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Mississippi's K-12 Public Education Response to the COVID-19 Pandemic: From Remote Learning to Recovery and Beyond

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Abstract

This statewide study used survey research conducted with stakeholders to document how Mississippi's K-12 educational system responded to the unpredicted need for alternative educational models during the COVID-19 pandemic emergency response. The voices of superintendents, special education directors, K-12 principals, general education teachers, and special educators represented by this study help to illuminate what worked for Mississippi in providing emergency online instruction, as well as what was considered ineffective for many. The extended nature of the pandemic also served to separate challenges that were solvable from those that still need solutions. Stakeholders provided feedback on the quality of different learning management systems and identified online tools and resources as well as organizational approaches and learning scaffolds that proved effective for their students at the primary, middle, and high school levels. While asynchronous online models were perceived as generally ineffective, reactions were mixed for hybrid models containing both online and in-person instructional components. Synchronous online models were considered a viable model for use, but in-person learning was still rated as most effective by the majority. The most effective communication channels for reaching families and students served were found to vary between the district, school, and classroom levels. Lack of internet access was identified as a pervasive barrier to effective implementation of learning models throughout the state. Concerns related to student and teacher social emotional wellbeing, supporting special student populations, and chronic student absenteeism and low engagement were artifacts of emergency online learning that also remain to be solved.

Executive Summary

The Pandemic Problem

In early 2020, Mississippi schools were faced with an unprecedented public health emergency as the COVID-19 pandemic arrived in the state. District superintendents were faced with epic decisions related to how long their school buildings could safely remain open, followed by dilemmas regarding how students could possibly continue learning if the academic year hadn't finished yet. As the pandemic wore on, administrators in every Mississippi school district were consumed with questions surrounding how to start a new school year in the midst of the ongoing global emergency. Special education directors and the special education teachers in the schools needed to figure out how they were going to ensure that K-12 students were getting the necessary educational and related services to which they were entitled when the opportunity for face-to-face contact was not guaranteed. Principals reached out to the families of all their students to ensure that every K-12 student had the means to participate in some form of learning as the new school year began, and then focused on ensuring their school would have adequate equipment, staffing, and training to be able to provide quality online instruction. Teachers were urgently tasked with upgrading their skill sets in a multitude of directions: implementing classroom health and safety protocols for in-person learning, combining a learning management system with a host of digital, audio, and visual resources to provide online instruction, and mastering new communication channels to reach and stay connected with the families of their students, with whom they might never get to meet in-person.

Mississippi's Response

Somehow, Mississippi's educators managed to find solutions and make all of this happen. As the pandemic still raged, the state's K-12 public school districts, special state schools, and charter schools were resolute in starting the 2020-2021 school year as planned. A mixture of on-site and remote instruction supported by a combination of leadership, emergency funding, and community partnerships ensured that teaching and learning was happening in schools across the state. The efforts of Mississippi's educational stakeholders were collaborative, innovative, and responsive, but at times they were also daunting, somewhat frustrating, and generally exhausting. Yet, throughout the emergency there remained a constant—the teachers continued to teach, and the students continued to learn.

What had made all this possible? The details and decisions behind this remarkable feat needed to be captured so that future emergencies could be met with the same level of determination and resolve, but with a much lower level of worry, stress, and uncertainty. In January 2021, funding for a statewide research study was provided through a grant from the Governor's Emergency Educational Response Fund. A team of educational researchers from Mississippi State University designed and conducted a series of phone and web-based surveys to be used with different educational stakeholders. Surveys and follow-up focus groups were conducted from March 2021 through August 2021 and reflect the efforts taken during the 2019-2020 and 2020-21 academic school years. The statewide superintendent's survey focused on exploring the district-level factors involved in responding to the pandemic, particularly related to providing emergency

online learning to help identify what worked best for Mississippi. The statewide special education director's survey was primarily concerned with how emergency online learning impacted special education, particularly in how Mississippi school districts were able to respond to the pandemic in ways that allowed special education services to continue. The statewide K-12 school principal's survey focused on the school-level factors involved in responding to the pandemic, particularly related to providing emergency online learning that could meet the needs of all students as well as supporting staff who were teaching online. Finally, the statewide K-12 teacher's survey sought to hear from general education and special education teachers across primary, middle, and high school grades regarding the multivariate impacts that a sudden shift to online teaching and learning had on their planning, instruction, assessment, and communications, as well as the overall wellbeing of Mississippi's students and teachers. Altogether, responses were gathered from 50 district superintendents, 23 special education directors, 62 school principals, and 801 general education and special education teachers, representing all four Congressional districts at each level. This executive summary provides a general overview of some of the most notable findings from this statewide study, with much more detail and depth provided in the full report. Furthermore, a series of research briefs and an online repository were also funded through this grant, and information about how to access these free resources is provided as well.

What Works for Mississippi, What Doesn't?

The statewide study centered on five key aspects of how Mississippi dealt with emergency online teaching and learning: finances and resources, instructional delivery models, special student populations, communication efforts, and unresolved challenges.

Finances and Resources

Health and safety took precedence over finances when making decisions, according to district superintendents. Two-thirds reported re-allocating funding to make things work, which one-fourth of superintendents classified as *quite complicated*. More than half of all superintendents said they had applied for additional funding, and almost unanimously some portion of the funds was earmarked for online learning. Applying for initial additional funding was generally considered *not that complicated* but requesting additional funding further into the pandemic was rated *somewhat complicated* by more than half of all superintendents. Local school boards and school staff were the strongest influences related to a superintendent's financial decision-making, with school staff being heavily involved in making recommendations and school boards being seen as a primary source of support. At the state level, Mississippi Department of Education was viewed as a good source of financial recommendations and almost all superintendents said they also turned to their peers in other school districts for recommendations. One-third of superintendents said that receiving special funds during the emergency was *slower* to *much slower* than the wait time for normal funding disbursements, indicating this was an area in which Mississippi could improve. On a positive note, special education directors did not view financial issues as having prevented their school district from offering online special education services. Furthermore, more than half of the directors said their school district had received at least one form of support for online learning from a community partner. This same finding was echoed by the K-12 principals. Community partnerships that bolstered district resources were also

highlighted by superintendents, with about one-fourth of them reporting donations of technology equipment and approximately half of the districts identifying donations of internet access though wireless hotspots. Donations of internet access by their community partners was reported by more than half of K-12 principals as well.

Instructional Delivery Models

At the onset of the pandemic, the most common effort toward continued student learning was providing pre-printed learning packets for the student to complete at home, and possibly return them to the school. High schools were more likely that primary or middle grades to also attempt to hold some online learning through synchronous sessions with the classroom teacher. At the start of the 2021 school year, districts considered additional possible instructional models including both synchronous and asynchronous online learning options. Almost all of the surveyed superintendents reported offering at least one form of an online delivery model, with 80% attempting a hybrid blend of online learning and in-person instruction. As the school year continued, the use of pre-printed packets and asynchronous online learning dropped dramatically, as these methods were generally viewed as less effective by all stakeholders. Use of the hybrid model across the state steadily decreased as the year went on, although the reasons for this were uncertain. Superintendents rated the purely online instructional model as having been more successful for their district than the hybrid model, but not all stakeholders held the same views. Many special education directors preferred the hybrid version to purely online models due to easier implementation and less negative impact on their students' social-emotional health. Most K-12 principals and teachers also felt that the hybrid model was superior due to the elements of teacher-student interaction they saw as vital to student mental health, and the more successful communication patterns with families using a hybrid model versus those in the online-only model. Despite divergent views on the hybrid model, every surveyed group still rated in-person learning as the superior learning option for their students. when compared to any version of online instruction they had used in their schools.

Of course, during a health emergency it was not possible for all Mississippi students to attend school in person, even if the option was available through their school. While most K-12 teachers said they had little to no control over being assigned to teach online, some were involved in selecting an LMS and many were involved in identifying high-quality instructional resources, both of which are presented in more detail in the full report. Both general and special education teachers incorporated multiple organizational scaffolds and learning supports into the online learning environment, which they also attributed to improving their student's achievement. They experimented with numerous approaches to providing feedback in online contexts and adapted their assessment and grading procedures to maximum student outcomes, most notably though the use of flexible due dates and allowing resubmissions of previously completed work. Although there were many findings related to what did work for different grade levels and student populations, which are shared in much greater detail in the full report, an important finding of what did not work was related to student well-being. K-12 principals, special education directors, general education teachers and special education teachers all agreed that online learning under extended emergency circumstances had made a negative impact on the social-emotional health of their students. They believed that students who had participated in-person learning either full-time or through the hybrid model had benefitted from the teacher-

student interactions that supported their mental health, while those in the 100% online model had not been able to experience this and were most negatively affected. At the high school level, teachers also observed that students using online learning expressed more confusion over what they should do following graduation. Special education teachers attempting to provide transition services to those high school students with IEPs about to graduate expressed frustration at the lack of effectiveness with online delivery, likely amplifying those feelings of confusion further.

Special Student Populations

While special education directors reported finding solutions for some of the issues surrounding online special education services, both they and their special education teachers were dissatisfied with online progress monitoring and attempts to provide transition planning online, generally rating them as *not that effective*. Approximately half of these educators also assigned the highest negative rating of *very difficult* to providing related services (speech, physical, and occupational therapy). However, special education directors and K-12 teachers had very positive feelings toward the outcomes from holding virtual IEP meetings.

More than half of K-12 teachers said they received no additional support to help them teach their online EL learners, and only 14% had participated in any professional development related to the topic. Both principals and district superintendents said that online learning had been less effective in serving English language learners and saw a need for more resources and training. In looking for what worked on their own, K-12 teachers reported that the most helpful accommodation for their EL learners had been translation software or tools. Other successful efforts included using videos and additional visuals, using synchronous online instruction with a single student, coordinating with the EL teacher, and contacting families to learn more about their child.

Communication Efforts

Educators at every level experimented with many different communication methods during the extended emergency. The average superintendent in the statewide study was using a combination of six different communication methods in attempts to reach their constituents. Commonly used methods included social media, automated voice calls, automated text messaging services, mass emails, postal mail, video calls, newspaper and radio announcements, announcements through the LMS, printed newsletters, individual visits from social workers or truancy officers, and home visits. Of these, social media posts and text messages were viewed as the most productive methods for reaching students and their families. For special education directors, use of social media, automated voice calls, and school website postings were essentially unanimous, with text-messaging services and emails not far behind. Similar to their superintendents, these directors most commonly found social media posts and text messages to be the most effective. The story was different at the school level, however. The average K-12 principal in this study was using a combination of seven different communication methods to keep their school community informed, with announcements through the school's LMS and on the school website being used universally. Approximately 90% or more principals also reported utilizing a text message service, social media posts, automated voice calls, and emails to families, and about three-fourths of principals also sent out postal mail. Using the communication tools inside their LMS and

posting on social media received the highest number of votes from principals for being the most effective methods. About half of all principals said that communicating with families using a 100% online instructional model was *much more difficult.* K-12 teachers were primarily focused on communicating with students and families and used an average of three different methods, although those methods varied depending on the grade levels in which they worked. Primary grades and middle grades teachers preferred text messages, emails, and voice calls, in that order, to successfully reach the families of their students. High school teachers found the most success when using emails through the LMS and automated text messages to reach their students directly.

Regarding incoming communications, superintendents shared they found state-level information channels to be the most useful in helping them navigate the pandemic circumstances, but information was not always shared as consistently as they felt was needed. They saw local-level information channels as flowing more consistently, but not always carrying the most useful information. At the school level, K-12 teachers who wrote positive comments about their administration's efforts to directly communicate with them about emergency measures were much less likely to report that the pandemic had a strong negative effect on their own emotional well-being, than teachers who felt that their administration's communication efforts had been lacking.

Unresolved Challenges

Education stakeholders at every level stated that lack of internet access was a persistent challenge that remained a critical barrier to online learning, even with the temporary donations of wireless internet access by community partners. Superintendents said it impacted which instructional delivery models their school district was able to offer as part of the return to school for their students. Special education directors said it reduced the ability to provide required special education and related services to students who needed them when their families did not have the capability to access them remotely. Principals reaffirmed lack of internet access was highly problematic and also raised issues of online student absenteeism and the difficulties that many families had in successfully adopting and using online learning models, both of which would be obvious likely outcomes for students of families with only limited or intermittent internet access. Even K-12 teachers felt the effects, as lack of access in their own homes made it more difficult for them to prepare for effective instruction during the school day.

Approximately half of surveyed superintendents viewed sufficient professional development for their teachers and staff to be an ongoing challenge, a concern which was cited in tandem with a lack of adequate staffing for online instruction. This sense of having insufficient training to provide effective online instruction was also felt by many K-12 teachers, who said they wanted more training on how to keep students engaged during online instruction. Connected to student engagement, principals identified low student attendance in online learning as their largest unresolved challenge.

Serving special student populations, including students struggling academically, English language learners, and students with IEP's was also a huge concern for school principals and was identified as still unresolved by multiple stakeholders. Despite their best efforts, the majority of

K-12 teachers reported that approximately half of the students in their class struggled with the academic content specifically because it was delivered online. These struggling students were reported by teachers at the primary, middle, and high school levels, and the issue was further complicated when the student was an EL learner or had an IEP. While Mississippi Department of Education has since added a guidance document for teaching online with English language learners and some resources to its website, extensive dissemination and subsequent understanding of these materials is still needed. For special education, the finding that most paraprofessionals were not included in professional development efforts related to online learning is problematic given that many were ultimately called upon to support students using online instructional models through helping to prepare learning materials and/or providing supplementary instruction alongside the certified special education teacher.

