding child-to-child transmission which would help us understand the effects of school closure on a much larger scale. Furthermore, it seems that while school closure doesn't do as much to flatten the curve or stop the spread of this highly transmissible disease, it does have immense economic and social consequences. It is important during this time to remember, in the words of the WHO Director-General, "all countries must strike a fine balance between protecting health, preventing economic and social disruption, and respecting human rights," (Viner et. al., 2020, p. 402).

Remote Learning

As COVID-19 broke out across the world, school closures quickly took place in attempt to stop the spread of the virus. In early April 2020, 172 countries closed their schools due to the novel coronavirus. Over time, countries began reopening their buildings, with only 38 countries having schools completely closed at the beginning of September (UNESCO). While in some cases physical school buildings were still closed, learning was conducted in remote or hybrid formats. Districts, states, and countries all faced this shift to remote learning differently, but no matter how it was approached, this shift was referred to as "crisis teaching" as few educators were ready for such an unprecedented shift midway through the school year. The most common response to remote learning was the use of online platforms to continue education. Alone, the platform Zoom gained 90,000 new schools and users in over 20 countries (Lieberman, 2020).

While the shift to online platforms allowed schooling to continue for many students, it also revealed the inequalities that are continually present in our education system.

The switch to remote learning prompted concerns that students would end up falling behind end of the school year expectations. What was not considered in this general worry about the effects of the pandemic, was the gap already faced by racially and socioeconomically diverse students. Research shows that, with multiple impacts considered, the "average student could fall seven months behind academically, while black and Hispanic students could experience even greater learning losses, equivalent to 10 months for black children and nine months for Latinos," (Goldstein, 2020). These disparities are often attributed to the unequal distribution of resources made available for students, which typically reflects upon the wealth of the district they are residing in. As the switch to remote learning commenced, it become clear that many students needed laptops, Wi-Fi, access to academic websites, and other resources to continue progressing. In March 2020, many districts, states, and countries began aiding their schools. In the United States, $57 billion was given to K-12 schools for COVID-19 relief (Ujifusa, 2020). In New Jersey, where I resided at the time of the study, Governor Murphy initiated a three-prong approach to address the digital divide. This plan included grant money and fund redirection in order to support one-to-one (computer) initiatives within grades pre-K-12 in New Jersey (Official Site of the State of New Jersey, 2020). Across the globe, similar plans were implemented. As the response to the pandemic continued, the hope was that funds were being distributed and used to help every student, especially those that are usually marginalized by the system. However, differences have already been noted. According to an article published in

EducationWeek, higher poverty schools were less likely to offer live instruction and high-poverty districts were less able to reach all students during online learning (Herold, 2020).

Whether there was a move to online learning during this time or just a temporary closure and disruption to instruction, students may face the negative effects of being out of the school building. According to Wang (2020), when students are on school breaks they are, "physically less active, have much longer screen time, irregular sleep patterns, and less favourable diets," (p. 946). Along with physical and cardiorespiratory fitness, the mental health of students is also a grave concern, especially when you add in the current confines where usual activities and friend interactions are greatly limited. The effects of school closure are further seen in those who use school not only as a place for education, but one where they receive care and nutrition that may not be available in their homes (Viner, et. al., 2020).

During the summer months in the United States, as a new school year was quickly approaching, districts focused on improving the quality of remote learning. As places like Australia began to control the spread of the virus and reopen their schools, other places, such as New Jersey and other east coast US schools wrestled with how to offer the best possible education within an environment of the continuing spread of the virus. While many schools chose a hybrid method to restrict person-to-person contact as much as possible, others fully opened schools. Still other determined that it was necessary to implement fully remote schooling. Regardless of the initial choice, it was clear that online components would be a large part of the academic school year. Even as many districts implemented their plans to physically reopen schools in August and September, it was still unknown if schools would have to close again and return to fully remote learning as a result of a spike in numbers (Goldstein, 2020). Overall, at the

time of the second round of data collection for this study, educators had spent several months preparing for every possible scenario in order to best address the educational needs of their students while dealing with the ongoing pandemic.

Future of Schools

Overall, UNESCO has been monitoring school closures caused by COVID-19 and, as of the end of November 2020, when this report was being written, France's schools were fully open while the US and Australia were only partially open and in total, 224,068,338 schools worldwide were closed. Beginning in March 2020 through November 2020, worldwide over 990,000,000 learners had been affected and over 130 countries had closed their schools at one point or another (https://en.unesco.org/covid19/educationresponse). These closings and shifts in mode of instruction may have lasting impact on schools beyond the period of the pandemic.

One big difference that may occur is enrollment numbers dropping or growing dependent upon resources made available in all districts. From the 2011 statistics to the 2023 predicted statistics, the U.S. government believes there will be a 5.2% growth in enrollment. (https://nces.ed.gov/programs/digest/d13/tables/dt13_203.20.asp). It is possible that we will see enrollment shifts as parents decide to place their children in different schools as a result of the modes of learning being offered.

Furthermore, with the huge technology shift, it is possible that e-learning will become a new norm in our society at many different age levels. The move to online learning will provide students with new ways to learn and complete work, ways to connect with one another, and innovations that can change the face of education. While technology has its upsides, this shift towards online learning could also cause a greater divide amongst students. According to Gloria

Tam and Diana El-Azar of World Economic Forum, “only around 60% of the globe’s population is online,” thus causing 40% of the world to fall behind digitally.

Method

The purpose of this project was to collect data from three geographically spread countries about how the COVID-19 pandemic has disrupted learning at the primary level. I decided this was necessary research as the coronavirus pandemic forced school buildings to close their doors and for the methodology of school learning to change. The hope is that the collected data will shed light on how primary educators shifted their teaching practices in order to best teach their students.

In order to collect quantitative and qualitative data from the intended demographic, two surveys were created in Google Forms and dispersed gathering information from educators about their experiences teaching during the COVID-19 pandemic.

On May 26th, 2020 the first form was released and social media was the main method of distribution. Please see **Appendix A** for a complete list of the questions included in form one.

I utilized Twitter, Facebook, and email in order to circulate the survey to educators I was connected with. From there, I relied heavily on educators sharing with their colleagues and friends who fit the correct demographic. To get my form circulated in Australia, I began by reaching out to a contact who works in a religiously affiliated school. To circulate my form in France, I relied heavily on the power of social media. I tried to reach out to schools and use contacts, but most of these actions were unsuccessful.

After a period of 37 days, May 26th to July 1st, the first form was closed and submissions were no longer collected. On the first form, I received responses from four French educators, four Australian educators, and 385 American primary school educators.

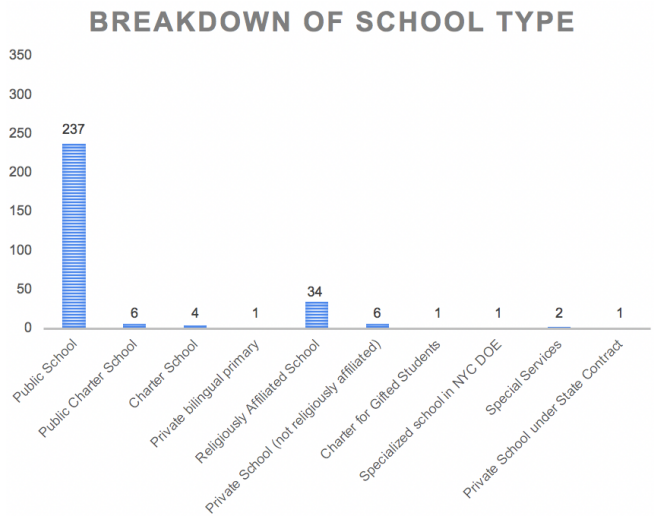
All collected information was then pulled from the Google Form to a Google Sheet to be sifted through to ensure all responders fit the correct demographic regarding location and grade they currently teach. The final data set included 393 responses – four French, four Australian, and 385 American – after responses from teachers not teaching in the target grade levels and duplicate entries were deleted. Using Microsoft Excel and RStudio, the data was analyzed to draw conclusions for this research project.

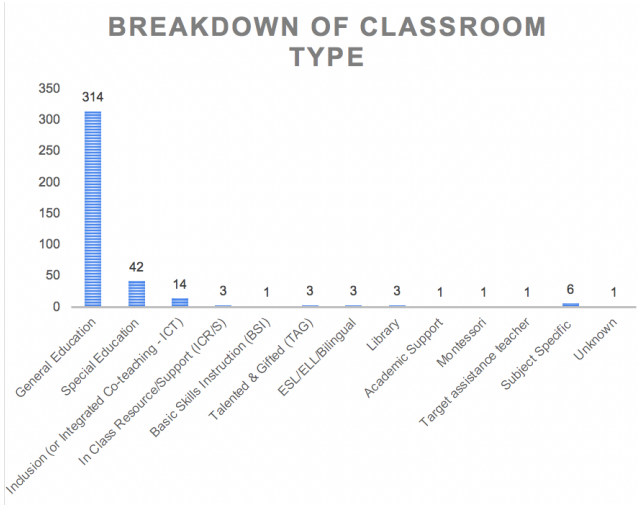
The second Google form was later emailed to all 393 responders who filled out the first form. See **Appendix B** for a complete list of the questions included in form two. Participants were instructed to fill out the form and not to share it with anyone else in order to keep the data collection group the same. The second form was released on September 28th and closed on November 3rd, giving participants a total of 37 days to submit the form. Of the 393 emailed responders, 153 participants responses were accepted and analyzed for the second round of data collection; 12 of the 393 emails were sent back due to an incorrect email address. It is important to note that the data gathered on the second survey came from just under half of the participants who had completed the first form. Once again, the data was analyzed using Excel and Google Form.

Data

Form #1

The 393 initial surveys included responses from participants teaching first through sixth grade in 237 public schools, 34 religiously affiliated schools, and smaller numbers of other school type categories. Furthermore, 314 responders indicated that they taught in a general education classroom. The other 79 respondents taught in special education rooms (42), inclusion rooms (14), and a few other types of classrooms including subject specific classes and ESL. Therefore, the majority of responders were coming from a general education, public school perspective. See *figures 1* and *2* below for a breakdown of each school and classroom type.





The form was circulated to collect data in the United States, Australia, and France. There were four responders from France, four from Australia, one unknown and 384 from within the United States. Within the US, there were responders from 48 states, the majority of responders coming from New Jersey (75), Minnesota (29), and California (26). See *figure 3* for a full breakdown of how many responses came from each state and country.

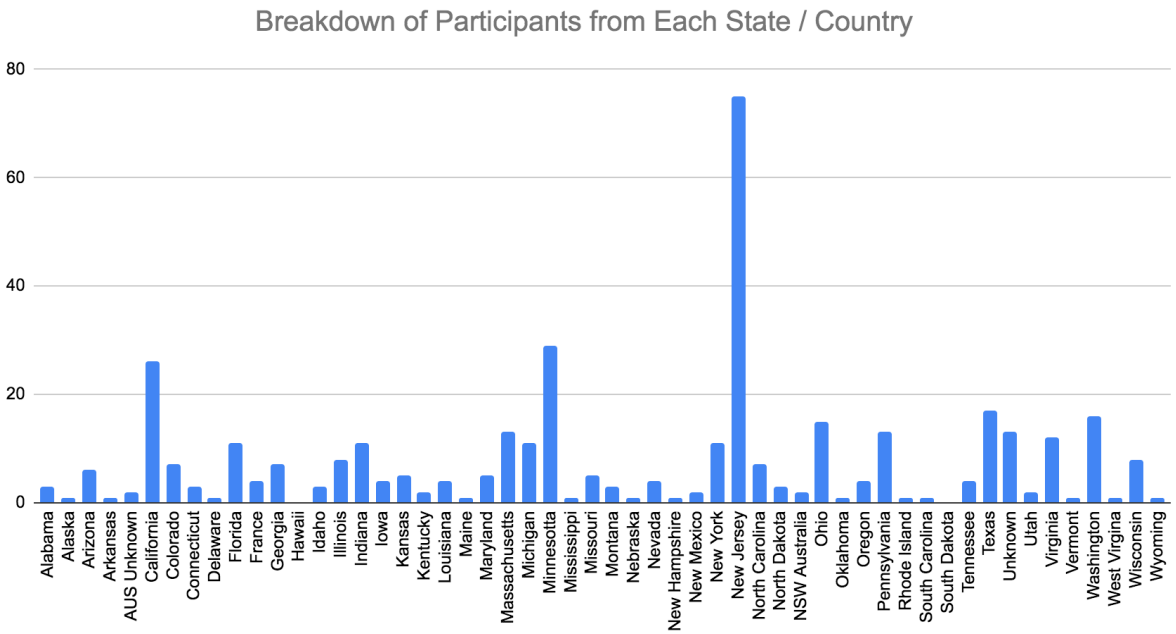


Figure 3 including participants from the United States, Australia, and France

The Coronavirus struck different parts of the world at times and spread at different rates throughout different areas. This caused there to be differences in when schools decided to close, or if they closed at all, to move to remote, crisis learning. The following chart (*figure 4*) shows the timeline of school closures as experienced by 391 participants across the 3 countries. From the Australian participants, responses showed that their schools closed on 3/21, 3/23, and 6/2.