Finally, creating successful family-school partnerships for online learning took place on a steep learning curve for all parties involved, and knowledge of what works still needs to be sought. Almost unanimously, special education directors noted a lack in parents' ability to help facilitate a virtual learning environment, which in turn created significant challenges for service delivery. This was also identified as an ongoing issue by principals and teachers, who recognized that families with children in an online learning model required more communication effort, were harder to reach overall, and exhibited more difficulties trying to support their children with schoolwork than those families whose children used in-person learning.

Future Emergencies

Historically, pandemics are once-in-a-lifetime events and the extended building closures that Mississippi schools endured from 2019-2021 are unlikely to become a recurring phenomenon. While nothing in the future is certain, one important outcome of these experiences has been the recognition that the use of online learning in an emergency situation is a viable response for K-12 schools. While not ideal when compared to in-person learning, online learning does provide a means and methodology for ensuring that Mississippi's children benefit from the uninterrupted learning that leads to higher student achievement. Thus, every educational stakeholder has an important role they can play to help prepare the state so that future emergencies do not impede future learning.

Above all, Mississippi public policymakers need to make comprehensive internet connectivity a priority for the state. Just as they did during the COVID-19 emergency, policymakers should continue to have a simple and expedient funding process for school districts who experience an emergency that carries financial impacts. State level educational decisionmakers should also do their part to ensure that approvals for fund re-allocations and applications for additional funding are not complicated. At the state level, decisionmakers can also help by further refining a clear top-down emergency communication plan, promoting online learning resources for serving special student populations, and perhaps most importantly, exploring potential solutions to the chronic issue of student absenteeism in the online learning environment. Within Mississippi's individual school districts, administrators should further strengthen their emergency communication plans, use synchronous learning models where possible, and provide advance training to teachers, students, and families on a manageable set of online resources so that relying on them in emergency circumstance is not overly difficult. All of Mississippi's K-12

certified teachers and paraprofessionals should be proactive and take advantage of professional development opportunities related to synchronous online instruction. It is also important for teachers to avoid providing more than one type of instruction to different sets of students simultaneously, have opportunities to explicitly address student wellbeing, focus on the most effective methods for remote family communication, and to be clear in asking for support from their school administrators and community partners. In addition, stakeholders at every level should continue to build mutually beneficial community partnerships that can be leveraged to support online learning in an emergency.

Many additional findings from this statewide study as well as more detailed information regarding how the study itself was designed and conducted are explained in the full version of the report. Although gathering the voices of many different educational stakeholders did produce a clearer understanding of what worked for Mississippi during the COVID-19 pandemic, 2019-2021, it is important for all stakeholders to keep in mind that individual schools and districts will always need some level of autonomy to make the best decisions for the communities they serve. Being responsive to the needs of all K-12 students, teachers, administrators, and policy leaders who make decisions at the classroom, school, district, and state levels remains the key to making Mississippi's educational system robust, even in the face of an unpredictable emergency.

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Glossary of Terms

Asynchronous online instruction: Instructional model that is not dependent on real-time interaction with the teacher, instead allowing participants to access the same course content independently at different times and from different locations.

Automated voice calls: Calls scheduled in advance that relay a pre-recorded voice message to the receiver.

Automated text-messaging service: Software that provides the capabilities for sending pre-scheduled text messages to one or more recipients on a particular day and time.

Biology Corner: An online educational resource containing lessons, quizzes, labs, web quests, and information on science topics, available at https://www.biologycorner.com/.

Bioman Biology: An online resource containing learning games, review games, virtual labs and quizzes about cells, ecology, genetics, physiology, and other science topics, available at https://biomanbio.com/.

Blooket: A learning platform and formative assessment tool that combines quiz-style questions and answers with skill games, available at https://www.blooket.com/.

Canvas: A learning management system (LMS) to access and manage online course learning materials and communicate about skill development and learning achievement, available at https://learn.canvas.net/login/canvas.

Charter school: A school that receives government funding but operates independently of the established state school system in which it is located.

CommonLit: An online collection of more than 2,000 high-quality free reading passages for grades 3-12, available at https://www.commonlit.org/.

Congressional Regions in MS: Mississippi is divided into four congressional districts, each represented by a member of the United States House of Representatives.

Cooperative education: a structured method of combining classroom-based education with practical work experience

Desmos: A no-cost graphing and teaching tool for a variety of math concepts, available at https://www.desmos.com/.

Distance learning: instructional model which uses an online learning environment without the student needing to come to the school building.

EdPuzzle: An online formative assessment tool that allows teachers to assign videos for homework and encourage asynchronous communication, available at https://edpuzzle.com/.

Edulastic: A web-based platform designed to help teachers assess and monitor students as they work toward mastery of standards, available at https://edulastic.com/.

English language learner: Students who are not yet able to communicate fluently or learn effectively in English, who often come from non-English speaking homes and background, and who typically require specialized or modified instruction in both the English language and their academic courses.

Explore Learning (Gizmos): Interactive virtual labs and simulations in math and science for grades 3-12, available at https://gizmos.explorelearning.com/.

Flipgrid: An online resource that allows teachers to facilitate student-driven video discussions, available at https://info.flipgrid.com/.

Flocabulary: An online learning program for all grades that uses educational hip-hop music to engage across the curriculum, available at https://www.flocabulary.com/.

Generation Genius: An online resource that teaching K-8th grade science standards through videos paired with lesson plans, activities, quizzes, and reading material, available at https://www.generationgenius.com/.

Google Classroom: A learning management system capable of integrating G Suite for Education with other Google products such as Docs, Gmail, and Calendar, available at https://edu.google.com/intl/en/workspace-for-education/classroom/.

High School: Upper years of school identified in this study as 9th grade through 12th grade.

Hybrid instructional model: A model that combines various amounts of in-person instruction with some form of distance learning to allow social distancing and yet provide benefits of face-to-face interaction.

In-person instructional model (traditional model): Teachers and students are physically in the classroom for all instructional time.

Individual Education Program (IEP): Plan or program developed to ensure that a child with an identified disability who is attending an elementary or secondary educational institution receives specialized instruction and related services.

i-Ready: A subscription-based online program providing personalized learning and progress monitoring in reading and mathematics, available at https://www.curriculumassociates.com/.

IXL: A subscription-based online program providing personalized learning for K-12 curriculum with individualized guidance and real-time analytics, available at https://www.ixl.com/.

Kahoot: A game-based learning platform for creating, sharing, and playing learning games or trivia quizzes during synchronous instruction, available at https://kahoot.com/.

Khan Academy: Free educational website offering a comprehensive library of exercises, instructional videos, and a personalized learning dashboard that supports asynchronous online learning, available at https://www.khanacademy.org/.

Learning Management System (LMS): Software application or web-based technology used to plan, implement, and assess a specific learning process.

Mass email: Single email that is sent to a large group of people.

Middle grades: Middle years of school identified in this study as 4th grade through 8th grade.

Nearpod: An interactive online tool to engage students using polls, collaboration boards, and game-based quizzes, available at https://nearpod.com/.

News2You: A subscription-based weekly online newspaper that provides varied reading levels for K-12 students, available at https://www.n2y.com/news2you/.

Newsela: An instructional content tool that allows teachers to find articles with appropriate reading levels for their students available at https://newsela.com/.

Occupational therapist: Professionally trained and licensed provider of special education services related to supporting students' mastery of everyday activities to improve quality of life.

Online instructional model: A model of teaching and learning that uses the internet to connect students remotely for instructional purposes.

Paraprofessional staff: Teaching support staff who do not hold teaching certification, instead handling tasks in support of the certified special education or general education teachers with whom they work.

Personal protection equipment: Specialized clothing or equipment worn by teachers, school staff, and students for protection during the COVID-19 pandemic.

Physical therapist: Professionally trained and licensed provider of special education services related to students' physical movements that improve quality of life through prescribed exercise, hands-on care, and education.

Postal mail: Printed materials such as letters, newsletters, or report cards sent or delivered by the postal service.

Pre-printed, self-study learning packets: A collection of printed materials curated in advance by the classroom teacher and then provided to the students for practice and mastery of assigned course material without further assistance from the teacher.

Primary grades: Early years of school identified in this study as kindergarten, first grade, second grade, and third grade.

Qualtrics: An online tool for building, distributing, and analyzing surveys, available at https://www.qualtrics.com/.

Quizziz: A online tool for creating quiz-based learning that supports asynchronous use, available at https://quizizz.com/.

Readworks: An online resource of reading passages and lesson plans for K-12 students available at https://www.readworks.org/.

Remind: A free, safe messaging app that keeps families up to date with what is happening in the classroom available at https://www.remind.com/.

School district: Unit for administration of a public-school system, in rural areas a single district may be comprised of several neighboring towns or subsections of a county.

Self-paced instruction: An instructional approach that allows students to complete a set of learning objectives, assignments, and/or assessments according to a flexible timeline with periodic guidance and feedback from the teacher.

Scholastic News: High-interest informational texts, standards-based lesson plans, videos, games, text-to-Speech, and multiple reading levels, available at https://scholasticnews.scholastic.com/.

Schoology: A learning management system providing administration of online instructional content, formative and summative assessment, student attendance, and communication tools, available at https://www.powerschool.com/solutions/unified-classroom/schoology-learning/.

Social distancing: Term applied to specific actions that are recommended or implemented by public health officials to create physical distance between people to stop or slow down the spread of highly contagious diseases.

Social media: The means of interactions among people in which they create, share, and exchange information and ideas in virtual communities and networks.

Special education services: Services that seek to improve the education experience for children with disabilities and that follow federal and state governmental rules and regulations.

Special state school: Those schools that provide an education for children with a special educational need such as a disability or gifted and talented.

Speech therapist: Professionally trained and licensed provider of language services to individuals with delays or disorders related to human communication.

Stakeholder: Person or with an interest or concern in something.

StemScopes: An online resource that houses a digital textbook called STEMScopedia along with learning activities for students organized by state standards, available at https://www.stemscopes.com/.

Synchronous online instruction: An instructional approach in which the teacher and students in the course engage with the course content and each other at the same time via online formats.

Transition services: Activities that prepare students with disabilities to move from school to post-school life.

USA TestPrep: An online learning platform aligned to each state's specific standards available at https://www.usatestprep.com/.

YouTube: Free video sharing website that makes it easy to watch, create, and share online videos.

Video calls: Audio call that also includes a camera and a screen, allowing the participants to see each other as they talk.

Well-being: State of being emotionally healthy or happy.

Wi-fi hotspots: Physical places where users can wirelessly connect their mobile devices, such as smartphones and tablets, to the internet.

Superintendent's Survey

Overview

As the highest-ranking representative of their school district, superintendents are uniquely positioned in their view of the overall educational needs of their district, as well as how a comprehensive plan can best be developed in response to those needs. Superintendents are also keenly aware of their school district's strengths, assets, and relationships with community stakeholders as they relate to meeting the needs of all students. As such, when the pandemic forced school building closures and alternative methods of instructional delivery, these administrators had to make critical decisions under great pressure and within a very short period of time. The purpose of the statewide superintendent's survey was to explore the district-level factors involved in responding to the pandemic, particularly related to providing emergency online learning to help identify what worked best for Mississippi.

Survey Development

The statewide Superintendents Survey was originally designed as a phone survey containing 30 questions estimated to take approximately 20 minutes to answer. Respondents could choose to skip any question and continue with the remainder of the survey. The content of the superintendent survey was developed by the research team at Mississippi State University and reviewed by an expert panel comprised of individuals with previous experience serving in a superintendent role for one or more Mississippi school districts. In response to requests from current superintendents who, when contacted, were unable to participate over the phone, this survey was later translated to a web-based format. Except for minor changes in grammar when asking the respondent for a spoken versus a written response, both survey versions were identical. A full version of the Superintendent Survey is viewable in **Appendix A**.

Data Collection

In February 2021, an initial email notice was sent to **153** school district superintendents, special state school superintendents, and charter school executive directors, informing them of plans to contact them for the upcoming survey, the goals of the research study, the grant through which it was funded, and a phone number to call with any questions prior to being contacted. The phone survey was initiated a week later by personnel at the National Strategic Planning and Analysis Research Center (nSPARC) at Mississippi State University. Phone calls to the district office were made Monday-Friday between 8:00 a.m.- 5:00 p.m. with follow-up phone calls made later in the same week in response to a no answer, busy signal, answering service, or by request from an individual answering the phone. When possible, a voice message was left explaining the purpose of the call and informing the superintendent that a follow-up phone call would be made. Phone call appointments were also scheduled whenever requested by a superintendent or their district personnel. All district offices were called a minimum of three times in an attempt to reach the superintendent. The full phone survey period ran from March 1- March 17, 2021 and during this time, 38 district administrators completed the full survey. Next, the web-based

version of the same survey was deployed through Qualtrics by the John C. Stennis Institute of Government and Community Development at Mississippi State University from May 4-June 4, 2021. Superintendents who had not been able to complete the phone survey were sent three waves of email invitations to participate in the web-based version resulting in 12 additional district administrators completing the full survey.

In total, the survey data gathered from this sample of 50 district-level administrators **represents approximately 34% of the total population of 146 Mississippi public school districts, special state schools, and/or charter schools** as identified on the Mississippi Department of Education website (Mississippi Department of Education, 2021a). Additionally, each Congressional Region of Mississippi was represented in this study with 26% of the administrators who completed the superintendent survey overseeing a Region 1 school district, 32% of administrators overseeing a Region 2 school district, 24% of administrators overseeing a Region 3 school district, and 18% of administrators overseeing in a Region 4 district.

District-Level Administration Demographics

Within this group, 86% self-identified as the school district superintendent with the remainder describing their position as interim superintendent (6%), assistant superintendent (4%), or executive director (4%). According to their reported hire dates, 86% of the district administrators in this survey held their current positions prior to the widespread school building shutdowns induced by the COVID-19 pandemic in Spring 2020. Across all respondents, the average length of service reported in their current position was 5 years with a minimum of zero years and a maximum of 20 years' service.

Emergency Response Instructional Delivery Models

During the COVID-19 pandemic, K-12 schools faced decisions regarding how to continue teaching and learning while keeping faculty, staff, and students safe during a public health emergency that was fast moving and not well understood. Many school districts opted to cancel face-to-face classes and other learning experiences providing their coursework remotely including multiple online options. Moving instruction to remote and/or online learning can enable flexibility, but the speed with which schools moved to remote instruction was unprecedented and staggering.

2019-2020 School Year

In Spring 2020, when many school districts across Mississippi were suddenly forced to contemplate extended school building facilities closures, 90% of district-level administrators reported their schools began providing self-paced instruction to be completed at home using pre-printed learning packets, while 46% experimented with transitioning to provide students with some amount of real-time online instruction with their classroom teachers, and 43% provided students with self-paced instruction to be completed from home using online tools and/or websites independent of the teacher websites.

Preparing for Following School Year

At the conclusion of the 2019-2020 school year, the Mississippi Department of Education tasked all school districts with preparing and reporting comprehensive plans for successful school re-openings in time for the 2020-2021 academic year. Reports were filed with MDE by 146 Mississippi school districts, special state schools, and/or charter schools and made available on the MDE website for public viewing (Mississippi Department of Education, 2021b). A compilation analysis of all 146 reports for the purposes of this statewide report indicated that 55% of school districts, special state schools, and/or charter schools were planning to offer traditional instructional delivery within their school buildings, 51% planned to use a hybrid model of some in-person instruction and some online learning, and 77% planned to offer some form of online instruction.

Beginning of 2020-2021 School Year

When the Fall 2020 school year arrived however, 94% of survey respondents reported offering at least one online component as part of their overall instructional delivery model when their schools reopened, a much higher percentage than projected in the MDE filings. Additionally, 80% of survey respondents reported offering a hybrid model of some in-person instruction and some online learning, again considerably higher than the 52% that had shared this intention over the summer. The reported use of pre-printed, self-study packets had dropped from a high of 92% in Spring 2020 to 60% in Fall 2020, while self-paced instruction with online resources had risen to 62%, and online instruction in real-time with classroom teachers was now being offered by 72% of these districts.

Changes During 2020-2021 School Year

According to respondents, instructional delivery models continued to go through adjustments during the 2020-2021 academic year. By Spring 2021, self-study packet distribution was still being reported in 32% of the districts. Another large change seen was the use of a hybrid instructional model, as only 50% of districts reported they had continued its use. Instead, reports of online instruction in real-time with classroom teachers rose to 80% while in-person learning held steady at 92% of districts.

Decision-Making Factors

When asked to identify the primary reasons for choosing their current instructional delivery models, *health and safety concerns* was the most common answer (52%), followed by *available physical resources* (23%), *available financial resources* (7%), *local and state mandates* (5%), *staffing concerns* (2%), and *multiple factors/unable to choose* (11%). Six administrators declined to answer the question.

Delivery Model Effectiveness

Finally, superintendents were asked to evaluate in retrospect how successful they believed the instructional delivery models implemented in their own school district during the pandemic had been. Using a scale from 1 (not at all successful) to 5 (highly successful), in-person learning was viewed as the most successful model (M=4, n=49) followed by synchronous online instruction led by a classroom teacher (M=3, n=42) and a hybrid blend of online and in-person (M=3, n=36).

However, the 100% asynchronous online model, where students did not receive regular real-time instruction from a classroom teacher, received an overall negative rating in terms of success (M=2, n=41).

Continuity of Additional Education Services

In addition to instructional delivery, survey respondents were asked about the use of online technology to meet other educational efforts such as college and career planning at the middle and high school levels, special education services, and English language learner supports.

According to superintendents, **guidance counselor** appointments at the middle and high school levels were being offered online via teleconferencing by 25% of respondents while the remaining 75% offered only in-person services. High school **cooperative education experiences** were somewhat affected with 11% of respondents reporting they had not been able to offer them that year due to the pandemic. However, 50% of superintendents said that their schools had still been able to offer some cooperative education opportunities by using a modified format such as virtual online experiences or a more limited number of physical placements while 39% continued to offer them in the same way as years past.

In 90% of the districts surveyed (n=45), **special education services** were offered online, although not without hurdles. The biggest challenge was in implementing effective online delivery models for special education rated *difficult to extremely difficult* by 47% of the respondents. In addition, 33% said having enough special education staff to deliver the services was *difficult to extremely difficult* while 27% identified communication with families receiving online special education services as *difficult to extremely difficult*.

English language (EL) learners were part of the online learning community in 60% of the districts surveyed (n=30) with 50% of these superintendents reporting that having enough EL-trained staff was *difficult to extremely difficult* for their district. At the same time, 40% of superintendents also rated implementing effective online delivery models for EL learners as well as instruction that was culturally responsive as *difficult to extremely difficult*. Communication with families of EL learners was rated as *difficult to extremely difficult* by 37% of the respondents.

Financial Considerations

When asked about the additional financial burdens brought on by the COVID-19 pandemic, two-thirds of superintendents reported having to re-allocate their district's existing resources to meet the pandemic-related needs of their district. More than half of all superintendents said their school district had applied for additional funding. In school districts that reported receiving additional funding (n=46), 92% reported at least some portion of the funds being earmarked for online learning.

Only 13% of superintendents described the process of re-allocating existing funding as *very complicated*. However, when asked about the process of applying for additional funding, the

percentage who described it as *very complicated* doubled to 26% of superintendents. In addition, more than half of the respondents described both re-allocation (55%) and requests for additional funding (58%) as *somewhat complicated*.

Stakeholder Voices

Related to funding for online learning, 96% of these superintendents said they turned to their own school district staff and local school board to help them reach financial decisions. Within this group, 90% identified their school district staff as a primary source of recommendations and 69% identified their local school board as a primary source of such support. At the state level, 94% of superintendents cited Mississippi Department of Education (MDE) as a source of financial recommendations, although only 57% described MDE as a primary support, while 90% cited conferring with other Mississippi superintendents, with 47% describing those as a primary support.

Barriers During Financial Decision-making

When asked what they considered to have been *substantial barriers* during this decision-making, supervisors cited scarcity of desired inventory items for purchase (39%), existing procurement and acquisitions policies such as for vendor selection or bulk purchases (33%), and existing policies related to human resources such as staffing ratios, teacher contract language, or licensure requirements (10%).

Receipt of Special Funds

Despite the emergency nature of the pandemic, 31% of superintendents rated receipt of these special funds as *slower* to *much slower* than the wait time for normal funding disbursements, while 50% rated the wait as about the same. Only 19% of superintendents rated the length of time to receive additional pandemic-related funding as f*aster* to *much faster* than normal funding disbursements. In addition, 18% of respondents felt that the amount of time until the promised funding was actually available to spend was a *substantial obstacle* for meeting the emergency needs in their school district.

Communication Efforts under Emergency Conditions

Superintendents must balance both incoming and outgoing communications on behalf of their districts. For example, information from state-level official channels such as the Mississippi Department of Education, Department of Health, and the Governor's office as well as local informational channels such as the school board, health officials, and business leaders must be consistently accessed and analyzed when making district decisions which can then be accurately and appropriately communicated to stakeholders.

Incoming Communications

As part of this survey, superintendents were asked about both the *consistency* and the *usefulness* of the incoming streams of information their office related to the pandemic and online learning. Overall, superintendents rated local-level information sources as more consistent, but state-level information sources as more useful. State-level official informational channels such as the Mississippi Department of Education, Department of Health, and the Governor's Office earned a

mean score of 3.0 on a scale of 1 (very inconsistent) to 5 (very consistent) for *consistency* and a mean score of 4.0 on an equivalent scale for *usefulness*. Local-level official informational channels such as school board, elected officials, health officials, and business leaders earned a mean score of 4.0 for *consistency* and a mean score of 3.0 for *usefulness*. In addition to local and state level information sources, approximately one-fourth of superintendents also mentioned communications with other states, the national superintendent's organization, and the U.S. Department of Education as other informational channels that provided *very useful* (mean score=4.6) and *very consistent* (mean score=4.6) information.

Outgoing Communications

As the lead administrative official for their school district, superintendents are responsible for identifying and establishing effective channels for communicating with students, families, and community members. ***On average, a single school district tended to use a combination of six different communication methods in attempts to reach all their students and families.*** Every superintendent surveyed reported that information was regularly shared on their school district and individual school websites. Social media posts were used almost universally with 98% of school districts relying on them to disseminate information. Other very common approaches included automated voice calls (92%), automated text-messaging services (88%), and mass emails to families (84%). Postal mail was used by slightly more than half of the reporting school districts (58%). Other communication efforts that superintendents mentioned that were not included in the original survey question included video calls at the district or school level (10%), newspaper and/or radio announcements (8%), announcements through the Learning Management System (LMS) (8%), printed newsletters (4%), individual phone calls from social workers and truancy officers (6%), and home visits (6%). In terms of effectiveness, social media (43%) and automated text messaging (42%) were rated by those districts using them as their most successful medium, followed by mass emails (29%), and automated phone calls (24%).

Community Partners

In a rural state such as Mississippi, bonds between schools and their community partners are vital to providing quality education to all students. All school districts included in this survey reported receiving at least one form of support from their community partners during the pandemic with an average of three different types of community support provided per school district.

Biggest District Needs

Due to the dramatic nature of the pandemic, most community partnership donations were focused on personal protection equipment (PPE) for in-person learning, with 86% of superintendents reporting their district received such donations, followed by donations of additional space for social distancing (32%). Among the choices given on the survey, 46% of superintendents ranked PPE as their district's top need, and 96% of superintendents identified it as one of their district's top three needs.

Support for Online Learning

Specifically related to online learning, 28% of superintendents identified internet access through wi-fi hotspots as one of their top three needs, followed by donations of technology (18%), and

professional services such as technical support (16%). To serve students participating in online learning, only 26% of superintendents said their school district received donations of technology or equipment from community partners. Donations of internet access through wi-fi hot spots were more likely (46%) as well as donations of professional services such as technical support (34%).

Critical Challenges for Future Online Learning Success

As superintendent reached the end of the 2021-22 school year, survey participants were asked where the district continued to lack clear solutions for effective online learning. Effectively serving struggling learners and English language learners in an online environment were overwhelmingly identified as the top ongoing issues, at 98% and 80% respectively. Close behind at 78% of all districts was the additional problem of low student attendance for online learning. Only 8% of responding superintendents reported that the online attendance issue had been resolved since the onset of the pandemic, and even fewer said that solutions had been found for serving struggling learners (2%) or English language learners (3%).

At the start of the pandemic, 84% of superintendents felt that sufficient technology and support for students, staff, and families was a critical issue, although by the time of the phone survey, 36% of these superintendents classified this as 'no longer an issue.' Likewise, 84% originally saw the district's ability to provide synchronous online instruction as a significant issue, although only 24% reported that they had been able to successfully resolve it. While the majority of superintendents (63%) felt it was an issue in their district for their teachers to receive adequate professional development for online learning, another 16% said this was no longer the case, and the remaining 20% said it had not been an issue at all. Superintendents were more likely to view sufficient staffing for online instruction to be problematic (69%) with 50% of them reporting online instructional staffing to be a continual challenge.

Discussion

During the pandemic crisis, Mississippi's superintendents navigated a shifting environment where new demands constantly emerged requiring them to create new alliances with social service agencies, mobilize their central offices to do unfamiliar tasks, and cope with conflicting pressures about whether to open schools or maintain some form of remote learning. Based on the results of the statewide study, many superintendents gained a strong sense of where their districts continued to lack clear solutions for effective online learning and worked to address them. What worked, according to these superintendents, was employing a mixture of instructional delivery models, forging community partnerships to mitigate technology barriers, and using numerous communication platforms simultaneously to stay connected to stakeholders.

Initially, the majority of superintendents responding to our survey shared that their districts provided self-paced instruction that students completed at home using pre-printed learning packets while instructional staff began to experiment with other options that would better support their students. In some cases, districts were able to provide some real-time online instruction with teachers while others provided self-paced instruction using online tools independent of

teachers. However, for the majority of Mississippi school districts, any type of online instruction was difficult due to the fact that many teachers and families lacked adequate Internet access and/or electronic devices.

In Summer 2020, Mississippi Department of Education (MDE) required all superintendents to submit formal plans for the instructional delivery models as the pandemic would clearly stretch into the 2020-2021 school year. When making the decisions regarding instructional delivery models, superintendents reported that health and safety was a primary factor with available physical resources required to follow health department protocols as an additional concern. The plans submitted to MDE projected that 77% of districts would offer at least one form of online instruction with or without synchronous teacher support, and 51% planned to offer a hybrid model of some in person and some online delivery. However, when the school year began, 94% of superintendents in this statewide study indicated they had offered at least one online component—a much higher percentage than projected in those summer plans. Additionally, 80% of superintendents reported they offered a type of hybrid instruction which was a substantial increase in comparison to the originally submitted documents. Both of these adjustments highlight the willingness of Mississippi's superintendents to adapt to changing circumstances within their districts as long as they and their staff had the necessary means to provide online teaching and learning.

Throughout the 2020-2021 school year, self-study packet use dropped, and self-paced online instruction increased. By spring 2021, only one-third of superintendents indicated their district still used self-study packets, whereas half used a form of hybrid instruction, and a majority provided synchronous online instruction in real-time or in-person learning in classrooms. According to the superintendents who completed the Statewide Superintendents Survey, the students, teachers, and families in Mississippi school districts all much preferred in-person instruction when at all possible. This preference was followed by synchronous online instruction led by a teacher, and then by a hybrid blend of online and in person instruction. Asynchronous online instruction was considered ineffective and received a negative rating from superintendents. By the end of the second impacted school year, superintendents identified three critical challenges to online instruction that had yet to be solved using any of the models they had tried: adequate staffing, low student attendance, and serving special student populations.