The French participants responses showed that their schools closed on 6/4, and 6/30 and two on 3/13.

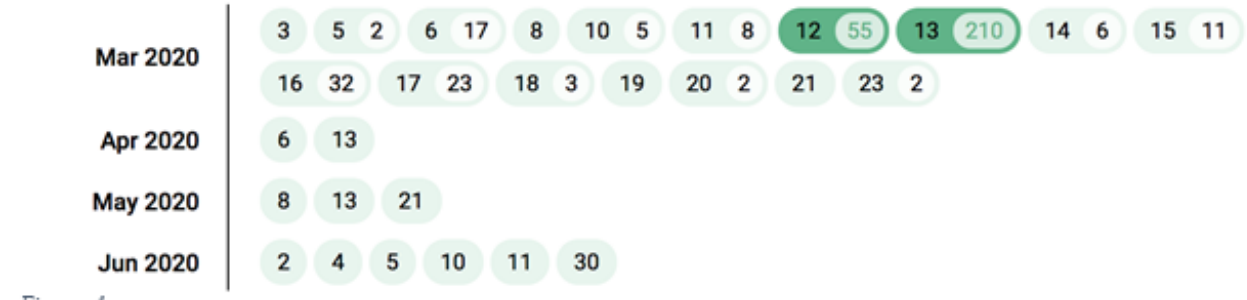


Figure 4

closures experienced by responders took place in mid-March. As seen in *figure 5*, at the time of closure, a majority of participants felt that they would be returning to the classroom before the end of the school year.

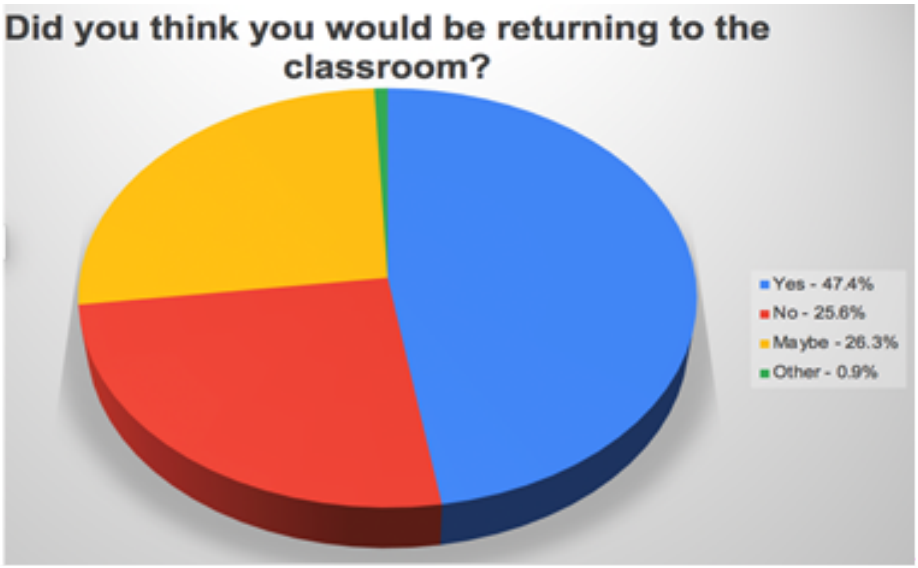


Figure 5

This shows that at the beginning of the pandemic, participants in these areas were unaware of the gravity of the situation. Some even made comments on their return stating things such as, “At the time I don’t think we could’ve comprehended how serious this was. We had to stay optimistic for the kids,” and “The evening before our district closed our school had a meeting saying we would

be continuing in person like normal and not to worry about Corona and everything we were hearing. That night we got a call saying the school district closed until after spring break. When spring break was nearing its end, they canceled for the rest of the year."

According to collected data, only eight responders chose the option of 'very prepared' for a transition to remote learning. As you can see in *figure 6* below, 99 participants felt 'not prepared at all' or at the one level, 109 found themselves at a two, and 127 participants felt they were at a three, the middle option between 'not prepared at all' and 'very prepared.'

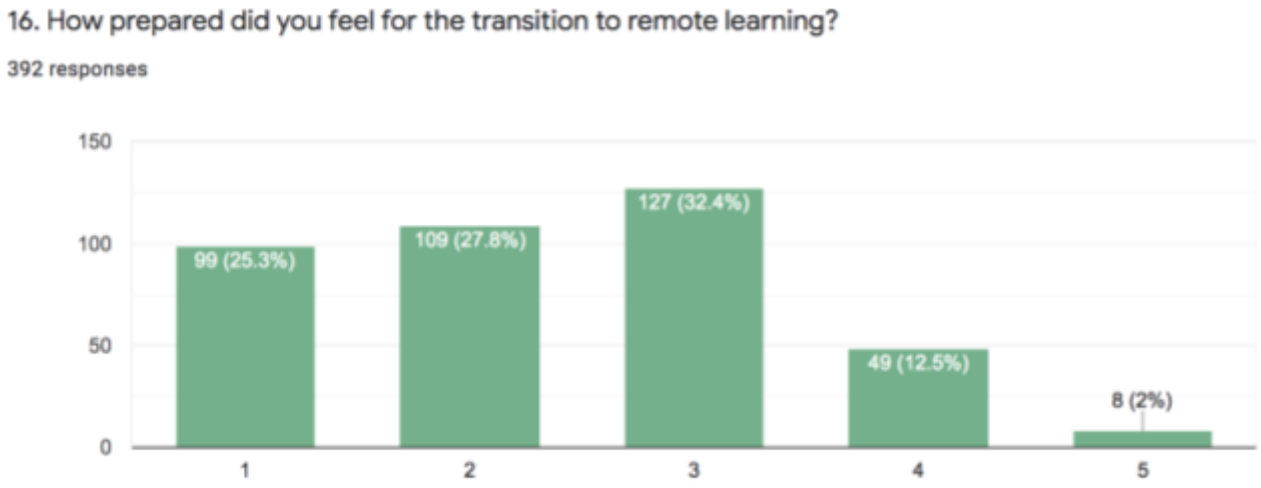


Figure 6

Most comments from participants showed that the majority felt a lack of training and guidance throughout the entire switch, especially due to the fact that it all happened so quickly. Participants also commented on the lack of student resources, differing expectations from their school, district, and parents, and the hardships of teaching children with specialized needs (special education, learning disabilities, ESL, etc.) via an online platform.

For most participants during the spring of 2020, schools resorted to remote, virtual learning in one way or another. Some schools also closed completely for a while or took on a hybrid structure, but overall, more technology was introduced as a way to connect with students. With one's home being the new classroom, it was interesting to take into account the multitasking teachers were being asked to do at home along with their regular teaching responsibilities. Participants were asked to select if they had dependents at home requiring their attention. 177 participants responded to this question on the form, meaning that the other 216 are an assortment of those who do not have other people at home requiring their attention or chose not to answer the question. Participants who answered this question were able to check off as many boxes that applied to them, so some had dependents in multiple age categories. As you can see from *figure 7* below, as participants were required to teach from their homes, they were not alone. Over half of the 177 participants who were attending to others in their home were caring for children under the age of 12. Newborns to two-years old made up about 15%, 3-5-years old approximately 20%, and 6-12-years old around 25%. In total, of the 393 participants, approximately 30% of participants were taking care of children under the age of 12. Thus, we can hypothesize about the potential challenges facing teachers who were both engaged in remote learning with students and caring for young children at home.

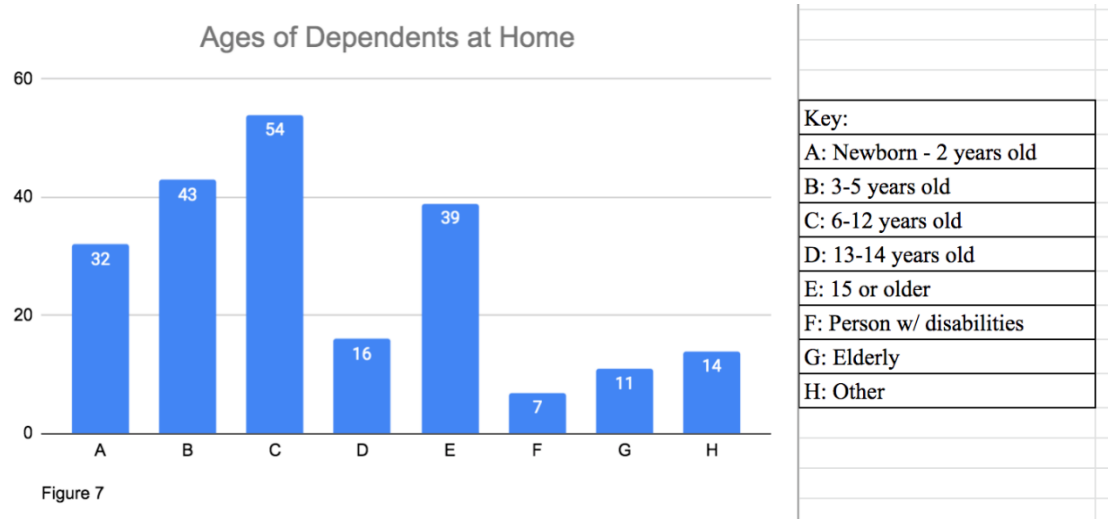


Figure 7

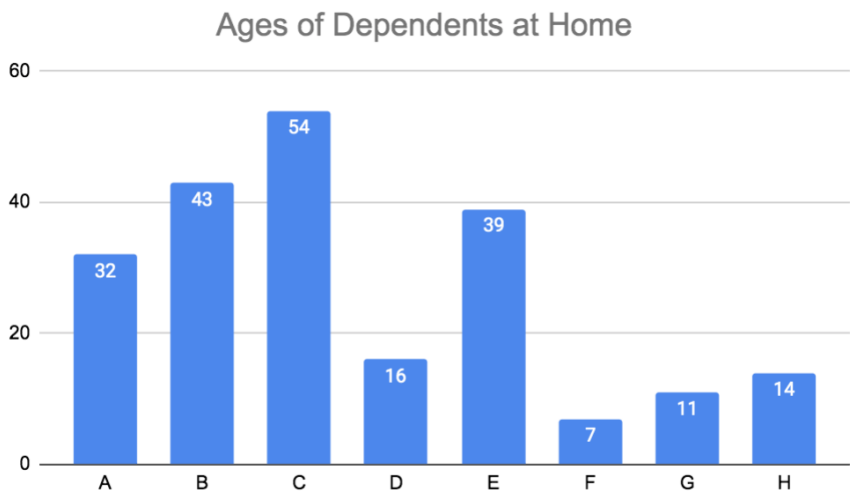


Figure 7

Key:
A: Newborn - 2 years old
B: 3-5 years old
C: 6-12 years old
D: 13-14 years old
E: 15 or older
F: Person w/ disabilities
G: Elderly
H: Other

Teachers and students alike not only faced new distractions while working at home, but were working with fewer resources overall. When asked if the responders could bring home resources from their school and/or pick up more at another time, the answer was an overwhelming yes at 91.8% of the 391 responses, as can be seen in *Figure 8*.

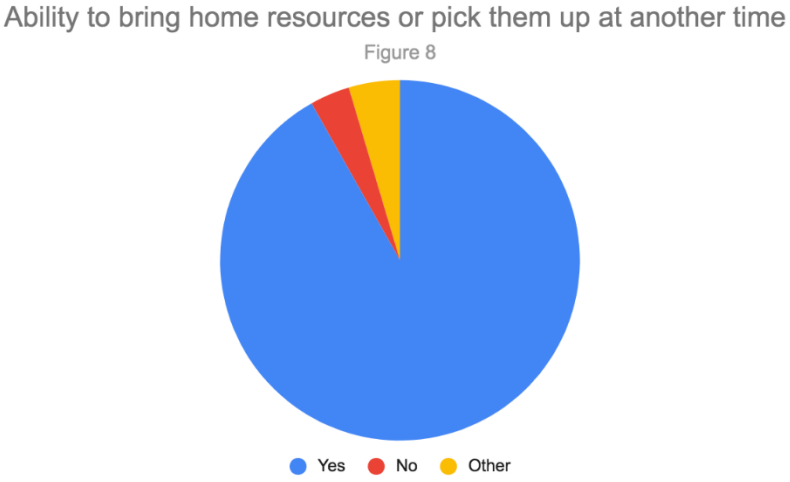


Figure 8

Despite the fact that almost all teachers were able to return to their classrooms to pick up materials, in their comments many participants elaborated, sharing that they had limited time to

gather resources. One participant shared, “I got 10 minutes to run in and grab items on an assigned slot.” As remote learning commenced, the most commonly used materials to facilitate student learning were print materials, online materials, email, and live and recorded classes. Some participants shared specific platforms they began utilizing such as Zoom, Class DoJo, Remind, Seesaw, and Google Meet — the full breakdown can be seen in *figure 9*.