Balancing incoming and outgoing communications during the COVID-19 pandemic was an ongoing challenge superintendents faced. For superintendents, both the local-level and state-level communications that they received were were seen as helpful for navigating this emergency; however, the results of this survey suggested room for improvement within those agencies involved with disseminating emergency information. Local-level information channels were viewed as consistent but were not necessarily always useful according to superintendents. State-level information channels were seen as more useful to administrators, but they also reported that these were received less consistently.

When communicating with stakeholders, superintendents shared they used at least six different methods of communication in an attempt to reach students and families. Common channels of communication included district and school websites, social media posts, automated voice calls, automated text messaging services, mass emails to families, and postal mail. The sheer number

of channels used, in addition to the need for duplication across verbal, written, and electronic mediums that would be required, suggests that every Mississippi school district should have a clearly written emergency communications plan and that it would likely require at least one dedicated staff member at the district level for implementation.

Special Education Director's Survey

Overview

While they also serve at the district level, special education directors have a different set of clearly defined responsibilities from that of the district superintendent. With the advent of the pandemic and resulting school closures, special education directors were called upon to provide leadership in coordinating effective delivery of special education services as well as testing and reporting responsibilities while many of their teachers, students, and resources were necessarily shifting to online learning. The purpose of the special education director survey was to capture how emergency online learning impacted special education, particularly in how Mississippi school districts were able to respond to the pandemic in ways that allowed special education services to continue.

Survey Development

The statewide Special Education Director Survey was originally designed as a web-based survey containing 36 questions estimated to take approximately 35-40 minutes to answer. Respondents could choose to skip any question and continue with the remainder of the survey. The content of the survey was developed by the research team at Mississippi State University and reviewed by an expert panel of current or previous special education directors for one or more Mississippi school districts. A full version of the Special Education Director Survey is viewable in **Appendix B**.

Data Collection

In May 2021, an initial email invitation was sent to 154 special education directors on record for Mississippi school districts, special state schools, and charter schools informing them of plans to contact them for the upcoming survey, the goals of the research study, the grant through which it was funded, and a phone number to call with any questions prior to being contacted. The web-based survey was then deployed through Qualtrics by the John C. Stennis Institute for Government and Community Development from May 4, 2021, to June 15, 2021. While the survey was open, two follow-up emails were sent to those directors who had not yet responded. At the close of the survey, 33 special education directors had participated in the web-based survey, resulting in a **21% response rate**. Following initial data analysis however, it was noted that some of the surveys were exited before less than half had been completed. The research team chose to include only those responses from special education directors who completed at least 50% of the survey resulting in a final sample size of **23** special education directors from **21** school districts and **2** charter schools in Mississippi **representing approximately 15% of all Mississippi school districts, special state schools, and charter schools.**

District-Level Special Education Director Demographics

While special education directors who completed the online survey were not asked to disclose their personal demographics, they were asked to identify the school district, special state school, or charter school they were officially representing with their responses. Their responses confirmed that each Congressional Region of the state was represented by their special education directors to varying degrees, with 13% of the directors located in region 1, 35% of directors located in Region 2, 22% of directors located in Region 3, and 30% of directors located in Region 4.

Financial Considerations

According to 95% of special education directors who completed the survey, inadequate funding did not prevent them from offering online instruction to all students in their school district. In addition, 58% of directors said their school district received at least one form of support for online learning from a community partner. These community partnerships came from local businesses (47%), public libraries (37%), and universities or non-profit organizations (26%) that supported their district programs. Access to wi-fi hotspots was most common (53%) followed by donations of technology or equipment (26%). They also reported students were provided with specific technology by the school district such as tablets, laptops, or personal hotspots. Specific software such as News2You, iReady, or IXL were also provided for classrooms according to 47% of directors.

Communication Efforts

To relay information to the families of the students learning online, special education directors reported widespread use of social media (100%), automated voice calls (100%), and announcements and posts on school websites (95%). In addition, text-messaging services such as Remind (89%), emails to families (74%), and postal mail to families (63%) were heavily utilized in many districts. A small percentage of directors also mentioned home visits (10%). When asked about which of these methods had been most effective for *staying connected* to families responses were more varied, with social media (63%), texting services (48%), and announcements on school websites (32%) earning the most votes. Emails to families (26%), automated calls to families (21%), and home visits (5%) were still seen as the most effective by directors in some districts, but no respondent identified postal email as the most effective method.

Delivery Models for Special Education Services

In Spring 2020, when superintendents announced that school buildings would be closing indefinitely, special education directors had to make decisions on how services could possibly continue for students entitled to receive them. The nature of special education services varies widely encompassing a range of physical, emotional, and academic supports typically provided by an array of special education teachers, behavioral interventionists, physical therapists, occupational therapists, speech therapists, and others. Thus, when the pandemic shut down not

just their school buildings, but the entire delivery system of in-person services within the community, special education directors had almost no readily alternative model to follow.

2019-2020 School Year

When school building closures were announced in Spring 2020, **the most commonly used option for continuing special education services was providing pre-printed learning packets** with 65% of directors reporting that *all* of the schools in their districts provided self-paced instruction to be done at home using pre-printed learning packets while an additional 13% of respondents said at least *some* of their schools did so. Special education services at the primary grades level were most likely to have provided these packets (83%), followed by middle grades services (70%), and high school services (65%).

Another widely used approach was self-paced instruction using online tools and websites which 61% of directors said was employed by *all* of the schools in their district, and another 13% of directors said this was used in at least *some* of their schools. This was most commonly employed in the primary grades (61%), although often used in the middle grades and high school grades as well (both 48%).

In contrast, only 43% of special education directors said that *all* of the schools in their district were able to provide some amount of synchronous online instruction with a special educator, while an additional 17% of respondents said at least *some* of their schools did so. There was little variation between grade levels in this regard with services provided via synchronous instruction in 52% of the primary grades and high schools and 56% in the middle grades according to the special education directors.

2020-21 School Year

At the start of the new school year, **a return to in-person special education services was the most-used delivery model** with 57% of directors saying it was being offered at *all grade levels*, with another 4% offering it in at least *some of the grade levels*, although this varied by district with no clear preference by grade levels. In addition, 52% of directors said that a new hybrid option consisting of some in-person special education services paired with some online services was also being implemented in *all* their schools with another 9% offering it in at least *some of the grade levels* which also varied by district.

The use of synchronous online instruction with a special education teacher rose only slightly from the previous spring with 48% of directors reporting this delivery method as available in *all* of the schools in their district while another 13% said at least *some* of their schools were able to do so.

Meanwhile, self-paced instruction at home using either pre-printed learning packets or online tools and websites to deliver services was now much less favored. In contrast to the previous spring, only 26% of special education directors reported that their *entire* district had opted to continue using either of these approaches, 13% more said at least *some* of their schools were still using pre-printed packets, and another 17% said *some* of their schools were still using self-paced online tools. High schools were the least likely to use either of these self-paced delivery models as compared to the primary or middle grades.

As the academic year progressed, methods for delivering special education services continued to evolve. By the end of the 2020-21 school year, 70% of directors reported that all (61%) or some (9%) of their schools were now providing in-person special education services. This was followed by 48% of directors whose districts were using a hybrid model of some in-person and some online special education in either all (35%) or some (13%) of their schools. Online instruction in real-time with a special education teacher was being provided in 47% of the districts represented in this survey, either in all (43%) or some (4%) of their schools according to directors. Meanwhile, the use of self-paced learning methods for special education services dropped dramatically. Only 22% of directors said pre-printed packets were still used in all (13%) or some (9%) of their schools, and only 30% of directors said self-paced use of online tools and websites was being used in all (17%) or some (13%) of their schools.

Somewhat surprisingly, 13% of the special education directors who completed the survey said none of the schools in their districts were using *any* form of distance learning models (self-paced, synchronous, or hybrid) to deliver special education services at the start of the 2020-21 school year. By Spring 2021, this percentage had risen to **22% of the school districts represented in this survey having no special education services delivered through any form of distance learning models, according to their special education directors.** In Summer 2021, for school districts who offered an extended school year to qualifying students (n=19), 42% did not use any virtual learning, while 26% offered a hybrid model, 21% offered a fully synchronous online model, and 10% offered an asynchronous online model.

Evaluation of Delivery Models

As a group, special education directors believed that the quality of online instruction was affected by the teacher's location and responded accordingly. When asked to rate the importance of a teacher's location for instructional effectiveness on a scale of 1 (*not at all important*) to 5 (*very important*), 100% of directors assigned a score of 3 or higher, and 63% of directors assigned the highest possible ranking of 5. These directors then confirmed that 95% of their special education teachers were present in the school buildings when providing online special education services.

Difficulty Versus Effectiveness

Directors were asked about the difficulty levels of delivering special education services through the various formats that had been implemented at some point in their districts. Using a scale of 1 (*not at all difficult*) to 5 (*very difficult*), online delivery that was primarily asynchronous was viewed as the *least difficult* (M=2.9, n=14) while in-person learning during the pandemic was viewed as the *most difficult* (M=3.7, n=21). A hybrid model that combined both in-person and online instruction was viewed as *less difficult* (M=3.1, n=17) than a 100% online model that was primarily real-time teacher instruction (M=3.4, n=17).

Although directors had viewed in-person learning as the most difficult to deliver during the pandemic, they simultaneously viewed it as the most effective at meeting student needs (M=4.9, n=19) using a similar 1 (*not at all effective*) to 5 (*very effective*) scale. Likewise, **while directors had viewed asynchronous online services as the easiest to deliver, they also rated it as the least effective method** (M=2.5, n=12). Finally, in addition to being somewhat easier to

deliver, a hybrid model was also seen as somewhat more effective (M=3.8, n=15) at meeting student needs than a 100% online model (M=3.6, n=13).

Training for Families

For any of these models to truly work however, families needed to successfully adapt to them. While in-person learning at the schools required following intensive health and safety measures, using online learning required internet access and computer skills. Training and support to assist in online learning was provided to parents of students receiving special education services in 95% of the school districts represented in this survey. These special education directors indicated parents were most commonly provided training to access district resources (89%), as well as how to implement provided academic instruction and supports (74%), and to receive related services (53%). It was less common for school districts to provide family training on how to receive social/behavioral instruction or adaptive or daily living skill instruction (37%), support progress monitoring of IEP goals and objectives (32%) or participate in transition planning (26%).

Directors were asked to evaluate how successfully the families of their students had been able to adopt and use the delivery models provided in their district. Using a scale from 1 (*least successfully adopted*) to 5 (*most successfully adopted*), directors said the **students and families in their district were still best at adopting and using in-person learning** (M=4.6, n=20). The opposite was true of the 100% online model that was primarily asynchronous which directors, as a group, said families were generally not successful at adopting and using (M=2.2, n=14). Families had a somewhat easier time adopting and using a hybrid model (M=3.3, n=19) than they did a 100% online model (M=3.0, n=14).

Impact on Student Well-being

While every student was unquestionably affected by the pandemic-induced version of their K-12 schooling, students who relied on receiving special education services to meet their needs may have been in an even more vulnerable position. For this reason, special education directors were asked to rate how being served through online learning had affected the social-emotional well-being of students receiving special services.

Using a scale of 1 (*very negative*) to 5 (*very positive*), the 100% online learning delivery model was given the lowest possible rating of 1 by 25% of directors, a negative rating of 2 by 44% of directors, and a neutral rating of 3 by another 25% of directors. Only 6% of respondents rated 100% online learning has having a positive effect on student social-emotional well-being. Instead, **a hybrid model consisting of some in-person and some online learning was viewed as a better model for student well-being** with no director assigning a rating of 1 (very negative) and only 7% assigning a rating of 2. With the hybrid model, the majority of respondents were neutral with a rating of 3 (57%), while 36% who had used it in their district gave it a positive rating of 4 (21%) or 5 (14%).

Individualized Educational Plans (IEP)

All students receiving special education service are expected to make measurable progress toward the goals stated on their IEP. The implementation of varied instructional delivery

methods as the pandemic continued throughout the 2020-21 school year certainly complicated—but did not eliminate—this expectation.

Student Progress and Monitoring

When directors were asked to use a scale from 1 (*very ineffective*) to 5 (*very effective*) regarding how effective online learning was at supporting student progress toward IEP goals, responses were generally not favorable. While most were ambivalent with a rating of 3 (47%), many directors gave a negative rating of 1 or 2 (42%), and only a few directors gave a positive rating of 4 or 5 (10%). According to these same directors, online learning also impacted progress monitoring to varying degrees. Using a scale from 1 (*no impact*) to 5 (*a significant impact*), 78% of directors rated the amount of impact that online learning had on progress monitoring of IEP goals as a 3 or higher.

Evaluation and Review

As the pandemic continued into Spring 2021, 84% of special education directors reported their districts had been conducting IEP meetings in a virtual format. Interestingly, using a rating scale of 1 (*much less effective*) to 5 (*much more effective*), these participating **directors rated virtual IEP meetings as *more effective* than traditional face-to-face meetings** (M=3.7, n=15). The most common barrier reported by special education directors towards facilitating virtual IEP meetings was a family's access to technology and connectivity (58%). Other barriers included personal limited accessibility to technology or internet connectivity at home (16%), feeling less personally connected than in-person (10%), and families' understanding of modifications to district policy related to the pandemic (5%).

Transition Services

Some high school students with IEPs during the pandemic were also entitled to transition planning, a coordinated set of activities that help a student prepare for their next life steps after graduation. Delivering these services in a virtual environment brought about its own challenges, and special education directors were asked to identify the factors that impacted student's online transition services in their district. **A student's own motivation to participate in transition planning online was the most commonly identified factor** among these directors (74%). Other frequently identified factors were the family's access to technology (63%), the parent's ability to help facilitate in an online environment (58%), and the student's own performance level impacting their ability to participate in a virtual learning environment (42%). The fact that community partners were closed or not accepting students for transition instruction during the pandemic was problematic for school districts as well according to 21% of these directors.

Support for Special Education Efforts

Working at the district level, special education directors were responsible for ensuring that their schools got the necessary support to successfully serve students under the emergency conditions of the pandemic. As instruction and service delivery moved to virtual formats of synchronous instruction, asynchronous learning, and/or hybrid versions incorporating some amount of in-person learning, directors reporting using multiple ways to accomplish these delivery modes.

Professional Development

Every special education director reported that that their school district had provided professional development (PD) for delivering online services and support to their special education teachers and staff. Topics varied but directors were unanimous in saying there had been training on how to provide academic instruction and support. The most common topics across the surveyed districts were progress monitoring IEP goals and objectives (79%), parent involvement and communication (74%), and confidentiality in providing feedback in a virtual learning environment (68%). More specialized trainings were also offered in providing related services such as occupational and/or physical therapy or speech (68%), as well as social/behavioral instruction and support (63%), transition planning (58%), and adaptive or daily living skill instruction and support (53%). However, **48% of respondents said that the training and support to assist in online learning did not extend to the paraprofessional staff in their district**.

Paraprofessional Staff

While 10% of directors said their district had not used paraprofessionals to support online learning, the other 90% of directors reported using this staff in a variety of ways. In supporting online learning, the most common tasks given to paraprofessionals were helping to plan and prepare (76%), cleaning equipment and learning spaces (71%), and assisting with family communications (47%). **Almost half of all directors said their district used paraprofessionals to provide supplemental instruction** via an online synchronous learning environment (47%).

Community Partnerships

Beyond working with the staff in their schools, special education directors were asked to identify any other partnerships that were instrumental in supporting online learning in their schools. Related service providers such as physical therapy, occupational therapy, or speech were important partners for 74% of the directors surveyed. Local businesses (42%) and public libraries (37%) were also recognized by directors for providing support for online learning. Some special education directors also reported their district had instrumental partnerships with universities, community colleges, non-profit, and service organization (26%). A small percentage of directors also mentioned that afterschool programs and other school districts were instrumental in helping as well (5%).

Critical Challenges for Future Success

The survey responses from special education directors helped draw a picture of how school districts had striven to continue providing special education services to qualifying students under the emergency conditions of the pandemic. However, these directors also identified a number of challenges that had hindered both providing online services and communicating with the families of online learners. The responses to the survey question related to communication is presented separately from the question related to delivering online learning, but the results for both point to the same two critical challenges for future success: ***family and staff access to internet and technology*** and ***sufficient training for both families and staff, including paraprofessionals.***

Communication Challenges

Limited accessibility to technology and lack of internet connectivity were problematic, both in terms of family access (68%) and special education staff access from home (53%). Lack of training was also a challenge, both in terms of families' understanding of modifications to district policy related to the pandemic (32%) and staff training in use of online learning management systems and tools to communicate (21%). In addition, 10% of directors said the schools in their district lacked sufficient resources to communicate with families, and 5% of directors said communication was more challenging from a lack of clarity in their own understanding of pandemic policies and procedures.

Learning Challenges

Overwhelmingly, a lack in parents' ability to help facilitate a virtual learning environment was a challenge for their schools according to 95% of special education directors. Whether families had access to technology and internet connectivity created challenges for many (68%) as well as staff access to technology and connectivity from home (47%). Lack of staff training in use of online learning management systems (21%) and families' understanding of modifications to district policy related to the pandemic were also challenges to effective online learning (10%).

Specific to issues of special education, **68% of directors stated that the current performance levels of a student with an IEP directly impacted their ability to participate in a virtual learning environment**. While this particular challenge was not explored further with special education directors in this survey, it is possible that this challenge would be indirectly lessened by addressing the identified need for family and staff training in facilitation and communication as well as providing adequate technology and support.

Discussion

As a result of the COVID-19 pandemic, special education directors for Mississippi's school districts, special state schools, and charter schools were called upon to orchestrate a massive shift of special education and related services to an unfamiliar online environment. Based on the results of the statewide study, special education directors were thankful for the technology donations and their community partners who could provide related services, but they nonetheless witnessed ongoing needs for improved internet access as well as training and support for both their staff and for the families of the students that they served. What worked, according to these directors, was using social media and virtual IEP meetings to stay connected to the families of students being served while shifting back to in-person services for students as much and as quickly as possible. Although it was not possible in the earliest stages of the emergency when school buildings were closed, once buildings reopened directors overwhelming believed that their special education teachers should be in the school buildings while providing instruction, whether in-person or online. This belief was consistent with implementation as 95% of directors reported that their special education teachers were onsite when delivering online services during the 2020-21 school year.

In parallel with the information shared by district superintendents, special education directors reported that students with IEPs in their districts were generally served through self-paced, pre-printed learning packets at the start of the pandemic. This was particularly problematic for

special education directors since students being served under the Individuals with Disabilities in Education Act (IDEA, 2004) are guaranteed a "Free and Appropriate Education" in an environment that includes access to general education curriculum, inclusion in settings with peers with and without disabilities, specially designed instruction, and other services that are deemed necessary. By Fall 2020, special education directors said in-person special education services had returned for 61% of their districts while 52% said some or all of their schools were providing a hybrid model of some in-person and some online learning. Real-time online instruction with a special education teacher was also occurring in 61% of districts according to directors. By Spring 2021, delivery models for special education had improved even further with 70% of districts providing in-person special education services in some or all of their schools while online services were offered in a hybrid model (48%) as well as in real-time with a special educator (48%) in some or all of their schools.

Results of this study showed that even during the pandemic emergency providing in-person learning in a school building with other learners remained the the "gold standard" for special education directors, even as they tried to convert special services to an online format. Using a rating system, directors overwhelmingly viewed in-person services as the superior choice, even though they said it was also the most difficult to achieve under the circumstances of a pandemic. Special education directors also felt that the families in their district had been most successful at adopting and using the in-person model of service delivery compared to the other models. When online learning was offered, a hybrid model was seen as superior to purely online learning, even when that online learning took place in real-time with a special education teacher. Directors also felt that the hybrid model was easier to implement than a fully online model, even with the complications brought on by in-person services during a pandemic. Furthermore, many special education directors believed that a purely online delivery model had been detrimental to the social emotional well-being of the students with IEPs in their district. While still not as beneficial as fully in-person services, directors rated a hybrid model as a better alternative for student mental health and reported that families did better at adapting to this approach than they had to an online-only model.

According to the directors in this study, the families of students receiving special education services struggled with online learning due to multiple factors. Difficulties with internet access were real and persistent for both families and special education staff. According to this survey, the special education teachers and paraprofessionals providing online learning support may or may not have received the necessary professional development to successfully convert familiar special education services into an unfamiliar online format. Likewise, the majority of families being served lacked the knowledge and tools to adequately support their child in an online environment, an issue that was further complicated by the pandemic's effects on student motivation and well-being.

The clear preference among directors for in-person special education services may shed some light on why 22% of the school districts represented in this study reported no special education services delivered through any form of online learning models and why 42% did not offer their qualifying students an online delivery option for the extended school year. Efforts to serve students with IEPs were hampered by lack of technology and internet access, low technology knowledge on the part of families, decreased student motivation and well-being, and

communication difficulties. Despite these challenges, special education directors in this survey did highlight the value of having partnerships with related services in their local communities during an emergency, the usefulness of social media for family-school connectedness in remote learning, and the potential for conducting successful IEP meetings with families online.

Principal's Survey

Overview

While many pandemic-induced decisions related to K-12 schooling were made at the state and district levels, Mississippi's school principals were charged with effective implementation as well as expected to handle many urgent decisions related to the specific needs of their own school's students, families, and staff. While transitioning to remote instruction might bring one set of challenges to high schools filled with students accustomed to vocational programs, specialized coursework, and preparing to graduate, this experience was likely quite different from a primary grades school serving very young students with little to no experience using computers to learn or for middle schools where students are expected to take on more responsibility for their own learning in the midst of navigating evolving peer interactions. The purpose of the statewide principal's survey was to explore the school-level factors involved in responding to the pandemic, particularly related to providing emergency online learning that could meet the needs of all students and supporting staff who were teaching online.

Survey Development

Using the lessons learned from data collection efforts with school district superintendents, the research team decided to develop the Statewide Principals Survey in both web-based and phone survey formats from the beginning. It was designed to contain 32 questions estimated to take approximately 30-35 minutes to answer. Respondents could choose to skip any question and continue with the remainder of the survey. The content of the Statewide Principals Survey was developed by the research team at Mississippi State University and reviewed by an expert panel comprised of individuals with previous experience as a principal for one or more Mississippi public K-12 schools. Except for minor changes in grammar when asking the respondent for a spoken versus a written response, both the web-based and phone survey versions were identical. A full version of the Principals Survey is viewable in **Appendix C**.

Data Collection

The nature of a principal's role is such that even if they maintain standard work hours their role in the school often finds them in all different parts of the school campus throughout the day, often away from their office and likewise their phones. Thus, the goal was to first conduct the survey in web-based format, allowing the principals to participate at the time that worked best for them, and then use targeted phone calls to increase the response rate and ensure representation across all four Congressional Regions.

In May 2021, an initial email notice was sent to **891** principals of Mississippi K-12 schools, special state schools, and charter schools, informing them of plans to contact them for an upcoming web-based survey, the goals of the research study, the grant through which it was funded, and a phone number to call with any questions prior to being contacted. The web-based survey was then deployed through Qualtrics by the John C. Stennis Institute for Government and

Community Development beginning on May 4, 2021. This was accompanied by a series of three weekly emails reminding them to consider participating, with the last email sent on June 1, 2021. In response to these recruitment efforts, 62 principals had completed the web-based survey by June 7, 2021 with 13 principals from Region 1, 18 from Region 2, 12 from Region 3, and 19 from Region 4.

Next, a phone campaign was conducted by personnel at the National Strategic Planning and Analysis Research Center (nSPARC) at Mississippi State University from June 9-24, 2021, with a goal of increasing total survey responses to 25 or more participants per congressional region. Phone calls to principals at their school offices were made Monday-Friday between 8:00 a.m.-5:00 p.m. Principals who were reached in person were offered the opportunity to complete the phone version of the statewide survey or alternatively, to receive a new email with the link to the web-based version. When only office personnel such as a secretary were available on the phone or when a voice mailbox was reached, a message was left explaining the purpose of the call and asking the principal to consider completing the web-based survey using the link sent in the most recent email. Making time to complete the phone version of the survey during the school day proved to be extremely difficult for principals, however many of those who were reached did request the link to the web-based survey.

By the time data collection ended on June 25, 2021, **98 principals** of K-12 public schools across **58 different school districts** participated in the statewide survey**, representing approximately 11% of the total population of 887 Mississippi public and charter schools** identified on the Mississippi Department of Education website at that time. Following initial data analysis, the research team chose to include only those K-12 principals with substantive levels of response, thus the results presented in this report include only the 83 principals who completed at least 50% of the survey, either online (n=81) or over the phone (n=2).

School-Level Administration Demographics

According to their reported hire dates, 92% of all principals in this survey were serving as the principal of their schools when their school districts announced widespread facilities closures in Spring 2020. At the time, 45 of these principals were serving in elementary schools, 17 were in middle schools, 12 reported being at high schools, and 9 oversaw a combination of grade levels at attendance centers or academies. Across all respondents, the average length of service reported in their current position was 3.5 years, with overall administrative experience ranging from 0-13 years of service. All four Congressional Regions of the state were represented in these responses with 36% of school principals located within Region 1, 27% of principals located in Region 2, 18% of principals located in Region 3, and 19% of principals located in Region 4.

Financial Considerations for Successful Online Learning

When asked about the additional financial burdens brought on by the COVID-19 pandemic, only 10% of principals said inadequate funding prevented them from offering online learning to all the students at their school. For in-person learning, 94% of principals felt their school received an equitable amount of resources (PPE, technology, educational resources, etc.) during the

pandemic compared to other schools in their district. Thus, lack of funding did not appear to play a primary role in the principal's decision-making related to the instructional delivery models that had been offered.

Emergency Response Instructional Delivery Models

In response to the COVID-19 pandemic, most schools across the United States closed in early 2020. By March and April 2020, 48 states, including Mississippi, mandated school building closures for the rest of the school year, affecting millions of public school students and their families. Schools then began to pivot to alternative modes of instruction and methods for providing other services. Most methods used by schools to continue providing instruction to students during the pandemic involved some type of remote learning which may have included synchronous or asynchronous virtual lessons delivered via the Internet, physical learning materials like pre-printed learning packets, or some combination of multiple approaches.

2019-2020 School Year

When superintendents announced that school buildings would be closing indefinitely in Spring 2020, 89% of all surveyed principals reported their schools began providing self-paced instruction to be done at home using pre-printed learning packets. Elementary schools were the most likely to provide these packets (93%), middle schools being slightly less likely (88%), and high schools being considerably less likely (75%). On the other hand, at the start of the facilities closures, more high schools were attempting some form of online learning in real-time with the classroom teacher (58%) than were the elementary schools (31%) or middle schools (23%). Approximately half of all schools at every level provided self-paced learning opportunities for their students through educational websites and online tools (53%).