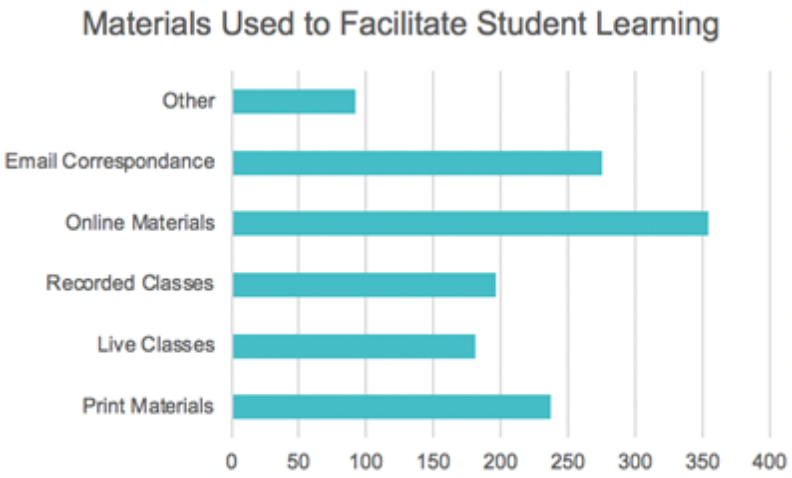
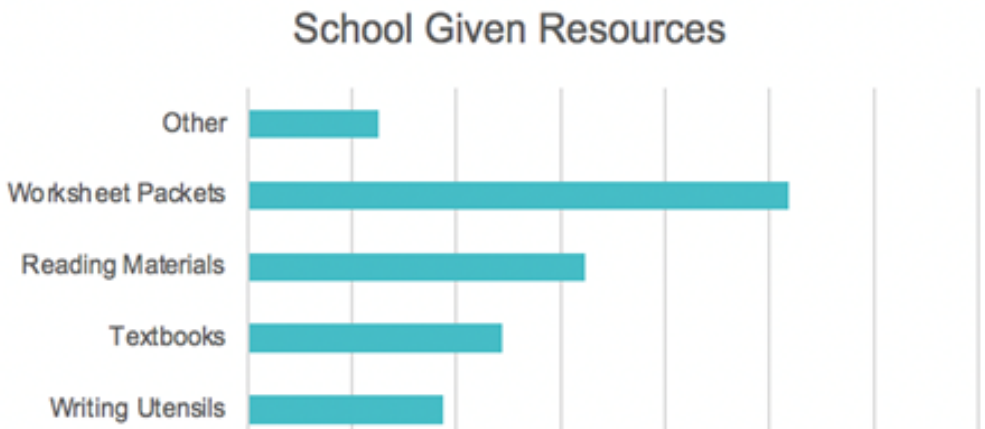


Figure 9

Along with that, data was collected regarding the resources that the schools themselves offered to students. Data shows that approximately 79% of schools offered computers to students in need (some offered pre-pandemic as part of 1:1 technology initiatives), but only about 46% offered WIFI connection to students in need. This is a glaring difference, especially as a computer without WIFI makes it mostly useless, particularly when trying to connect online with a class. The data shows that schools also commonly distributed worksheets, writing utensils, textbooks, and reading materials which can be seen in *figure 10*.



When asked to elaborate on the sufficiency of the school given resources, 376 form responders responded with 128 selecting “yes” and 174 selecting “no.” According to this data pool then, more students were not provided with all they needed to be successful than were. Even if students did receive resources, participants openly shared other detrimental factors such as a lack of help at home, lack of internet access, and lack of on-level resources, specifically for special education and English as a second language (ESL) populations.

An important feature of education is the assessment of students in order to monitor achievement and understanding. While assessment can take place in many forms, the data revealed that the COVID-19 pandemic had a significant effect on the grading. Of 391 initial responses, 271 (almost 70%) of participants responded that student work was being collected, 55 (about 14%) were sometimes collecting work, and 36 (nearly 10%) of participants did not collect work, which can be seen in *Figure 11*. In the face of the pandemic, many participants shared that the work was really only collected because it was done online and that they merely looked at it and nothing more.

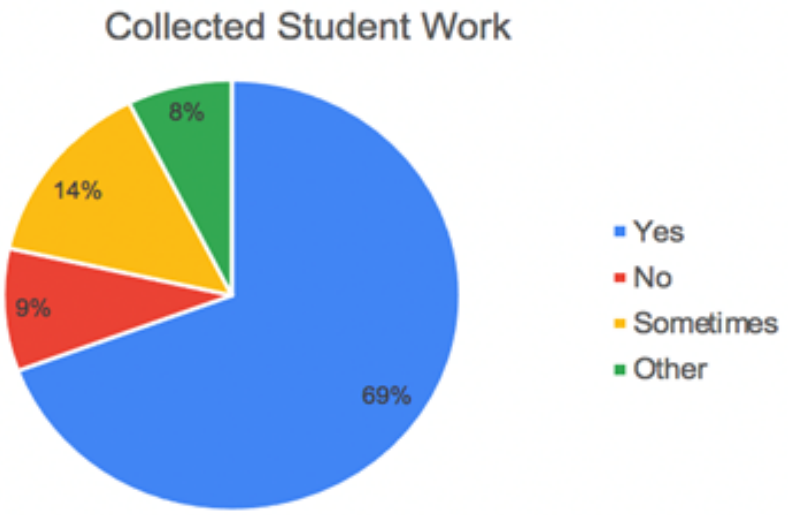


Figure 11

When asked if they assessed student work, the data changed immensely. Only 157 (about 40%) participants chose 'yes' for assessing student work, a 114-person difference from the number who collected student work. Meanwhile, the sometimes and no groups grew, with 25.5% of participants selecting 'no' and about 16% selecting 'sometimes.' In addition, some participants chose to share in the 'other' column, instead of just selecting 'yes' or 'no.' The majority of participants shared that most work was graded based on completion or that they did not truly assess for grades, but merely gave feedback to students. *Figure 12* outlines the specifics of student work assessment.

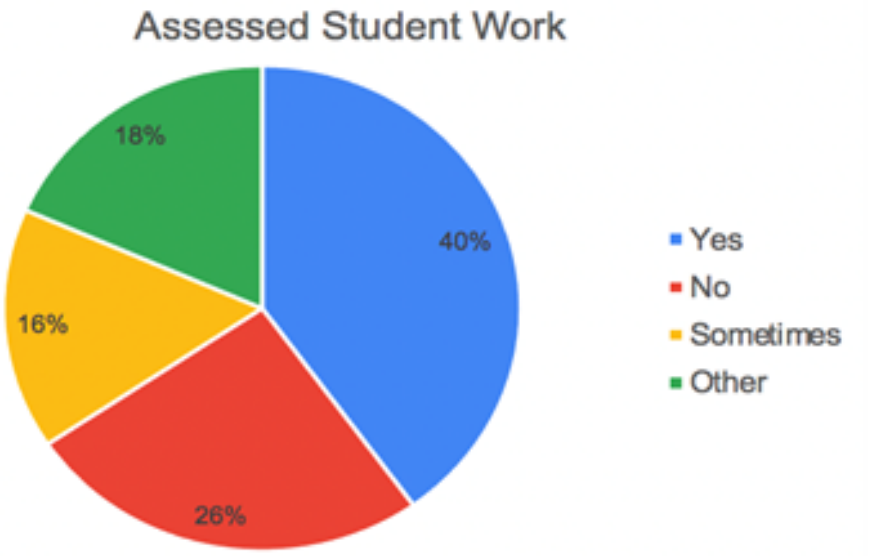


Figure 12

Furthermore, participants were asked about their assessments processes after establishing a set virtual learning routine. This question generated the description of an array of grading formats, including pass/fail, met or did not meet expectations, allowances for re-taking tests, and many more options. Overall, it is evident that while every school approached assessment differently, very few continued to asses as normal.

Routine wise, it took schools around the world different time periods to close, reopen, and establish a new way of educating students. See *figure 13* to see the time it took responders to get a set routine in their classrooms.

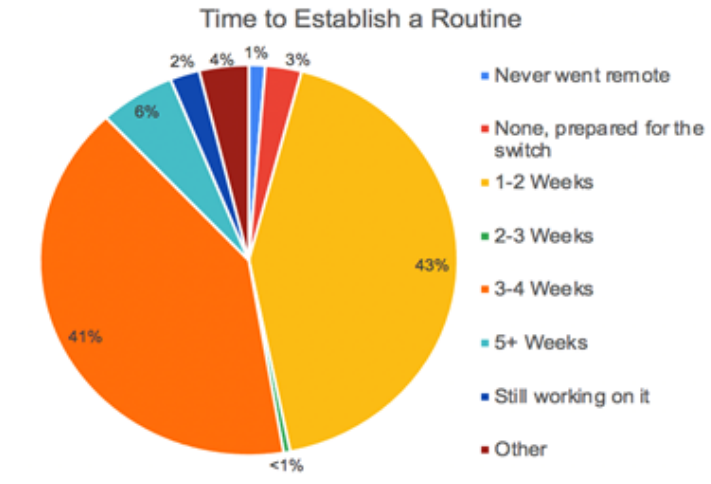


Figure 13

From the data collected, it appears that participants either perceived that their schools took one to two weeks (43%) or three to four weeks (41%), nearly a month, to establish a set routine. Additionally, there were some teachers who believed that their schools were still working on a plan at the time of their submission and a few who stated that they never went remote or found the switch to be easy because they were prepared. It seems interesting to note the differences between the ways schools handled the pandemic; while some schools were prepared, one participant commented that it took others 8 weeks to merely provide their students with Chromebooks in order for them to complete work. This shows that there was no one way in which the response to the COVID-19 pandemic was handled in the education world. Every school, district, county, state, and country responded differently in order to try to keep successfully educating students during the worldwide pandemic.

Participants were asked to share how often they meet virtually with their students as part of their new routine. The bulk of participants who responded to this question (392) met either twice or five times a week. Meeting once, three times, four times, or not at all had lower totals as you can see in *figure 14*.

Figure 14

Responders were then asked to comment on what happened if students did not attend these virtual meetings, and the overwhelming responses included the words “nothing” (176 of 370 responses) and “optional” (51 of 370 responses). Of 390 responses, it was recorded that new material was shared with students mostly either once or five times a week while two, three, and four days had much smaller response accounts (*figure 15* outlines this chart).

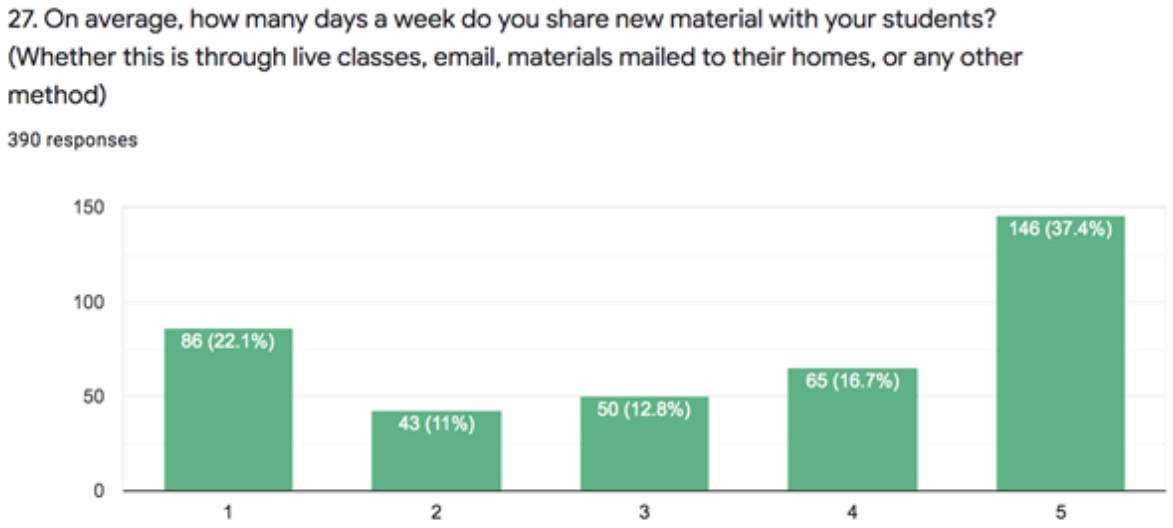


Figure 15

In a normal school week, students receive new materials at least once a day, every day as they go through each subject. There are several possible explanations for the reduction in the frequency with which students received materials. Materials might be distributed less often as teachers needed to mail them out or have them picked up, or teachers may have lightened the workload overall. These are just two of many possibilities. Materials were being provided in a myriad of ways to students dependent on resources, contractual agreements with educational websites, and

differentiation in order to engage students. The majority of the participants were uploading materials for their students to work with, but live classes, recorded videos, email, and paper materials were also being used at high rates, as shown in *figure 16*.