Beginning of 2020-2021 School Year

When the new school year began in the fall, 95% of principals reported their schools were offering at least one online component as part of their overall instructional delivery model. Synchronous online instruction was the most-used approach at the elementary (76%) and middle school levels (65%), while asynchronous learning using online tools and websites was the most common delivery model across the high schools (75%). At the start of the school year, high schools were offering a hybrid option of in-person and online learning to their students (75%) at more than twice the rate of the elementary schools (36%) and substantially more than the middle schools (47%).

According to respondents, instructional delivery models continued to go through adjustments during the 2020-2021 academic year. The largest shift was related to hybrid learning options. At the start of the school year, 45% of all K-12 principals surveyed were offering a hybrid model at their schools but by the end of the school year, only 20% were still using it. Elementary school usage dropped from 36% to 16%, middle school dropped from 47% to 24%, and high school went from 75% down to 42%.

Ending of 2020-2021 School Year

The results of this study found that by the spring 2021, *an average of four different simultaneous delivery formats* were being offered in these K-12 schools. At the start of the 2020-21 school year, 65% of principals reported in-person learning at their schools. By Spring 2021, that number had risen to 88% of K-12 schools, even as they simultaneously offered online learning formats. In addition, 31% of these elementary schools were also still distributing self-study learning packets alongside one or more of these models. By the end of the year, the most common delivery model at the elementary school level outside of in-person learning was the synchronous online option (68.8%) with considerably fewer schools relying on an asynchronous model (33%). At the middle and high school levels, these preferences were reversed, with 51% utilizing asynchronous online models and 41% providing synchronous online learning.

Delivery Model Effectiveness

Principals were asked to evaluate in retrospect how successful they believed the different instructional delivery models were with regards to meeting students' academic needs. Using a scale from 1 (*not at all successful*) to 5 (*highly successful*), in-person learning was the only model where the majority scored it as *highly successful* with 50% of all principals rating it as a 5 and 99% rating it as 3 or higher (M=4.3, n=70). No other delivery model came close. Although online instruction led by a classroom teacher was rated as 3 or better by 74% of principals (M=2.81, n=45), and the hybrid model was similarly rated by 76% (M=2.85, n=35), neither of these models received a full rating of 5 from any principal in this survey. The 100% asynchronous online model, where students did not receive regular real-time instruction from a classroom teacher, received an overall negative rating in terms of success with 59% of principals rating it as 2 or less (M=2.2, n=40).

Principals overwhelmingly saw having their teachers physically present at the school while delivering online instruction as a critical factor for success with 78% of them rating this as *very important* (37%) or *extremely important* (41%). Only 7% of principals said it was *not at all important*. For 89% of these K-12 schools, the teachers providing online instruction were able to be physically present at the school building with 11% of principals saying it varied by teacher or circumstance whether instruction had to be delivered from a remote location. When asked to gauge how difficult each of the online delivery models had been for their teaching staff to effectively deliver, 33% of principals believed synchronous and asynchronous online instruction was *somewhat* to *very difficult* for their teachers, while 26% said the same of the hybrid model. This was in comparison to the larger percentage of 46% of principals rating in-person instruction under pandemic circumstances as *somewhat* to *very difficult*. Thus, principals generally perceived delivering online instruction during the emergency to be less difficult for their teachers than in-person learning.

Adjustments for Students and Families

Teachers were not the only ones adapting to the various delivery models. Principals were also surveyed on their perceptions of how much success students and families had at adopting and using these formats. On a scale from 1 (*least successful*) to 5 (*most successful*), in-person

learning received the highest ratings with 97% of principals saying families and students were generally successful (rated 3 or higher) at adopting and using this method. When in-person and online were offered as a hybrid model, 66% of principals still said their students and families were successful at adopting and using. This percentage rose to 71% for successful adoption and use of synchronous online instruction with the classroom teacher. In contrast to the models interacting with a classroom teacher, 66% of principals rated their students' adoption and use of the asynchronous model as *unsuccessful* (rated 1 or 2). Principals who responded to this survey overwhelmingly viewed teacher-student interaction as essential for effective adoption and use of the delivery models by their students and families.

Student Mental Health

With the pandemic drastically impacting the amount and type of teacher interaction students were experiencing, principals were asked about their perceptions of the impact that online learning was having on their students' social-emotional learning (SEL) needs. While 50% of principals responded neutrally, 42.5% said the 100% online model had a *negative* to *very negative* effect on SEL needs and only 7% viewed it as having a *positive* to *very positive* effect. The negative perception was most pronounced in the upper grades with 45.5% of high school principals choosing the lowest possible rating of *very negative* compared to middle school principals (7%) and elementary principals (12%) who chose that response.

Those offering the hybrid model (n=44) viewed it as more helpful for meeting SEL needs than the purely online model with 23% rating it as having a *positive* to *very positive* effect on student SEL needs although 43% responded neutrally, and 34% still viewed it as having negative effects. High school principals were more likely to view it more favorably with 25% believing it had a least somewhat of a positive effect in meeting student SEL needs compared to 14% of middle school principals and 5% of elementary principals.

Continuity of Additional Educational Services

In addition to discussing how different delivery models were employed to provide ongoing instruction and learning opportunities for their students in general, principals were also asked about special populations and services. This included continuity of special education services, English language learner supports, guidance counselor access, and college and career planning at the middle and high school levels.

English Language (EL) Learner Support

According to principals, English language learners were participating in some form of online learning at 51% of the schools in this survey. When asked about the biggest challenges in serving these students, half of these principals said establishing sufficient communications with families was *difficult* to *extremely difficult* followed by implementing effective online delivery models (48%), having enough EL-trained staff (43%), and providing culturally responsive instruction online (39%). Having enough EL-trained staff received the highest percentage of *extremely difficult* ratings at 22.5%.

Career/Vocational Cooperative Education

In schools serving any grades 6th-12th (n=37), virtual/online experiences were used as a way for students to participate in 35% of the schools according to principals surveyed. Fields of study varied widely including examples such as automotive, law and public safety, healthcare and clinical services, construction, digital media, metal fabrication, forestry and agriculture. When asked to rate the outcomes of these efforts on a scale of 1 (*least successful*) to 5 (*most successful*), this group of principals felt ambivalent about whether the virtual experiences had been a success with an average rating of 3 and no principals selecting 1 or 5.

Guidance Counseling

In these same schools, 58% of the principals reported that guidance counselor appointments were being offered online. When asked to rate the outcomes of these efforts using the same success scale, the response pattern was repeated with an average rating of 3 and no principals selecting 1 (*least successful*) or 5 (*most successful*).

Special Education Services

Online special education services were being offered in various formats at 83% of all K-12 schools surveyed (n=68). According to principals, the biggest challenge was in implementing effective online delivery models for special education rated *difficult* to *extremely difficult* by 47% of the respondents. In addition, 29% said having enough special education staff to deliver the services was *difficult* to *extremely difficult* while 27% identified communication with families receiving online special education services as *difficult* to *extremely difficult*.

Delivery model choice for special education varied from school to school. Some schools offered only one format (32%) while some offered as many as three (25%). The most utilized option was a hybrid model of some in-person instruction together with some online instruction (both synchronous and asynchronous) which was identified in 97% of the schools. According to principals, a 100% online model of primarily real-time teacher instruction was provided "almost all the time" in 28% of the schools, while a model of 100% asynchronous online services without a real-time teacher was used "almost all the time" in 15% of the schools.

Communication Efforts for Online Learning

With guidance and support from district offices, principals are responsible for identifying and establishing effective channels for communicating with their students, families, and community members.

Reaching Families

Online learning introduced a new challenge for reaching those who may not have been coming to the school building on a regular basis. To address this, communication tools within the school's learning management system (LMS) and announcements posted on the school website were almost universally used (99%) alongside a text messaging service such as ReMIND (94%) and social media posts (92%). Other heavily used tools included automated voice calls (90%), announcements through the LMS (89%), and emails to families (89%). Alongside these technology-dependent methods, 73% of principals said their schools also sent out traditional postal mail to the families of their online learners. On average, ***a single school tended to use a***

combination of seven different communication methods in attempts to reach all the students and families who were participating in some format of online learning (M=7.2, n=79).

When asked about the difficulty level in communicating with families using a hybrid learning model, 73% of principals said was *about the same* as communicating with families using the traditional in-person model. However, when asked about the difficulty level in communicating with families using the 100% online model, only 41% said was *about the same* while almost half of the principals said this was *much more difficult* (49%).

Out of all the methods they had used, principals were asked to identify the two methods they felt had been most successful at meeting the communications challenge. Using the school's LMS was seen as the most successful (49%) followed by social media posts (39%). While all of the methods mentioned above received at least one vote for most successful method, only automated voice calls (30%) and emails to families (12%) received noticeable recognition from these principals as having been the most successful.

Community Partners

When principals were asked about the types of community partners that had been instrumental in supporting online learning (n=80), the most commonly identified partners were non-profit or service organizations (30%) and public libraries (29%). These were followed by local businesses (23%), afterschool providers (17%), universities or community colleges (13%), and to a small extent, cultural centers such as museums or science centers (4%). Many of the principals in this survey (53%) also reported that their community partners had provided at least one type of donation for student online learning during the pandemic. Of the 42 schools who received this form of support, 91% said their students benefitted from donated internet access through wi-fi hotspots, followed by donations of technology (36%) and volunteer manpower such as for tech support (12%).

Critical Challenges for Future Online Learning Success

More than half of the principals said that having sufficient technology and support for students, staff, and families had been an issue at the beginning but had since been solved (56%) while roughly one-fourth of principals said their schools were still having ongoing issues with this (26%). The ability to provide synchronous instruction was another initial challenge that 43% of principals said had since been resolved while 29% reported still facing challenges. Approximately half of the principals said staffing for online instruction had not been an issue for them at any point (52%), while again approximately one-fourth said they continued to struggle with this (23%).

As they ended a second school year impacted by the pandemic, principals were asked where the district continued to lack clear solutions for effective online learning. Low student attendance and effectively serving struggling learners were identified as the biggest ongoing issues at 78% and 75% respectively. Close behind, at 61% of all districts was the challenge of serving English language learners.

Discussion

School principals were stretched in countless directions during the COVID-19 pandemic. Under guidance from their district superintendents, these K-12 administrators were expected to address evolving health and safety mandates, enormous growth in technology usage, adequate staffing and training, communication with families, and the academic, social, and emotional needs of the students at their school. Based on the results of the statewide study, principals reported some of the same challenges that were heard from district-level administrators in the other surveys, such as inadequate internet access in many communities, low student attendance, and the increased difficulty of online learning for students who were English language learners. Both groups also tended to agree on the ineffective nature and potentially negative impact of a 100% asynchronous online model where students did not receive regular real-time instruction from a teacher. Principals also had their own unique set of concerns however, related to offering a staggering number of simultaneous delivery formats within their own school—an average of four models at once according to survey respondents. Despite this, there were also numerous points of agreement between district- and school-level administrators in terms of what worked well for Mississippi schools. Both levels of administration reported that community partnerships were instrumental for successful online learning in many ways, and the experimentation with a large number of different communications methods led to some clearer understandings about which ones would be most worthwhile in the event of a future emergency. In terms of equity, when considering the amount of district financial resources that were allocated to their school for the pandemic and online learning, 94% of K-12 principals said they felt supported by their district administration.

When Mississippi school districts first began closing their school buildings in response to the health emergency, principals confirmed what superintendents had shared—that self-paced instruction using learning packets was the predominant method of instruction for the remainder of that school. However, responses from principals showed that, in comparison to primary or middle grades, high schools were the ones most likely to have also attempted some sort of online learning in real-time with a teacher in the early days of the pandemic. This early experimentation with potential delivery models may have played role in the fact that with the start of the 2020-2021 school year, a majority of high school principals reported their high schools offered a hybrid option of in-person and online learning at *twice the rate* of the elementary and middle schools. Interestingly, by the end of the 2020-2021 school year, K-12 principals gave the hybrid model higher effectiveness ratings, easier implementation ratings, and less negative mental health effects for students than for any of the other online delivery models. Yet, the actual usage of hybrid models in schools decreased steadily at all grade levels as the academic year continued. It may have been that despite all of the comparative benefits that principals reported from using a blend of in-person and online learning, these positives were ultimately outweighed by the chronic challenge of low student attendance reported by both superintendents and principals in this study.

Like the special education directors, most principals believed that having their teachers in the school building while delivering online instruction was a critical factor for success. Many principals also perceived that effectively delivering online instruction was less difficult for their teachers in comparison to in-person learning during the pandemic, although this finding was not

supported by the later responses gathered from K-12 teachers themselves. Regardless of delivery method, principals generally viewed teacher-student interaction as essential for effective adoption and use of any model. While 42% of principals felt that 100% online learning had a *negative* to *very negative* effect on the social-emotional health of their students, this dropped to 34% when the instructional delivery option was a hybrid model. High school principals held the strongest feelings on this topic, with 46% of these principals choosing the lowest possible rating of *very negative* effects for the purely online model, as well as rating the hybrid model where students spend at least some time in-person with their teacher much more favorably than either the middle school or primary grades principals had done.

Similar to what superintendents had shared, approximately half of all K-12 principals reported that serving special student populations using online delivery models remained an ongoing challenge, both in terms of communicating with families and in providing adequate scaffolding and support for students to be academically successful. In the case of special education services, adequate staffing for online services was also a struggle for many schools. In Mississippi high schools, 35% of principals said their schools had explored possible methods of providing cooperative education experiences for their students in career and vocational education but reviews on the success of these endeavors were mixed. Providing virtual appointments with guidance counselors online also received mixed ratings from Mississippi principals.