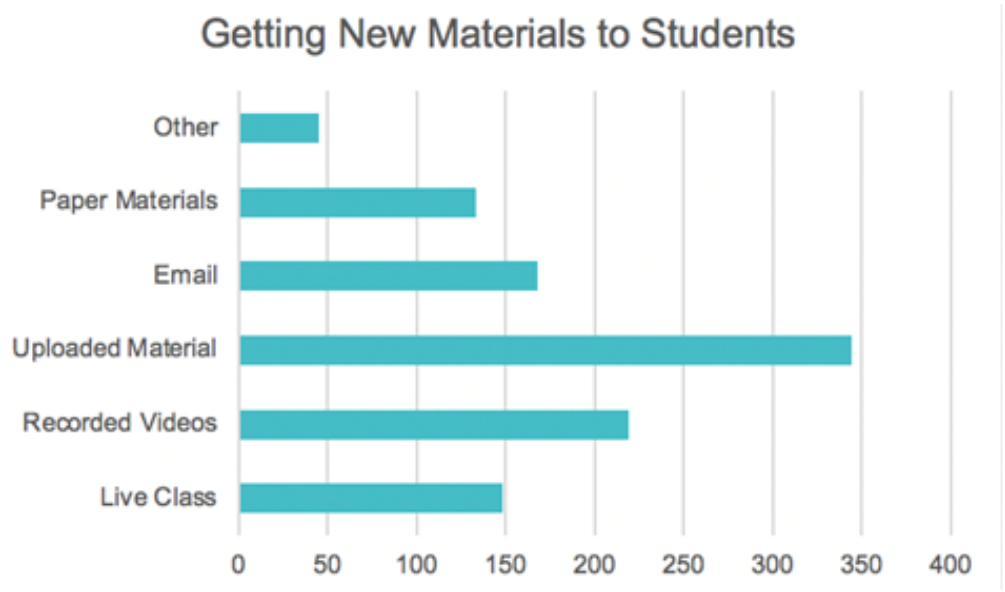


Figure 16

From the provided data, we can conclude that COVID-19 was having a notable impact on the education system in the United States by June 2020. To begin, nearly half of the participants indicated that they were attending to family members while teaching from their homes. This researcher assumes that this reflects pandemic-related closures to childcare, in-person schooling and elder care. The participants were also faced with challenges due to students' lack of resources. On top of that, very few participants were prepared to make the switch from in-person to remote learning. In the current age of technology, there are many options to make remote learning engaging and successful, but this is only possible if the correct resources and training are put in place. In the end, each school has been faced with their own problems that they have had to tackle while also being concerned with the health and safety of their staff and students.

Worldwide, some schools have continued as normal, while others are still trying to find ways to successfully educate students virtually. When asked how participants believe their students were handling the situation after two to three months of school closure, there was a wide array of answers as *figure 17* shows below. The average answer put students at a three, communicating that they are doing their best. Explanations from teachers were all across the board as some recognized their student's hard work and others realized that their students were purposefully slacking off as they realized there was a lack of disciplinary actions and accountability for work completion at this point in time. At the time of the June data collection, the largest take away was voiced by nearly every respondent — virtual learning was just not the same as being in person.

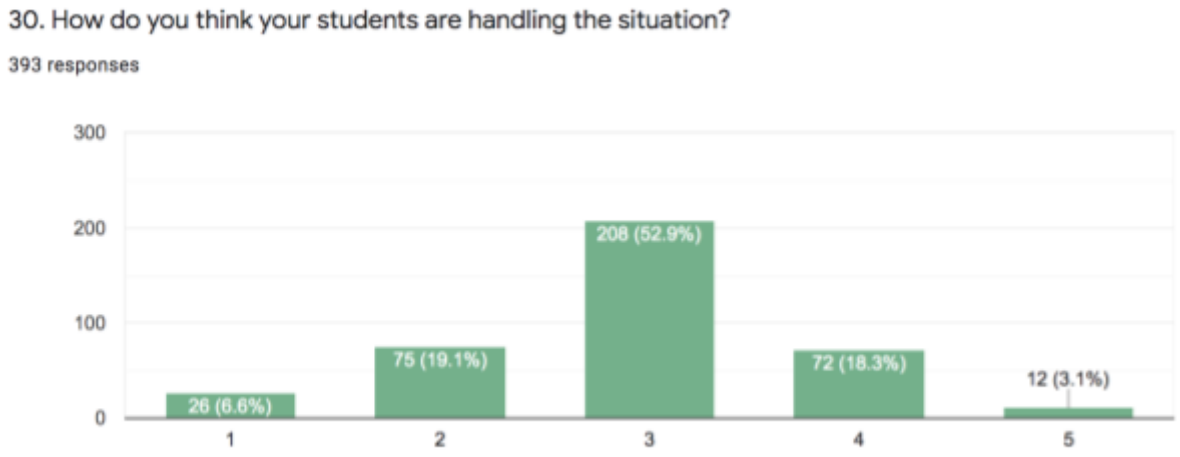


Figure 17

Form #2

Of the original 393 participants in Form #1, 153 responded to form #2, meaning approximately 39% of the participants from the first form also responded to the second. It is important to note that this may mean changes to the point of view responses are coming from.

The limitations and implications of this lower response rate are discussed in later sections of this paper.

Again, the majority of participants to the first form were from the United States and this holds true through the second form as only two participants were from France and none were from Australia. From those in the United States, there were 37 states represented, with the highest number being from New Jersey. This time, the participants were asked to indicate their gender and 97% of the respondents selected female. While an overwhelming amount, according to the National Center for Education Statistics, 89% of public-school elementary teachers in the United States were female during the 2017-2018 school year. Participants were not asked their gender in the first form, so the data on a full scale is unknown in that regard, but for the second survey, the results reflect the experiences of female educators.

Overwhelmingly, most participants' schools started in late August to early September. The most popular start date was September 8th with 46 participants filling in that date. While many schools started around the same time, their modes of returning to learning were drastically split. Of 151 responses, 26 participants returned completely in person, 57 with some hybrid model, 38 completely remote, and 30 chose the 'other' option (see *figure 18*). Most of the 'other' responses were a mix of starting remote or in person and changing to a different model as time passed.

Figure 18

Participants also had the opportunity to elaborate on their school's plan for returning to learning. Those who took the opportunity shared a wide range of plans. Most participants explained that their students and their families were given a lot of choice based upon how comfortable they felt being in person. Along with that, many school districts that the participants represent were doing work in 'cohorts,' 'groups' or 'pods.' In these scenarios, students are split up into smaller groups to make in-person learning safer and more manageable under the circumstances. One interesting response explained that a district offered an "option to do online COVID academy for first semester – totally online and a purchased program, so I have no contact with these kids." Because the researcher was aware of the many ways districts were implementing hybrid learning in the US, question 10 asked, "Are you teaching students in your classroom and students who are remote at the same time?" 59.2% of participants chose "no," 40.8% chose "yes," and one participant abstained from answering. This data can be seen below in *figure 19*.

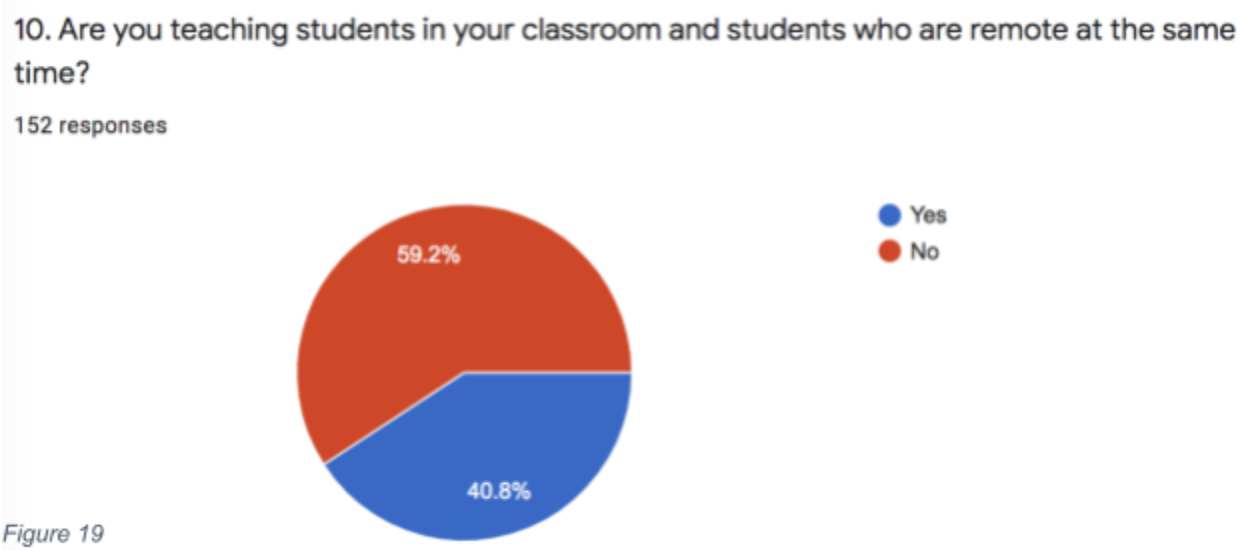


Figure 19

Participants who were returning with some remote component were asked to select the modes of instruction they are using to teach their students (they were able to check more than one). *Figure 20* below outlines the 123 responses, with the use of live classes and uploaded materials being the largest percentages used at over 60%. Many participants elaborated upon the specific platforms they were utilizing such as Google Classroom, Zoom, Schoology, Peardeck, Nearpod, and many others.

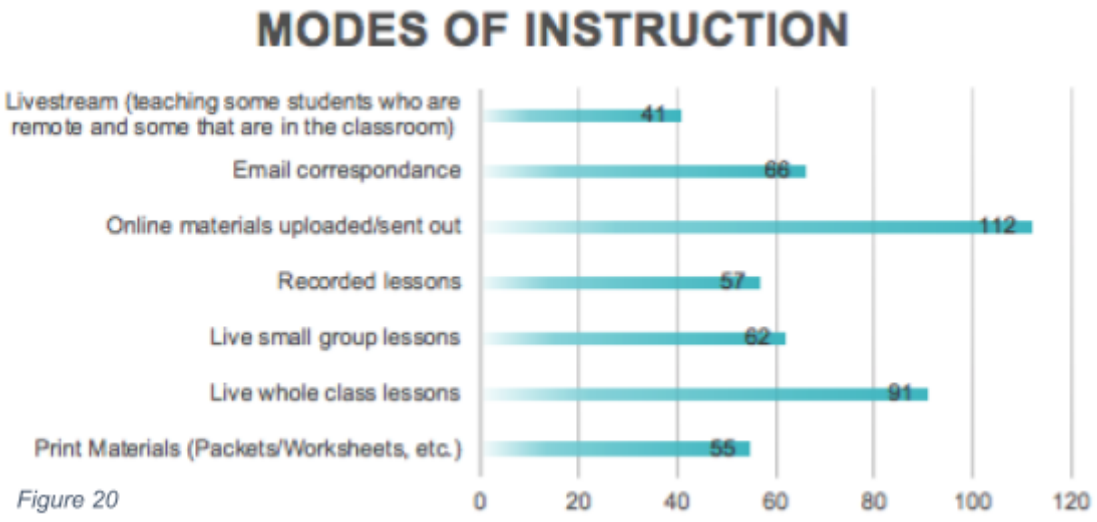


Figure 20

Furthermore, participants were asked to share if they were part of the decision process to decide which modes of instruction that they would be using. 111 participants chose, “No, my district decided for me,” 32 chose, “Somewhat — I worked alongside my district to make decisions,” six chose, “Yes, I had the opportunity to choose how my classroom was run,” and three chose, “other.” This shows that by a great amount, districts were choosing for their educator what instructional modes to put in place. Some participants who chose ‘other’ explained that they were surveyed, but were unsure if their voices were really heard in the grand scheme of things. When asked to share comments, 22% of 90 responses had the word ‘no,’ ‘not,’ or ‘none’ within their explanation. One contributor even wrote, “0 involvement.”

Participants were then asked to rate themselves on a scale from one (not effective) to five (very effective) regarding how they feel about the modes of instruction they were using after September 2020. Overwhelmingly, as seen below in *figure 21,* participants landed right in the middle as a three on the scale.

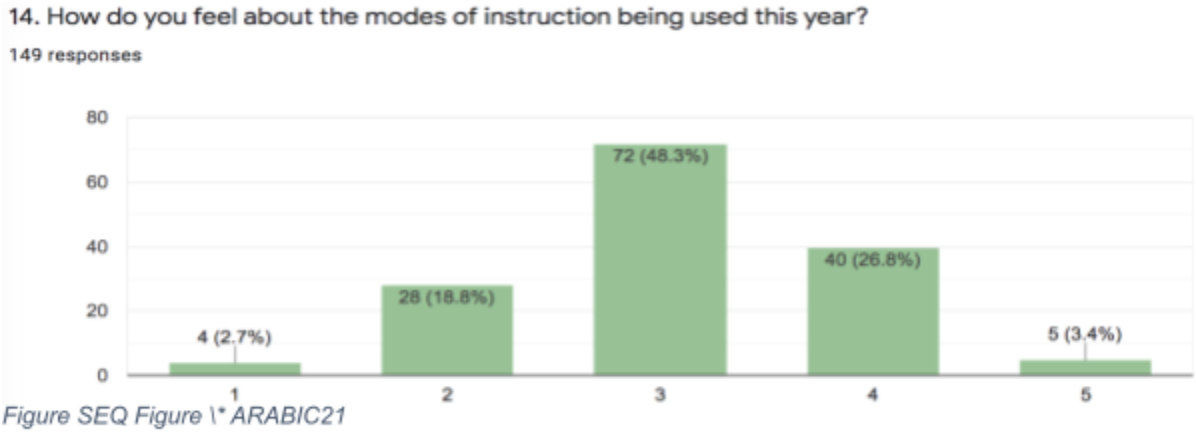


*Figure SEQ Figure * ARABIC21*

The majority of participants, were utilizing some type of technology whether for regular teaching purposes or to teach remotely. Those who are online or hybrid were asked to rate themselves on a scale from one (not comfortable at all) to five (very comfortable) regarding how comfortable they felt conveying information to their students using the technology their schools and districts were providing. The most popular answer was right in the middle at a three, but the majority fell as threes, fours, or fives – ranging from average comfort to very comfortable – as seen in *figure 22*.

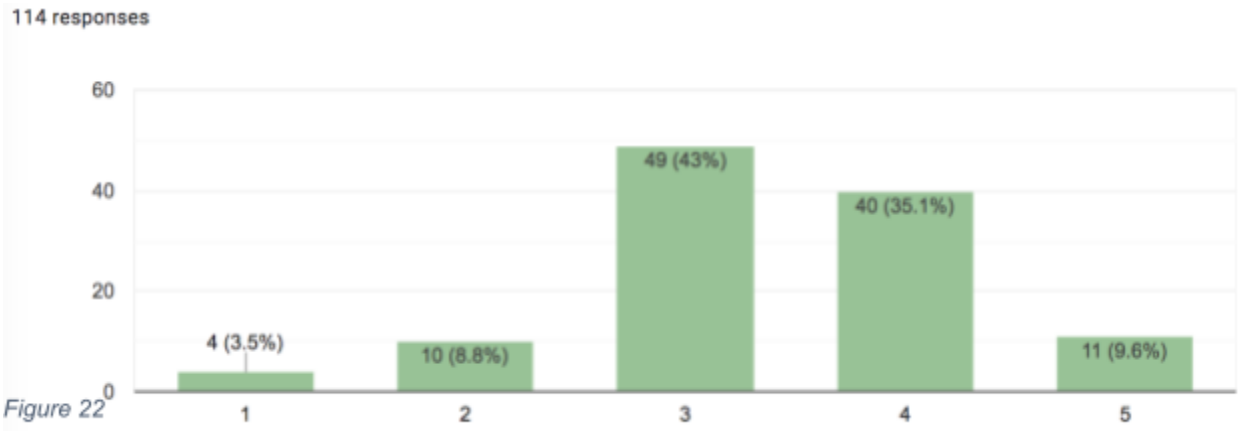


Figure 22

Participants were then asked to share what types of relevant professional development (PD) they had received. There were six main prompts and then the ability to add in additional PD experiences using the 'other' option, participants were allowed to select more than one. Of 140 participants who responded, the majority received PD on remote teaching platforms, remote teaching, and health and safety guidelines — this is outlines below in *figure 23*.

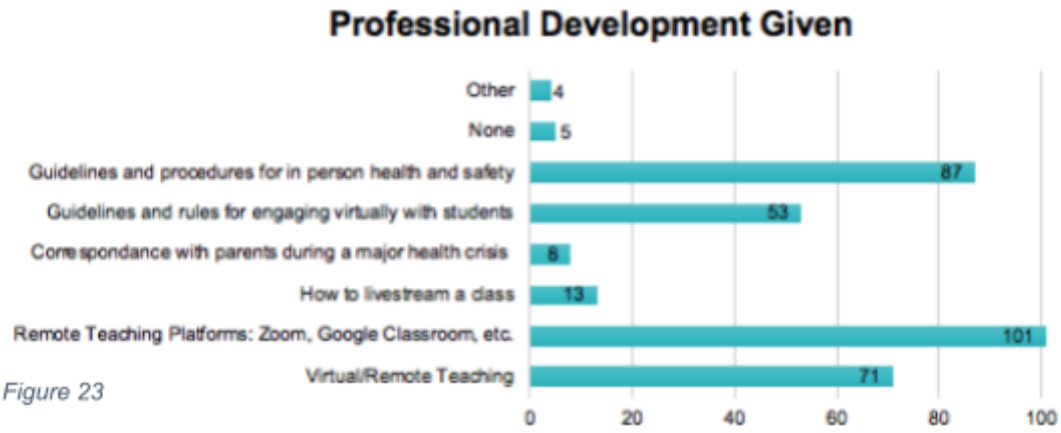


Figure 23

During the summer, on the first form, participants shared the overwhelming amount of confusion there was over how to return to learning in the fall. That being said, many districts took time to lay out plans for the fall. Despite that planning, 61.8% of participants shared that their district strayed from their original plan as the school year began. Comments about district changes ranged from adjustments being made to meet state/county regulations, in order to switch modalities last minute, supply shortages and countless other things that needed corrections as the school year began. One participant wrote, “Surrounding districts changed their plans, so we followed them.” This shows that despite planning, there was no one plan that was adopted universally as districts tried to plan the best educational experience for students during these unprecedented times. Furthermore, 79.1% of participants indicated that they were anticipating further changes as the year continued. As COVID-19 numbers rose and fell globally and the possibility of a vaccine faded in and out, it became clear that plans should be as adaptable as possible.

One section of the survey was dedicated to collecting data about safety and sanitation plans for the current school year. Contributors were asked to comment on their sanitation plan if

students were to be present in their classroom at any point throughout the year. First, participants were asked about the safety measures being used in their classroom and for this question they could choose multiple answers. Out of 134 respondents who selected as least one item, masks for teachers, students, and desk spacing were all chosen at least 90% of the time. The rest of the answers are outlined below in *figure 24*. Those who chose 'other' included comments that discussed hand washing, desk sanitizer, and keeping the windows open when possible.

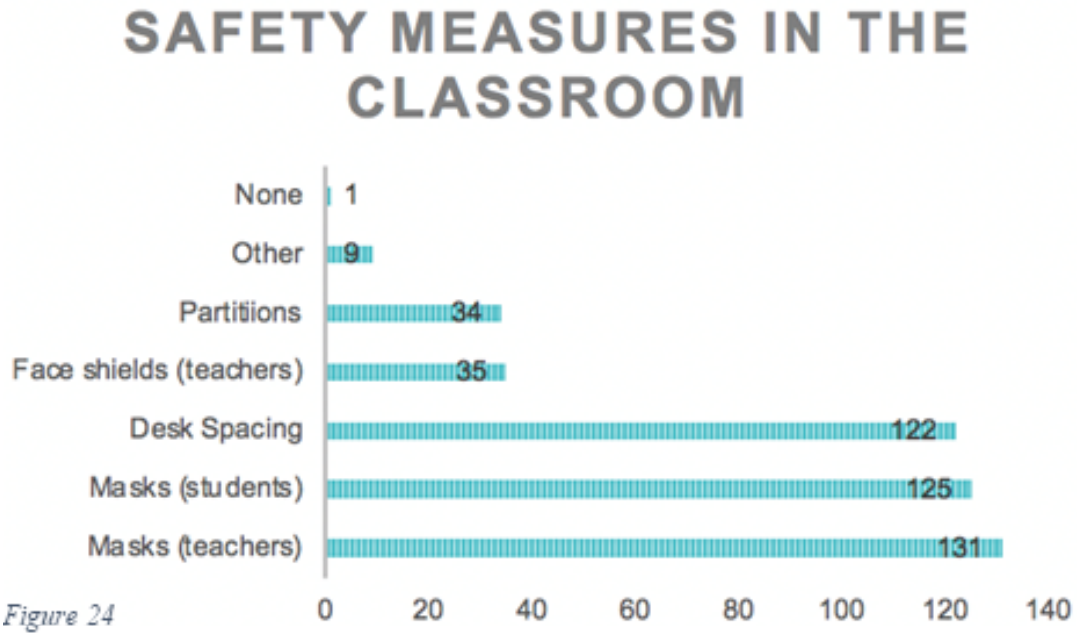


Figure 24

While most schools implemented mask wearing and desk spacing, responses did suggest some different approaches to handling of safety and sanitation. For example, one commentor shared, "Our rooms are germ bombed on Fridays," while another said, "We, as teachers, have to sanitize everything in our classroom." This researcher hypothesizes that rules and regulations change accordingly to what is a priority and what is affordable.

Participants were also asked to rate themselves on a scale from one (not at all) to five (very much) about if their comfort with the modes of teaching and their own health and safety affect how they plan to teach. Of 138 responses, the mode (40.6%) was a four-ranking. Therefore, participants see their own comfort levels and health and safety influencing their instruction of students, as seen in *figure 25*. Contributors were then asked to elaborate on why they chose their specific ranking. One participant commented, "The modes of teaching affect it greatly. It is SO MUCH extra work with the virtual students…It is very time consuming."

A ving

da hey

[a

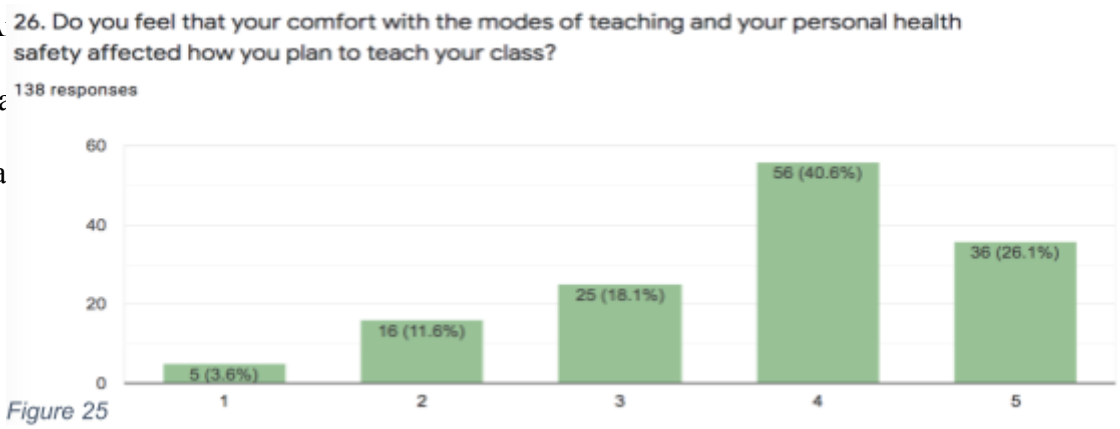


Figure 25

Finally, participants were asked about their thoughts about the changes and challenges that they are witnessing in the new school year, no matter their teaching mode. They were asked to select all that apply regarding changes within their district that they've witnessed in response to the Coronavirus. *Figure 26* outlines the 149 responses, with the most common change noted as a move towards more technology within their classrooms (94%). Overall, all six labeled options, excluding 'other,' are being seen by over 35% of participants.

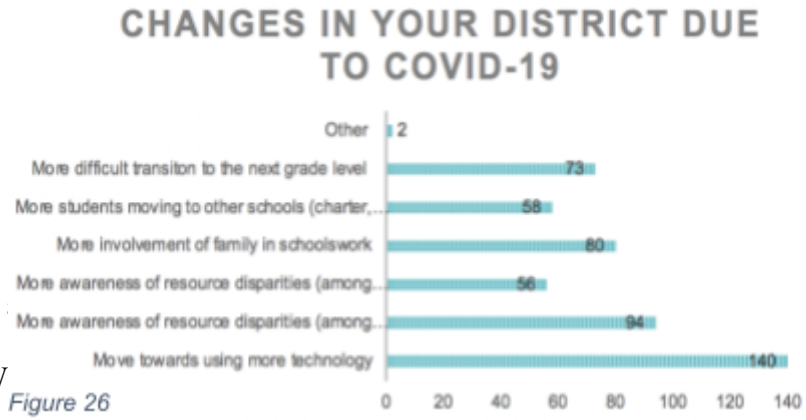


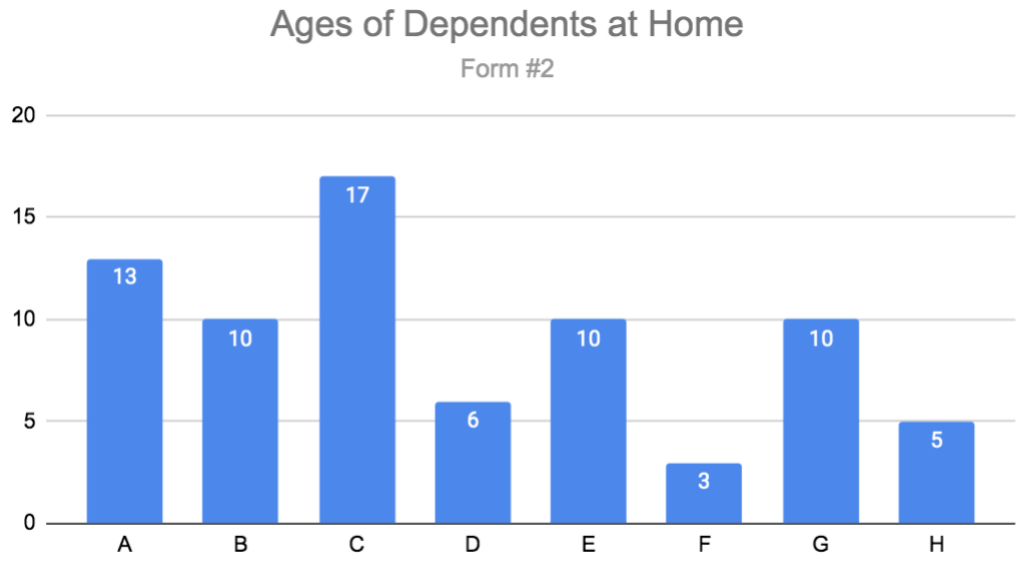
Figure 26

Form #1

W ortant to note the similarities and differences between the data collected. First, during the primary collection from May – July, most participants were sharing what I will refer to as a 'knee-jerk reaction' to the global pandemic known as COVID-19. This data was collected during a time where participants were quickly sent home and forced to readjust not only their teaching methods, but their ways of life as they were asked to quarantine at home. Later, survey two outlines a time from September – November after many months to adjust and plan for the re-opening of schools. That being said, while there was time to plan and get used to this global health crisis, changes were continuing to take place. The participants in the second survey were a group of people who were all in different places of returning to learning based on their districts' decisions. It also brings the possibility that people were getting used to COVID-19 and functioning during a global health crisis. Because the surveys did ask similar questions of participants months apart, the comparing and contrasting of these responses offers interesting insight to the effects of the pandemic on teachers and teaching.