Throughout the extended emergency circumstances of the pandemic, connecting with the families of students in 100% online models was viewed as more difficult than reaching those using hybrid programs or in-person learning. Despite this, K-12 principals continued to try more and different ways to reach all of the families served in their schools with the outcome of the statewide survey finding that as a group, Mississippi principals were utilizing an astonishing average of seven different communication channels in their attempts to maintain effective communications. As a result of these experiences, K-12 principals reported that combining the messaging capabilities of their school's LMS with ongoing social media posts was the most successful approach for the largest number of schools represented in this survey.

K-12 Teacher's Survey

Overview

Capturing the voices of Mississippi's public school teachers, a workforce of 31,856 certified teachers (Wright, 2022), was a critical piece of drawing a picture of Mississippi's response to the emergency online learning experiences. Reaching this number of teachers by phone at their respective schools would not have been feasible, especially as the time of the survey coincided with the end of the academic school year. Instead, the John C. Stennis Institute of Government & Community Development was contracted to facilitate the use of a web-based platform, and the Mississippi Professional Educators (MPE) organization allowed the use of their mailing list for survey recruitment purposes following a vote by their board members. The purpose of the teacher's survey was to hear from general education and special education teachers across primary, middle, and high school grades regarding the multivariate impacts that a sudden shift to online teaching and learning had on the planning, instruction, assessment, communications, and overall well-being of Mississippi's students and teachers.

Survey Development

The statewide K-12 Teachers Survey was designed as a web-based instrument containing 44 questions for general education teachers and 55 questions for special education teachers designed to be completed in one sitting in less than one hour. Respondents could choose to skip any question and continue with the remainder of the survey. The content of the survey was developed by the research team at Mississippi State University. Because the length of the survey was a concern, the research team informally polled a representative sample of K-12 teachers across the state regarding the likelihood that teachers would complete such a survey on their own time if provided with a small incentive of a $5, $10, or $20 e-gift card. Based on the responses of these teachers, the $10 e-gift card was selected as an appropriate incentive. The final version of the K-12 Teacher Survey is viewable in **Appendix D**.

Data Collection

The web-based K-12 Teacher Survey was deployed through Qualtrics by the John C. Stennis Institute at Mississippi State University from May 24, 2021, to June 25, 2021. An initial email invitation was sent to **8,546** Mississippi Professional Educator (MPE) members inviting them to participate in a K-12 survey of their online teaching experiences. Reminders to complete the survey were sent in three waves during the data collection period, and a $10 e-gift card was subsequently issued to each participant who completed the survey. At the close of the survey period, **822** teachers from **428** schools across **121** different school districts in Mississippi had participated and completed at least 25% of the statewide survey, resulting in a **response rate of approximately 10%**. Following initial data analysis, the research team chose to include only those teachers who reached the end of the survey, resulting in a final sample size of **801 kindergarten-12th grade public school teachers** who provided emergency online learning in Mississippi during the pandemic.

K-12 Teacher Demographics

Each Congressional Region of the state was represented in this study with 32% of the K-12 teachers who completed the statewide survey working in a Region 1 school district, 13% of K-12 teachers working in a Region 2 district, 26% of K-12 teachers working in a Region 3 district, and 30% of K-12 teachers working in a Region 4 district.

Of the 801 general education and special education teachers who completed this survey, 678 self-identified as general education teachers (85%) and 122 were special education teachers (15%). In this report, survey responses were analyzed and reported separately for these two groups if responses differed significantly.

Of the general education teachers, 30% reported working with students in the primary grades (kindergarten-3rd grade), 48% worked with middle grades (4th grade-8th grade), and 35% worked with high school (9th grade-12th grade). For the 122 special educators who completed this survey, some of whom also taught across multiple grade levels, 39% worked specifically with primary grades (K-3rd), 51% with middle grades (4th-8th), and 31% with high school grades (9th-12th). Since some teachers taught across multiple grade levels, these percentages total greater than 100%.

Teacher Preparedness

Although 2020-21 instructional delivery plans were filed with MDE by superintendents in Summer 2020, K-12 teachers had to be prepared for sudden changes as these plans necessarily shifted to accommodate the realities of the new school year. When asked, **81% of general education teachers said they had *no control* over the decision that they would be teaching online that year**, while 13% said they had *some control*, and 6% said they had *complete control*. In response to this mandate, teachers in this survey were asked to self-evaluate their readiness to provide online instruction on a scale of 1 to 5, with 1 being *not at all capable* and 5 being *highly capable* and a mean score for each item was calculated. General education teachers felt considerably more capable of *providing effective content area instruction in an online environment* (M=3.34) than they did *motivating their students to learn in that environment* (M=2.79). They also felt more capable at *helping their students master the use of the digital tools (*M=3.33) than they did for *finding alternatives to support the students who were struggling in the online environment* (M=2.8). Thus, these teachers reported being more concerned about their skillset for online pedagogical practices related to learner motivation and differentiation than for their ability to use and assist with the digital tools and delivery platforms themselves.

Learning Management Systems

As educators began to adapt to the long-term circumstances of the COVID-19 pandemic, many school districts either purchased an online Learning Management System (LMS) subscription or significantly increased the usage and application of the one in which they had already invested. Of the 676 general education teachers who responded to this question, 65% were in schools using Google Classroom, 36% were using Canvas, 7% were using Schoology, and 1% were

using Microsoft Teams. These percentages totaled to higher than 100% because some teachers reported their schools were using multiple platforms at once.

The primary grades teachers were the largest users of Google Classroom (74%) compared to middle grades (63%) or high school teachers (52%). Instead, high school teachers were the largest users of Canvas (47%), followed by middle grades (33%), and then primary grades teachers (20%). Schoology was utilized by 10% of primary grades teachers but dropped to 6% for middle and high school grades teachers. Microsoft Teams was used by 2% of primary grades teachers, but less than 1% of middle grades and 0% of high school teachers.

Teachers were asked to assign letter grades to their school's LMS based on how easy it was for them to set up their online learning and for their students to access and navigate the content, along with how well the LMS worked to effectively deliver the content and allow the students adequate practice while learning.

Google Classroom

Regardless of grade levels taught, most of the general education teachers who used Google Classroom (n=44) rated it with an **A** for *ease of use for the instructor to set up and deliver content/instruction.* This grade dropped to a **B** however when it came to *effectiveness for conveying the content you want to teach,* although 96% of the teachers who relied on it still rated this as C or better. When asked about *ease of use for the students to navigate and utilize on their own* and *effectiveness for students trying to learn and practice the content*, the most common grades were also **B** with 99% and 93% rating it as C or better, respectively.

Canvas

K-12 teachers using Canvas (n=245) did not rate their LMS as highly as Google Classroom, although it was still well-regarded. Most of these general education teachers rated Canvas with an **B** across all four areas. However, 93% of general education teachers awarded Canvas a C or better for *ease of use for the instructor to set up,* 91% rated it a C or better for *effectiveness for conveying the content you want to teach*, 92% gave it a C or better for *ease of use for the students to navigate and utilize on their own,* and 95% of teachers awarded Canvas a C or better for *effectiveness for students trying to learn and practice the content*.

Schoology

While the small sample size of those using Schoology (n=47) provides a more limited picture of this LMS, it may be worth noting that the percentage of teachers who awarded Schoology with C or better was lower than the other two platforms. While 98% of teachers did so for *ease of use for the students to navigate and utilize on their own*, this dropped to 89% of teachers rating Schoology a C or better for *ease of use for the instructor to set up,* 84% awarded it a C or better for *effectiveness for conveying the content you want to teach,* and 83% rated it a C or better for *effectiveness for students trying to learn and practice the content*.

Instructional Resources

In addition to an LMS, schools also needed to identify online instructional resources to support student learning. The market for subscription-based websites, apps, and tools grew during the pandemic, alongside many free online resources from educational service providers. Decisions on which of these resources best met the needs of their students, whether to purchase full subscriptions or to rely on only free online materials and when the resources should be used uniformly at the school level or differ by classroom or grade levels, were all impactful aspects of these decisions. Sometimes, but not always, K-12 teachers were involved in the decision-making process.

General online resources

When asked, only 18% of classroom teachers said they were *heavily involved* in the decision-making regarding general instructional resources. Kindergarten-3rd grade teachers were slightly less likely (18%), than 4th-8th grade (21%) or 9th-12th grade teachers (20%) to say this. The reasons for this low level of involvement are not known, although many subscription services for general education software such as iReady are typically targeted for adoption at the district level, rather than by the school or classroom and may therefore have been selected by higher administration.

Content-specific online resources

When it came to selecting content-specific online resources such as for reading, math, or science however, these same teachers reported having much more of a voice, with approximately one-third saying they were *heavily involved* in that decision-making (32%). High school teachers across all subject areas were also much more likely to report heavy involvement (40%) than were teachers in the middle grades (31%) or primary grades (26%).

Across the content areas, teachers reported using a wide variety of beneficial free or for-pay online resources to support specific content areas. *Scholastic News* and other Scholastic readers were mentioned for use in multiple subject areas including language arts, science, math, and social studies. For language arts, the most mentioned tools, in order, were Scholastic products, Newsela, CommonLit, and Readworks. For math, teachers mentioned IXL most frequently, followed by Khan Academy, Generation Genius, Desmos, iReady math, and others. For meeting science needs, Explore Learning (Gizmo) was the most cited beneficial resource along with Generation Genius, StemScopes, Biology Corner, Bioman Biology, and others. Teachers across all grade levels turned to video tools such as Nearpod, Flocabulary, EdPuzzle, and YouTube to support their specific content, and teachers in the higher grades also utilized USATestPrep. For review purposes, some teachers listed free and low-cost educational websites such as Kahoot, Quizziz, Blooket, and Edulastic.

Providing Instruction

The task of providing instruction that would facilitate successful student learning was a huge undertaking for Mississippi teachers. This survey contained several questions asking both general education and special education teachers about how they designed their online learning

environments. Responses varied greatly between teachers at the primary, middle, and high school levels, as well as between general and special education teachers so the results are presented separately. In addition, teachers who indicated in the survey that at least one or more of their online students were English language learners were asked additional questions regarding the type and amount of resources they received to support them.

Teacher-Provided Organizational Scaffolds

The emergency nature of the pandemic required teachers to redesign their instruction at a rapid pace and required students to adapt almost instantaneously to an unfamiliar learning environment, with family support, device access, and internet access not always possible. To help students keep track of their online assignments and course materials, many K-12 general and special education teachers in the survey included organizational scaffolds such as calendars, to-do lists, and current grade information that their students could access at any time within their online class. While the vast majority of K-12 teachers reported using at least one of the features described in this section, the survey found that 6% of the primary grades, middle grades, and special education teachers, and 4% of the high school teachers said none of these organizational scaffolds were built into the online learning they had provided. The specifics of what was provided for the students varied between primary, middle, and high school teachers as well as between general education and special education teachers, so the information is presented separately here.

Primary grades teachers

The most-used organizational feature among primary grades teachers was a daily to-do list for the student to complete (55%), as compared to a weekly to-do list (45%), or a calendar of all the assignment due dates for the entire nine weeks period (27%). Most primary grades teachers also included the learning objectives for the current lessons (53%) and many also included the state standards for the current lessons (44%). A little less than half of the primary grades teachers consistently displayed the student's scores on all graded assignments (48%) but were less likely to include or display the student's current grade in their class (32%). As a group, the primary grades teachers reported more use of short-term scaffolds for their young students such as daily to-do lists and current learning objectives rather than long-term scaffolds such semester calendars and final course grades.

Middle grades teachers

Among middle grades teachers, the most-used organizational features were student access to their scores on all graded assignments (66%) and a daily to-do list for the student to complete (64%). Roughly two-thirds of the teachers included the learning objectives for the current lessons (63%) and nearly half also included the state standards for the current lessons (48%). Most middle grades teachers provided a weekly to-do list for the student to complete (53%) and about one-third also provided a calendar of all the assignment due dates for the current nine weeks (36%). The student's current course grade was made continually available by 51% of middle grades teachers. Overall, middle grades teachers reported higher percentages of use for every organizational scaffold than did primary grades teachers with a greater emphasis on grades.

High school teachers

The emphasis on grade information surpassed all other organizational scaffolds at the high school level with 75% of high school teachers reporting their online classes provided up-to-date access to student scores on all graded assignments, and 58% included the student's current grade for the course. High school teachers were the least likely group to include the state standards in their current lessons (39%) but were closer to their primary and middle school counterparts in providing students with the learning objectives for the current lessons (57%). Most high school teachers used a daily to-do list for the student to complete (59%), many also used a weekly to-do list for the students (49%), and they were the most likely group to give students a calendar of all the assignment due dates for the entire nine weeks (39%).

Special education teachers

Of all the organizational scaffolds, special education teachers were most likely to include the learning objectives for their current lessons (55%) and the student's scores on all graded assignments (50%). This is not surprising given the emphasis on achieving IEP goals for students receiving special education services which makes this information even more important for these students. Learning objectives were followed in usage levels by to-do lists at the daily level (50%) and the weekly level (46%). Special education teachers were less likely to provide continual access to the student's current course grade (43%), state standards for lessons taught (41%), or a full nine-weeks calendar (40%).

Teacher-Provided Learning Supports

In efforts to provide online learning in a format that could work for their students, Mississippi teachers found themselves incorporating a multitude of delivery, practice, and assessment approaches. The type and number of supports provided varied between general education and special education teachers, so the results are presented separately.

General education teachers

While only 28% of general education teachers had a synchronous class just for them and their online students, 49% had their online students join their face-to-face classroom using video conferencing. In a typical week's worth of lesson plans, 49% of respondents said they provided recordings of themselves modeling/delivering instruction, and 46% said they provided recordings of someone else explaining/modeling the content. Required readings, either online or in school textbooks, were also assigned by 63% of teachers. To support acquisition of content, 68% of teachers provided skills practice using an approved website and 52% created paper and pencil tasks for their student to complete.