As touched upon previously, 177 participants in survey one shared that they had dependents at home that required their attention (see *figure 7*). Over half (60%) of these participants were caring for children under the age of 12. This includes about 15% of newborn –

2 years old, approximately 20% of 3 – 5 years old, and about 25% of 6 – 12 years old. Furthermore, in the second survey, participants were again asked about the dependents that were relying on them at home. This time, 56 participants responded, meaning the other 97 participants do not have dependents at home or chose not to answer the question. Once again, as seen in *figure 27*, over half (55%) of these participants have dependents under the age of 12. This includes about 18% of newborn – 2 years old, approximately 14% of 3 – 5 years old, and about 23% of 6 – 12 years old.



Key:
A: Newborn - 2 years old
B: 3-5 years old
C: 6-12 years old
D: 13-14 years old
E: 15 or older
F: Person w/ disabilities
G: Elderly
H: Other

Figure 27

In the second survey, participants indicated that they were responsible for caregiving and were asked if the pandemic affected their care-giving situation. Of 61 responses, 59% of participants said no, while 41% said yes. When invited to elaborate, responses ranged from those along the lines of, "I've had to hire a babysitter…my husband changed his hours because he stays home with our son until the babysitter gets there…this has become a financial hardship for us," to, "Able to work from home with my kids." Therefore, there is a large array of responses as the age

and needs of the dependents change. This subgroup of participants was also asked if they believed their care-taking responsibilities affected their teaching. 50% answered no, as can be seen below in *figure 28*. Once again, all educators at this moment are working extremely hard to educate students no matter their teaching situation and their hard work is applauded, but it is evident that having dependents at home has affected teaching, whether it be additional financial stress or having extra distractions at home — and 50% of those who are home with dependents agree to a point.

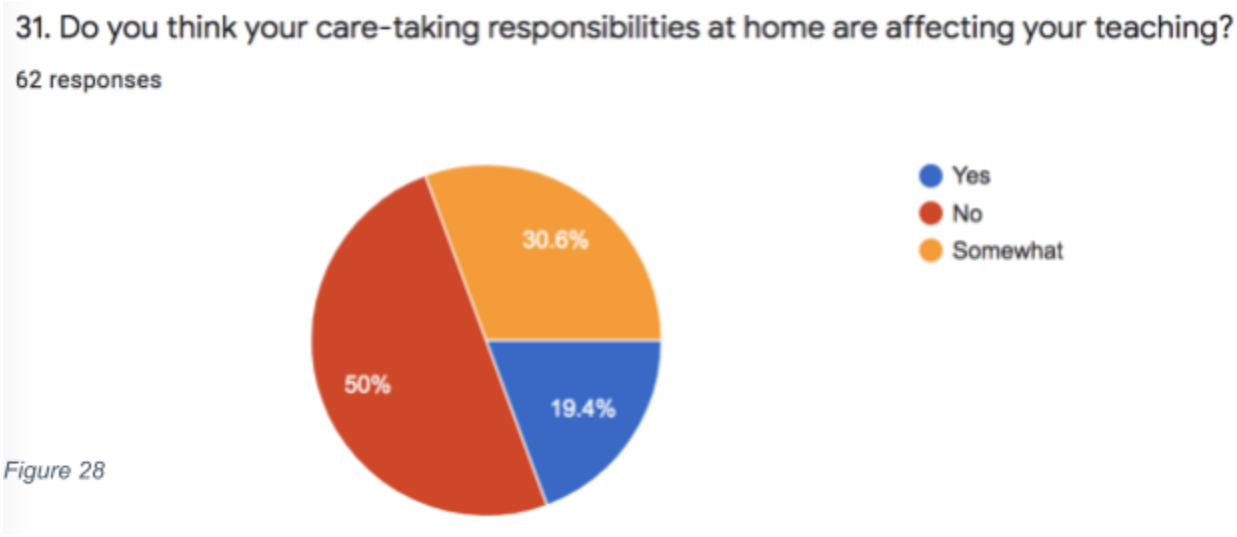


Figure 28

Survey one and survey two asked two similar questions about assessing students. In the first survey, almost 70% of participants shared that they were still collecting work regularly. When asked if they assessed work, 40% of participants chose yes, while 25.5% did not and 16% sometimes did (see *figures 11* and *12*). It is important to note that the main difference between the two questions is one is in regard to merely collecting student work that can be reviewed while assessing normally means there is some type of feedback that is given in return to the

student. Further on in the survey participants were asked to comment on their assessing process after establishing a virtual learning routine. While there was a wide range of responses, many shared that they were, “Pass /fail,” “nothing was required,” or “It’s more a yes they did the assignments and got the practice in or no they are not engaging.” Three months later on the second survey, participants were again asked if their school had policies in place for assessing student progress. At 63.3%, with 150 responses, the majority answer was yes — as seen below in *figure 29*. Therefore, I conclude that during the early months of the pandemic, participants were collecting student work but not assessing very often; however, months later (after summer break in the US) assessments became a larger focus in the classroom. On the second survey, participants shared writing, “Regular class assessments – it’s business as almost normal for us,” but also some very different responses such as, “My school district has eliminated the typical grading scale for the elementary school students. Instead, progress is tracked rather subjectively be each teacher…” Therefore, while the majority of participants were assessing student work by November 2020, there was a range of what that looked like across schools.

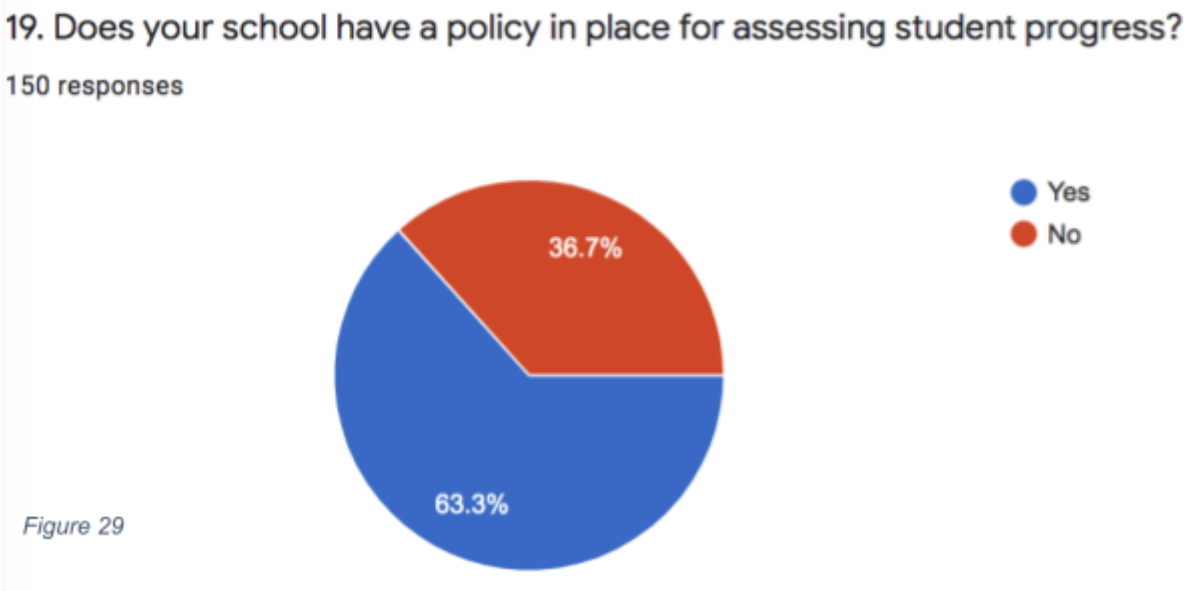


Figure 29

Both surveys asked respondents to comment on how they thought their students were handling the current situation. Drawing your attention back to form #1 results and *figure 17*, back in the summer (as they reflected on the final months of the 2019-2020 school year) most educators put their students at a three, falling right in the middle between one (not well) and five (very well). Months later on the follow-up survey, participants were asked the same question and were invited to share comments. As you can see below in *figure 30*, the majority of participants placed their students at a three and a four, therefore leaning more towards average to well. One participant shared, "I think overall they are working the best of their abilities given what they have." As these are unprecedented times for us all, it is amazing to see the resilience of school age children through the eyes of their teachers.

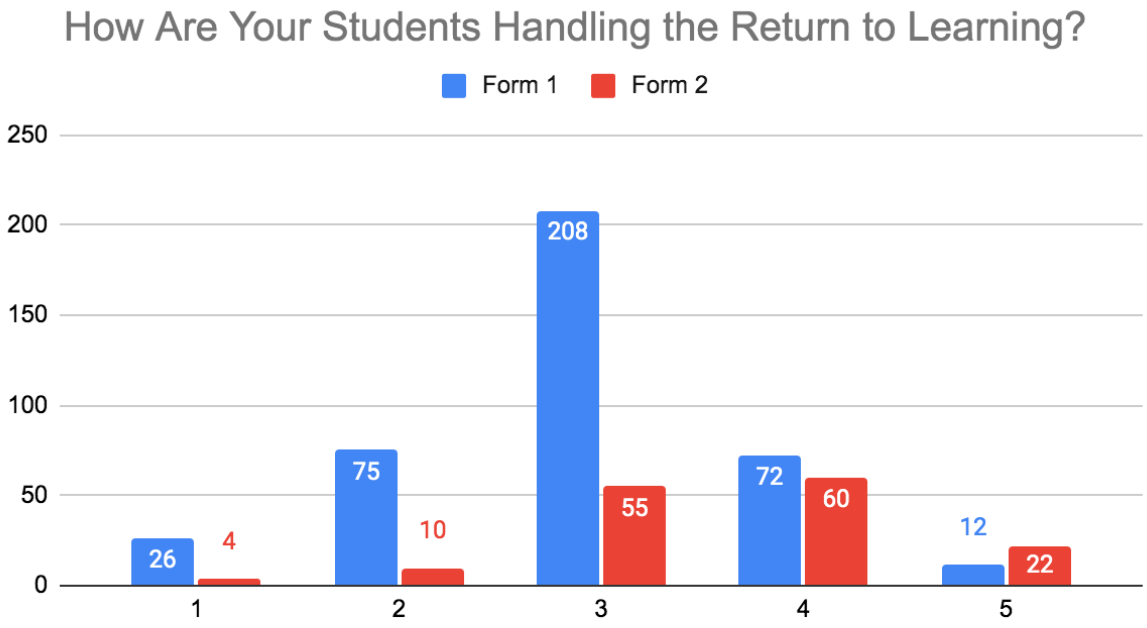
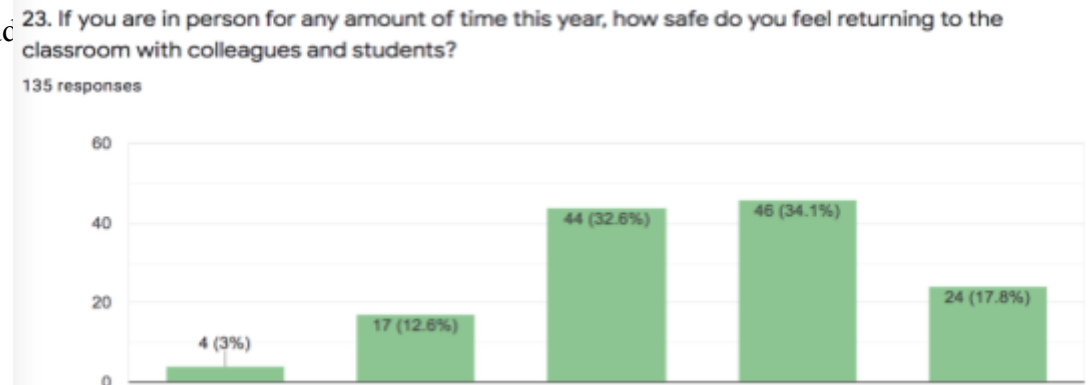


Figure 30

Furthermore, on the second survey I asked participants to share how safe they felt returning to the classroom if they planned to be in person at any point for this school year. On a scale from (very unsafe) to five (very safe), the majority of participants (90 out of 135) placed themselves at a three or four, suggesting that they felt at least at the median as can be seen below in *figure 31*. To me, this was a surprising and unsurprising answer all at once. When I originally released the form, I was unsure about how participants would respond, but I did expect more evenness across the board. I was interested to see that the majority of participants felt safe returning to the classroom, but I was happy to hear so. To me, this means that schools took the return to in-person learning very safely and were putting the health and safety of staff and stud



Since the start of the pandemic, educators and the education system have been highly visible and there has been much discussion in the public and in the media about all aspects of schooling. In the social media world, teachers have been criticized by some for what was seen as a lack of effort, while teachers themselves have been sharing how beaten down they feel. Teachers have had to adapt to a lot during this time, and many decisions were out of their hands. Because of my awareness of these issues, I was interested to get feedback from the participants about how they feel the teaching profession is being perceived by the public. The responses to this question, sent out as part of the second survey, revealed an opposite trend when compared to the other similar-looking graphs of data I received. As you can see in *figure 32*, participants responses landed primarily in the one – three range, on a scale from one (very negative) to five (very positive). With only 15 participants choosing anything above a three average, I believe it is safe to say that participants do not feel that there is positivity towards the teaching profession at this point in time.

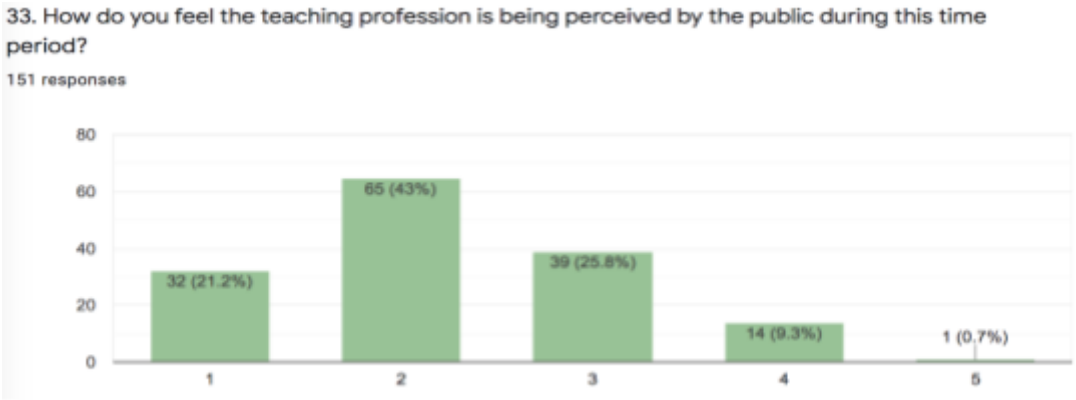


Figure 32

I also asked participants to rate how they were feeling about the teaching profession. Overall, the average answer was a three, sitting on a scale from one (very negative) to five (very positive), with there still being more responses on the negative side of the graph — although not by much as you can see in *figure 33*. To me, this shows that morale towards the teaching profession since the pandemic has lowered. Most likely, this is due to a mixture of added work stress, increased negativity from the public, and other life-stressors combined.

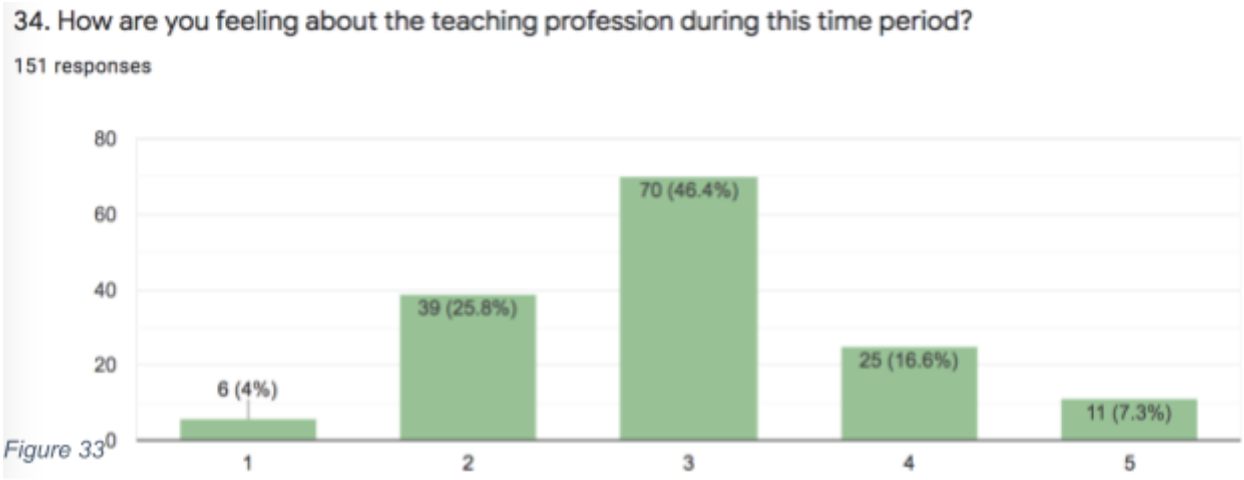


Figure 33

Compiling data from both forms, I have created a hypothetical portrait of the typical teacher during this time. This composite person will be referred to as Teacher A. Teacher A is a primary school educator in a general education classroom in a public school in the state of New Jersey. Teacher A has dependents at home under the age of 12 and is a female. Teacher A's school closed on March 13, 2020 as a result of the COVID-19 pandemic and they believed that they would be returning to the classroom within the school year. Teacher A was allowed to bring home and pick-up resources throughout the school year from the school building as needed. Teacher A did not feel very prepared for the transition to remote learning, ranking themselves at a one or two

out of five for level of comfort. During this time of transition to online learning, the teacher facilitated student learning mostly by uploading and sending out materials online. Teacher A's school provided resources to students such as a computers as needed, but she did not feel that the resources were always enough. Throughout the end of the 2019-2020 school year, Teacher A collected student work, but didn't asses the work. To establish a routine, it took Teacher A from one to two weeks to adjust. Teacher A met virtually with their students two times a week (five times was also equally represented in the data), but shared new material every school day by uploading materials. Overall, Teacher A thought their students were handling the situation at about a three out of five.

Teacher A's class returned back to school for the 2020-2021 school year on September 8th in a hybrid format, but Teacher A did not have remote and in person students at once. Their district had a plan in place for this school year, but adjusted things as the current situation changed over time. Despite this planning and early adjustments, Teacher A assumes there will be more changes as the year continues. At the beginning of the 2020-2021 school year, Teacher A continued to upload materials to best reach their students. Teacher A chose the rank of three out of five regarding the modes of instruction being used and a three out of five for comfort with using technology to teach. Teacher A was not part of the district's decision about how to best teach students. Teacher A did receive professional development for how to use remote teaching tools to effectively instruct students. Teacher A's school had a policy in place in order to assess student progress in the 2020-2021 school year. Teacher A ranked their students at a four out of five for handling the situation, so they think that students are handling it better than at the end of the 2019-2020 school year. Teacher A ranked their feeling of safety for returning to the

classroom at a four and shared that the measures in place included mask wearing by students and teachers along with desk spacing. Teacher A feels that their comfort with the modes of teaching and personal health safety has affected their plan (rated 4 out of 5) to teach their class this year. Teacher A believes that there has been a large movement towards using more technology within their district. During this time, Teacher A feels that the teaching profession is being perceived by the public at a two out of five and they rank their feelings toward the profession as a three out of five.

To sum up, the data gathered through the two questionnaires offer evidence that the COVID-19 pandemic has impacted teaching and learning in primary grade classrooms and has altered the way that education professionals instruct their students. The pandemic has also pushed teachers to find new ways to connect with learners and engage them. Interestingly, initial research on student learning in this time suggests that the impacts have not been as profound as initially expected. According to the NWEA, in April 2020, as it became clear that school closures would be long term, it was predicted that students would start the 2020-2021 school year with only a 70% gain in reading and 50% gain in math when compared to a typical year. Despite those projections, MAP Growth Assessments, taken by 4.4 million students from grades three to eight, showed the reading levels of students were similar to the previous year's test takers and math scores were only behind by 5-10%. The authors of the NWEA report hypothesize that while COVID-19 has undoubtedly affected classroom learning, the hard work of educators and parents alike have kept most students on track for their learning goals. The data I gathered supports the idea that while teaching practices may have shifted in notable ways, students are still being put first and gaining knowledge in the classroom.

Limitations and Implications

Throughout this project, there were many limitations that need to be addressed in order to give the reader perspective on the information that was collected and it presented here. First, while circulating my first survey, I was much more successful in getting responses from the United States educators than the Australian and French educators. I hoped that through circulation of the form through my colleague in Australia and social media, that I would reach a larger array of Australian schools. Unfortunately, at the time the first form was dispersed, my contact's school was just getting back into the classroom, so they were overwhelmed with new adjustments and copious amounts of work — therefore, the survey did not see a lot of ground there. Furthermore, when reaching out to other Australian schools, I was told that I needed clearance from the Department of Education in Australia. Regrettably, they were not approving any new research activity at that point in time so that they could focus their time on aiding their students and staff through these unprecedented times. At the time of the release of the first survey, a lot of French schools were still closed in response to the pandemic, which caused a lack of participation as well. While I did receive responses from educators in 48 states, New Jersey, where Rider University is located, was overrepresented. The first form had responses from 75 participants residing in New Jersey with the next largest number being 29 in Minnesota and 26 in California. On the second form the majority was once again in New Jersey with 32 out of 153 participants and the next highest being eight from Texas. Therefore, responses on both forms are

majorly skewed to be from the US perspective and even more so, the New Jersey educator perspective. Even in the first form where more states were accessed, participants that shared their city and school name show that many participants in the same state work together or geographically close to one another. I suspect, therefore, that some of the commonalities seen in responses are due to a rather homogenous sample. For example, a large number of participants indicated the same school closing and school opening dates and this may reflect that the majority of participants reside in the same areas of the same states, so their districts tend to follow the same calendar for the school year.

Along with that, it is important to recognize that the majority of participants were reporting from public, general education classrooms. Therefore, there is a lack of information gathered from other types of schools and classrooms which may face different challenges. Also, at least on the second form, the participants were mostly female, and did not quite match the breakdown of male and female educators in the US. Finally, the response rate on the second survey was not as high as hoped. Just under 39% of responders to form one (393) answered form two (153). There are many different reasons that can explain the drop off between the first and second form. The first form was originally sent out during the summertime (June - July); therefore, participants, who were largely on summer break at the time, likely had more time to take on additional tasks such as filling out a survey. Meanwhile, the second form was distributed from late September to early November, which is a busy time of the school year, especially during this year of upheaval. Along with that, the first form was open to any educator who fit the specific criteria. The first form requested an email contact and then only those participants were asked to fill out the second form; therefore form two was an attempt to collect data from a

smaller pool of participants. It is possible that by the time survey two was sent, participant information changed, they accidentally shared a wrong email on the first form, or they simply did not want to share their feelings at the time. While all of these are probable possibilities, there are also numerous reasons that participants chose not to contribute to the second survey that cannot be guessed and come down to personal preference and circumstance.

One last limitation would be the changes that have occurred since I started my project in late May 2020 and completed it in December 2020. While I have tried to keep the most updated information throughout, there have been many changes surrounding things we know about SARS-CoV-2 and new findings will undoubtedly be revealed once this project has reached finality. For example, as I conclude this project, there are currently several vaccines that have been approved and are going to start being distributed to those marked as priority. That being said, as of December 14th, 2020 there have been over 70,829,855 confirmed COVID-19 cases with 1,605,091 deaths (World Health Organization). Schools and teaching have undoubtedly been disrupted and changed and will likely face ongoing challenges at least until the end of the 20-21 school year. There will be much more to learn and study about the effects of the COVID-19 pandemic on learning, teaching, and our systems of education. By conducting this research, I hope that I captured the thoughts of teachers and their role in the classroom in the initial phase and months later in the pandemic.

References

The Australian Education System (2016). Australian Education Technology. From https://www.austrade.gov.au/edtech/the-australian-education-system/

Boulos, M. N., & Geraghty, E. M. (2020). Geographical tracking and mapping of coronavirus disease COVID-19/severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) epidemic and associated events around the world: how 21st century GIS technologies are supporting the global fight against outbreaks and epidemics. International Journal of Health Geographics, 19(1), 1–12. https://athena.rider.edu:3270/10.1186/s12942-020-00202-8

Center for Disease Control (2019). 1918 Pandemic (H1N1 virus). From https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html

Commissioner, O. (2020, December 11). FDA Takes Key Action in Fight Against COVID-19 By Issuing Emergency Use Authorization for First COVID-19 Vaccine. From https://www.fda.gov/news-events/press-announcements/fda-takes-key-action-fight-against-covid-19-issuing-emergency-use-authorization-first-covid-19

Covid-19 vaccine: First person receives Pfizer jab in UK. (2020, December 08). From https://www.bbc.com/news/uk-55227325

Education: From disruption to recovery. (2020, September 08). Retrieved November 25, 2020, from https://en.unesco.org/covid19/educationresponse

Fulbright. Study in France: Understanding the French Education System. From https://fulbright-france.org/en/study-france/understanding-french-education-system

Gautier, M. (2020, May 12). Number of pupils in primary education France 2017. From https://www.statista.com/statistics/780836/workforce-students-education-first-degree-la-france/

Goldstein, D. (2020). Research Shows Students Falling Months Behind During Virus Disruptions. *The New York Times*.

Heffer, S. (2020). What the Spanish Flu Pandemic Teaches Us Today. New Statesman, 149 (5519), 36–39.

Herold, B. (2020, November 29). The Disparities in Remote Learning Under Coronavirus (in Charts). From https://www.edweek.org/technology/the-disparities-in-remote-learning-under-coronavirus-in-charts/2020/04

Higher Education Funding. (2018, December 27). From https://eacea.ec.europa.eu/national-policies/eurydice/france/higher-education-funding_en

Information for Pediatric Healthcare Providers. (n.d.). Center for Disease Control and Prevention. From https://www.cdc.gov/coronavirus/2019-ncov/hcp/pediatric-hcp.html

Jha, T., & Buckingham, J. (2015). Charter Schools, Free Schools, and School Autonomy: The prospects for innovative education models in Australia. Policy, vol. 31, no. 2.

LeDuc, J., W. & Barry A., M. (2004). SARS, the First Pandemic of the 21st Century. Emerging Infectious Diseases. doi: 10.3201/eid1011.040797_02

Lewis, H., D. (2018). The French Education System. Routledge Library. From https://books.google.com/books?id=sUhaDwAAQBAJ&lpg=PT7&ots=xSDsJwb8TP&dq=The%20French%20Education%20System&lr&pg=PP1#v=onepage&q=The%20French%20Education%20System&f=false

Lieberman, M. (2020, December 04). Zoom Use Skyrockets During Coronavirus Pandemic, Prompting Wave of Problems for Schools. From https://www.edweek.org/technology/zoom-use-skyrockets-during-coronavirus-pandemic-prompting-wave-of-problems-for-schools/2020/04

Magaziner, J. Education in France. (2018, December 17). From https://wenr.wes.org/2015/09/education-france

Ministrère de L'Europe et des affaires étrangères (2012). French Educational System. From https://www.diplomatie.gouv.fr/en/the-ministry-and-its-network/protocol/social-matters/article/french-educational-system

National Center for Education Statistics. https://nces.ed.gov/

National Report on Schooling in Australia 2013. (n.d.). From https://www.acara.edu.au/reporting/national-report-on-schooling-in-australia/national-report-on-schooling-in-australia-2013/schools-and-schooling/school-numbers

Official Site of The State of New Jersey. (2020). https://www.nj.gov/governor/news/news/562020/20200716a.shtml

Park, S. E. (2020). Epidemiology, virology, and clinical features of severe acute respiratory syndrome -coronavirus-2 (SARS-CoV-2; Coronavirus Disease-19). Korean Journal of Pediatrics, 63(4), 119–124. https://athena.rider.edu:3270/10.3345/cep.2020.00493

Qualls, N., A. Earn, DJ. D. Bootsma, MC., N., D. Glatman-Freedman, He., J., I. Cox, CM., L. Sugisaki, K., N. (1970, January 01). School practices to promote social distancing in K-12 schools: Review of influenza pandemic policies and practices. From https://link.springer.com/article/10.1186/s12889-018-5302-3

Sparks, S. (2020). How Is COVID-19 Affecting Children's Health? Education Week, 39(35), 10.

Tam, G., & El-Azar, D. (2020). 3 Ways the Coronavirus Pandamic Could Re-Shape Education. World Economic Forum. https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-is-reshaping-education-and-what-changes-might-be-here-to-stay/

Tate, E. (2020, December 01). Thanks to Teachers, Learning Loss This Year Was Not As Bad As Projected, NWEA Finds - EdSurge News. From https://www.edsurge.com/news/2020-11-30-thanks-to-teachers-learning-loss-this-year-was-not-as-bad-as-projected-nwea-finds?utm_campaign=site

Tezer, H., and Bedir Demirdag, T. (2020). Novel coronavirus disease (COVID-19) in children. Turkish Journal of Medical Sciences, 50(SI), 592–603. https://athena.rider.edu:3270/10.3906/sag-2004-174

Ujifusa, A. (2020, December 22). K-12 Schools Get $57 Billion in COVID-19 Deal; No Relief for State and Local Governments. From https://www.edweek.org/policy-politics/k-12-schools-get-57-billion-in-covid-19-deal-but-no-state-and-local-government-relief/2020/12

Viner, R. M., Russell, S. J., Croker, H., Packer, J., Ward, J., Stansfield, C., Mytton, O., Bonell, C., Booy, R. (2020). School closure and management practices during coronavirus outbreaks including COVID-19: A rapid systematic review. *The Lancet Child & Adolescent Health, 4*(5), 397-404. doi:10.1016/s2352-4642(20)30095-x

Wang, G., Zhang, Y., Zhao, J., Zhang, J., & Jiang, F. (2020). Mitigate the effects of home confinement on children during the COVID-19 outbreak. Lancet, 395(10228), 945–947. https://athena.rider.edu:3270/10.1016/S0140-6736(20)30547-X

World Health Organization. (2020). https://covid19.who.int/.

Yang, Y., Peng, F., Wang, R., Guan, K., Jiang, T., Xu, G., Sun, J., & Chang, C. (2020). The deadly coronaviruses: The 2003 SARS pandemic and the 2020 novel coronavirus epidemic in China. Journal of Autoimmunity, 109, N.PAG. https://athena.rider.edu:3270/10.1016/j.jaut.2020.102434

Yuanyuan Dong, Xi Mo, Yabin Hu, Xin Qi, Fan Jiang, Zhongyi Jiang, & Shilu Tong. (2020). Epidemiology of COVID-19 Among Children in China. Pediatrics, 145(6), 1–10. https://athena.rider.edu:3270/10.1542/peds.2020-0702

Appendix A

Google Form #1 Questions

1. Your email
2. Name
3. Grade you teach
4. Approximate age of students
5. Type of classroom
    a. General Education
    b. Special Education
    c. Other
6. Type of school you work in
    a. Public School
    b. Private School (not religiously affiliated)
    c. Religiously Affiliated School
    d. Special Services
    e. Other
7. Name of the school you work in
8. Timeline for your school year (when do you start and end?)
9. Country you work in (include State and City if applicable)

10. Do you have other people at home that require your attention? (Check all that apply)
    a. Newborn – 2 years old
    b. 3 years old - 5 years old
    c. 6 years old – 12 years old
    d. 13 years old – 14 years old
    e. 15 and older
    f. Person with disabilities
    g. Elderly person
    h. Other
11. When was your last day in the classroom (approximately)?
12. Did you think you would be returning to the classroom this year?
    a. Yes
    b. No
    c. Maybe
    d. Other
13. Explain.
14. Were you allowed to bring home resources or go pick them up at another time?
    a. Yes
    b. No
    c. Other
15. If so, elaborate.
16. How prepared did you feel for the transition to remote learning?

a. Likert scale from one (not prepared at all) to five (very prepared)

17. Why did you feel this way?
18. How did you facilitate student learning during the transition period? (Check all that apply)
    a. Print Materials (packets, worksheets, etc.)
    b. Live classes
    c. Recorded classes
    d. Online materials uploaded/sent out
    e. Email correspondence
    f. Other
19. What resources were students provided with by the school?
    a. Computer/Laptop (if needed)
    b. Wi-Fi (if needed)
    c. Writing utensils
    d. Textbooks
    e. Reading materials
    f. Worksheet packets
    g. Other
20. Did you feel that these resources were sufficient enough? Who provided these resources?
21. Since remote learning has started, student work continued to be collected.
    a. Yes
    b. No
    c. Sometimes

d. Other

22. Since remote learning has started, student work continued to be assessed.
    a. Yes
    b. No
    c. Sometimes
    d. Other
23. Estimate how many weeks into the change it took to establish a set routine.
    a. None, we never moved to remote learning
    b. None, I was prepared for the switch
    c. 1-2 weeks
    d. 3-4 weeks
    e. 5+ weeks
    f. We are still working to establish a regular routine
    g. Other
24. If you wish, please explain your established routine.
25. On average, how many days a week do you meet virtually with your students?
    a. Likert scale from zero (never) to five (5 days a week)
26. What happens if students do not attend?
27. On average, how many days a week do you share new material with your students? (Whether this is through live classes, email, materials mailed to their homes, or any other method)
    a. Likert scale from one (once a week) to five (every day)
28. How does this information reach your students? (Check all that apply)

a. Live class
b. Recorded videos
c. Uploaded material
d. Email
e. Paper materials mailed/handed out
f. Other

29. Now that there is an established routine for virtual learning, what is your school's policy about assessing student progress?
30. How do you think your students are handling the situation?
    a. Likert scale from one (not well) to 5 (very well)
31. Elaborate.

Appendix B

Google Form #2 Questions

1. Your name
2. Your gender
    a. Prefer not to say
    b. Male
    c. Female
    d. Other
3. When was your first day of school?
4. How is your school returning to learner?
    a. Completely remote
    b. Hybrid
    c. Completely in person
    d. Other
5. Explain your school's plan further

6. Has your district's plan for returning to learning changed over the past months?
    a. Yes, we have adjusted as things have changed
    b. No, we made an initial decision and stuck to it
7. Explain any adjustments that were made and why.
8. Do you, personally, anticipate further changes to the plan as the year continues?
    a. Yes
    b. No
    c. Other
9. How many students, in total, are in your class? (Complete class roster number)
10. Are you teaching students in your classroom and students who are remote at the same time?
    a. Yes
    b. No
11. Elaborate on the structure of your teaching day (your answer to #10).
12. If your students are at least partially remote, what mode(s) of instruction are you using to teach your students? (Select all that apply)
    a. Print Materials (Packets/Worksheets etc.)
    b. Live whole class lessons
    c. Live small group lessons
    d. Recorded lessons
    e. Online materials uploaded/sent out
    f. Email correspondence

g. Livestream (teaching some students who are remote and some that are in the classroom)

h. Other

13. If you wish, elaborate upon the mode(s) of instruction you are implementing in your classroom.

14. How do you feel about the modes of instruction being used this year?

    a. Likert scale from one (not effective) to five (very effective)

15. If you are in an online/hybrid situation for this year, how comfortable do you feel conveying information to your students via the accessible technology?

    a. Likert scale from one (not comfortable at all) to five (very comfortable)

16. Were you part of the decision process for deciding the modes of instruction?

    a. Yes, I had the opportunity to choose how my classroom was run

    b. No, my district decided for me

    c. Somewhat — I worked alongside my district to make decisions

    d. Other

17. Elaborate on your involvement level of deciding the modes of instruction to be used in your classroom.

18. Which of the following were you given professional development for? Check all that apply.

    a. Virtual/Remote teaching

    b. Remote teaching platforms: Zoom, Google Classroom, etc.

    c. How to livestream a class

d. Correspondence with parents during a major health crisis

e. Guidelines and rules for engaging virtually with students

f. Guidelines and procedures for in person health and safety

19. Does your school have a policy in place for assessing student progress?

a. Yes

b. No

20. If yes, explain further.

21. How do you think your students are handling the return to learning?

a. Likert scale from one (not well) to five (very well)

22. Elaborate.

23. If you are in person for any amount of time this year, how safe do you feel returning to the classroom with colleagues and students?

a. Likert scale from one (very unsafe) to five (very safe)

24. Please explain the sanitation plan for your classroom if you are going to have students present in your classroom.

25. What safety measures are being used in your classroom? (Check all that apply)

a. Masks (teachers)

b. Masks (students)

c. Desk spacing

d. Face shields (teachers)

e. Partitions

f. Other

26. Do you feel that your comfort with the modes of teaching and your personal health safety affected how you plan to teach your class?
    a. Likert scale from one (not at all) to five (very much)
27. If you wish, please elaborate on your response to #26.
28. If you have caregiving responsibilities at home, what categories do those individuals fall within? (Check all that apply)
    a. Newborn – 2 years
    b. 3 years old – 5 years old
    c. 6 years old – 12 years old
    d. 13 years old – 14 years old
    e. 15 and older
    f. Person with disabilities
    g. Elderly person
    h. Other
29. If you are responsible for caregiving, has the pandemic affected your care-giving situation?
    a. Yes
    b. No
30. If you are responsible for caregiving, elaborate on your answer to #29.
31. Do you think your care-taking responsibilities at home are affecting your teaching?
    a. Yes
    b. No

c. Somewhat

32. What changes within your district have you witnessed due to the Coronavirus? Check all that apply.
    a. Move towards using more technology
    b. More awareness of resource disparities (among students)
    c. More awareness of resource disparities (among districts)
    d. Move involvement of family in schoolwork
    e. More students moving to other schools (charter, private, etc.)
    f. More difficult transition to the next grade level
    g. Other
33. How do you feel the teaching profession is being perceived by the public during this time period?
    a. Likert scale from one (very negative) to five (very positive)
34. How are you feeling about the teaching profession during this time period?
    a. Likert scale form one (very negative) to five (very positive)
35. Do you want to receive a copy of the data results?
    a. Yes
    b. No
36. Your email address to receive results