To encourage students to show what they had learned, 43% of the teachers assigned writing of essays, papers, and other written projects, and 16% of teachers even had students video record themselves performing the task or skill. Even if their students were learning online, 34% of general education teachers reported that they still required those students to deliver work products to the school for teacher evaluation. On average, general education teachers reported consistently including at least five of the learning supports mentioned here for their online students.

Special education teachers

To support student learning, special education teachers were less likely to use recordings of themselves (35%) or others (30%) modeling/delivering instruction for the students than the general education teachers. Instead, special education teachers reported higher use of videoconferencing to have a student join them in their face-to-face classroom (51%), and a higher percentage also said they were able to hold synchronous classes for their online students at once (36%).

To support student learning, online skills practice using an approved website was provided by most of the special education teachers (59%) who were also less likely to assign readings (46%) or paper/pencil tasks (33%) for the students to complete on their own. To allow opportunities for their students to show what they had learned and could do, 11% of special education teachers asked their students to video record themselves performing the task or skill while 25% assigned writing of essays, papers, and other written projects. In 29% of the cases, students were required to deliver their work products to the school for teacher evaluation. On average, special education teachers reported consistently providing at least four of the online components mentioned here for students.

Serving English Language Learners

As part of the survey, 151 teachers indicated they were teaching one or more English language (EL) learners online, with 91% of these being general education teachers and 9% being special education teachers. According to these teachers, their EL learners were being served online in the primary grades (38%), middle grades (45%), and high schools (34%). These percentages total more than 100% because many of these teachers indicated they taught across multiple grade levels.

When these teachers were asked an open-ended question regarding what additional materials, resources, or professional development they had received, **59% of teachers said they received no additional support of any kind to support their EL learners online.** Another 3% of teachers reported they had received *some* or *very little* support but did not elaborate on the type of support received. Only 14% said they had participated in professional development and while some indicated it was done through district personnel, many others added that they had sought their training out on their own through sources such as Google trainings or webinars through professional organizations. Additional materials, software, and/or technology were provided, said 9% of the teachers, while 7% reported making use of school-provided translation support, and 6% found support through collaborating with the EL teacher at their school. Reading intervention plans for their EL students were cited as a support by 3% of the teachers. According to survey results, **the accommodation that teachers found most helpful for providing strong online instruction for their EL learners was translation software or tools**, followed by the use of videos and/or additional visuals, and scheduling one-to-one videoconference support with the student. Teachers serving EL learners online also mentioned coordinating with the EL teacher and contacting families to learn more about their student(s) as being very helpful.

Serving Students Receiving Special Education Services

Providing remedial services online in addition to the general instruction, commonly referred to as Resource, was being provided online by 63% of the special education teachers in this survey. Co-teaching online with a general classroom teacher, commonly referred to as Inclusion, was part of online responsibilities for 58% of respondents. Providing online instruction to students with significant cognitive disabilities, commonly referred to as Self-Contained Classrooms, was being undertaken online by 21% of respondents. In addition, 21% of respondents also described online roles such as speech therapy, behavioral therapy, testing and identification for special services, gifted education, home visits, and family support services.

Paraprofessionals

Although having paraprofessional staff in the face-to-face classroom is a common educational support for students receiving services, only 21% of the special education teachers in this survey had paraprofessional staff to help with their online learning efforts. When present, paraprofessional staff were most often used to provide supplemental instruction via synchronous learning (50%), serve in non-instructional roles to help plan and prepare (40%), and assist in family communication (32%). For teachers who were balancing working with both in-person learning and online learning, their paraprofessional support staff often assisted in cleaning equipment and learning spaces (40%) and did not assist in online learning (28%).

Instructional grouping

Working with small groups of 2-5 students was the most common form of synchronous online instruction for special education reported by 78% of teachers. One-to-one instruction was a frequent method for 68% of special education teachers while 41% said they commonly worked with groups of five or more students. **Almost all special education teachers (98%) rated small group instruction with 2-5 students as the most effective arrangement for providing an appropriate education for the students they were serving online** followed by larger groups of five or more (84%) and one-to-one instruction (83%).

Online difficulties

Depending on the needs stated in their Individualized Education Program (IEP), a student may be entitled to receive academic instruction and support, social/behavioral instruction and support, and/or adaptive or daily living skill instruction and support. When asked to rate the level of difficulty in providing these on a scale from 1 to 5, more than 90% of special education teachers rated all three of these as *difficult to very difficult*. Of the three, **providing adaptive or daily living skill instruction and support was judged to be the most difficult to deliver online (93%)** with 50% giving it the highest rating of *very difficult*. This was followed closely by 91% saying that providing social/behavioral instruction and support was difficult and 47% giving it the highest rating of *very difficult.* In comparison, while providing academic instruction and support online was still judged as difficult by 91% of teachers, only 21% of them rated this type of support at highest level of *very difficult*.

Providing related services

Along with academic instruction, related services such as occupational therapy, physical therapy, and speech services were also transitioned to an online delivery model during the pandemic. When asked to rate this difficulty of achieving this on a scale from 1 (not at all difficult) to 5 (very difficult), 86% these providers rated it as a 3 or higher indicating this was a challenging endeavor. The highest rating of *very difficult* was selected by 46% of these providers. When asked to use the same 1 to 5 scale to evaluate the effectiveness of providing related services online, only 10% said it was *highly effective*.

Transition planning

At the high school level, the role of some special education teachers is to help students receiving special services to prepare for a successful transition into viable daily living situations upon graduation. Planning and providing these transition services online was a new context for these special education teachers. While 31% rated it as *not that difficult*, this was accompanied by 48% saying it was *not that effective* either.

Providing Feedback in Online Contexts

In the absence of opportunities to meet face-to-face, K-12 teachers were surveyed about the methods they frequently used to ensure their online students got feedback on their performance. The methods that teachers chose varied across grade levels, so the results are presented separately here.

Primary Grades

Using the LMS to provide written feedback on submitted assignments (71%) and verbal feedback during live instruction (69%) were preferred by primary grades teachers far more than any other methods. However, chat feedback was used by 35% of the teachers during live instruction, and 31% also reported frequent use of an online reward system such as ClassDojo. Peer feedback during live instruction was less common (18%) as was video feedback from the teacher for students to watch later (12%). Using tools such as Flipgrid, 4% of teachers had primary grades students record video feedback to each other. Only 2% of teachers gave frequent feedback through parent communications and 1% emailed feedback to students.

Middle Grades

In the middle grades, chat feedback during live instruction increased in popularity as a frequent method (52%) alongside verbal feedback during live instruction (64%) and providing written feedback on submitted assignments (87%). Diverging from the primary grades, peer feedback during live instruction (20%) surpassed use of an online rewards system (17%) as the third most preferred feedback method. The use of video feedback from the teacher was about the same (12%), but peers recording video feedback for one another rose slightly (5%). Frequent feedback through parent communications increased (7%), while emailing students did not (1%).

High School

Teachers at the high school level used the same top four methods as their middle school counterparts: providing written feedback on submitted assignments (88%), verbal teacher

feedback during live instruction (64%), chat feedback during live instruction (50%), and peer feedback during live instruction (17%). While the use of an online rewards system was lowest at the high school level (9%), the use of parent communications (12%) and student email to send feedback (12%) were the highest. The use of video feedback from the teacher remained about the same (14%).

Special Education IEP Meetings

The family of a student receiving special education services is entitled to participate in regularly scheduled meetings with their child's service providers to review their Individualized Education Program (IEP). Under the emergency pandemic circumstances, most of these meetings needed to be held online. For this reason, survey participants were to rate the level of difficulty in achieving this *compared to face-to-face* on a scale from 1 (not at all difficult) to 5 (very difficult). Response was fairly split with 53% rating it as only a 1 or 2 while 47% rated it as 3 or higher. Only 9% considered it to be *very difficult* with a score of 5. **Overall, special education teachers were pleased with the effectiveness of holding IEP meetings in an online environment with 77% rating it as 3 or better on a similar 5-point scale,** although 10% of respondents still considered it to be *not at all effective*.

Student Assessment and Grades

Many respondents said they had adjusted their assessment practices and/or grading for emergency online learning from 85% of high school teachers to 82% of middle school teachers, and 84% of primary grades teachers to 76% of special education teachers. This survey asked specifically about 7 different ways in which teachers might have adjusted their practices to account for the inherent difficulties in online learning they may have experienced. As a group, K-12 teachers reported making an average of three adjustments to what they would have otherwise done under regular circumstances, although 25% of teachers said they had provided five or more.

The most common adjustment was using flexible due dates with fewer late penalties implemented by 90% of middle grades teachers, 80% of primary grades teachers, and 71% of high school teachers. The second-most common change from their normal practices was allowing students to resubmit or re-attempt graded work offered by 86% of middle school teachers, 69% of primary grades teachers, and 68% of high school teachers.

In the first year of the pandemic, some teachers chose to "freeze" grades such that none of their students would be issued a final grade below a certain cut-off score, regardless of whether the students completed the learning packets that had been sent home. Survey responses showed that teachers in the middle grades were slightly more likely (21%) to do so than those in the primary grades (17%) or high school (19%). Additionally, according to 18% of middle school teachers and 16% of primary grades and high school teachers, the number of standardized tests required of students was reduced. Primary grades teachers more often reduced the number of their classroom-based assessments (54%) compared to middle grades (45%) or high school teachers (42%). Meanwhile, middle grades teachers reported more lenient scoring on formative assessments (42%) than did primary grades (31%) or high school teachers (38%). For summative assessments however, teachers at the high school had a higher likelihood of reporting they scored

students more leniently (38%) than their middle grades (35%) or primary grades (32%) counterparts. When looking at special education teachers as a subset of these results, this group was more likely to use a reduced number of standardized tests (23%) but much less likely to "freeze" grades (9%) than general education teachers.

Special Education Progress Monitoring

Special education teachers reported using multiple methods for progress monitoring in an online environment with demonstration or performance of a target skill by the student being most prevalent (76%), accompanied by observation of the student (73%), and collection of student work samples (73%). As a group, special education teachers were more likely to report using checklists (33%) than rubrics (13%).

Special education teachers were also asked about the level of difficulty in conducting progress monitoring of IEP goals and objectives online as compared to in-person by rating it on a scale from 1 (not at all difficult) to 5 (very difficult). **Most teachers found online progress monitoring to be quite difficult with 85% rating it as a 3 or higher.** Due to the online learning environment, 14% of all special education teachers said they felt they were not able to accurately monitor progress of their students, even with these methods. Despite these difficulties, most teachers (56%) who were able to use online progress monitoring rated it as a 3 or higher on a similar 5-point scale in terms of its effectiveness.

For students who qualified, 51% of special education teachers said their district had offered an extended school year in 2020 in a virtual learning environment.

Student Well-being

Despite all their efforts to scaffold online learning in the ways they knew how, 47% of general education teachers and 53% of special education teachers reported that **at least half of the students they served still struggled with the content specifically because it was offered online**, rather than taught face-to-face. High school teachers were most likely to observe this with 54% of high school teachers saying half or more of their class was struggling with online learning, while 43% of middle grades teachers, and 42% of primary grades teachers said the same.

In addition to academic difficulties, many teachers also perceived social-emotional strain on their online students. **Most primary grades and high school teachers (59%) and middle school teachers (52%) rated "100% online learning" as having a negative effect on the students' social-emotional health.** Middle school teachers were more likely (43%) than primary (34%) or high school teachers (37%) to be ambivalent about the effects, but only 5% of all K-12 teachers in the survey rated 100% online learning as having a positive impact on the social-emotional health of their students.

The picture for students participating in a hybrid model was somewhat better, although still concerning. The percentage of teachers who rated the hybrid model as having a negative effect on their online students' social-emotional health decreased to 42% in the primary grades, 41% for high school, and 30% for middle school. As before, middle school teachers were more likely

(56%) than primary (46%) or high school teachers (47%) to rate using a hybrid model as having a negative effect on their students' socio-emotional health. However, the percentage of K-12 teachers who rated a hybrid model of online learning as having a positive impact on the social-emotional health of their students rose to 13%. Thus, while the overall results still indicated that online learning negatively impacted students. **K-12 teachers felt that the presence of at least some amount of in-person contact through a hybrid model was less harmful to their students' mental health.**

As part of the questions on student well-being, high school teachers were asked what effect the emergency switch to online learning had on the students they taught regarding after-graduation plans. While 6% of general education teachers said the pandemic year had increased their students' interest in attending a four-year college, 0% of special education teachers agreed. Instead, **55% of high school special education teachers said the disruption of the pandemic had resulted in students feeling increased confusion over what should happen next after graduation. This outcome was echoed by 47% of general education teachers.** An increased interest in employment directly following graduation was reported by 20% of both general education and special education teachers. Another 20% observed increased interest and plans for attending a vocational school or two-year college.

Allocation of Teacher Time

With traditional in-person learning in the classroom, most of a teacher's school day is spent directly interacting with students. Before and after the students arrive, a teachers' time is still in demand for critical tasks such as preparing lessons, grading assignments, communicating with families, and general staff responsibilities and those demands did not disappear with the transition to online learning. In this survey, both general education and special education teachers were asked whether the switch to online learning affected how they had to allocate their time to meet all their responsibilities, especially in relation to how much time they now spent in direct interaction with their students.

The amount of time a teacher spent in direct interaction with online students was highly dependent on several factors such as which delivery models were being employed, whether all or only some of the students in the class were learning virtually, and the specific teaching assignments of the individual. For example, the amount of online student interaction for a teacher providing a hybrid delivery model with alternating school days would look very different from a teacher with half of the classroom there in person and the other half attending via Zoom or completing asynchronous online learning. For this reason, it is impossible to fully represent the way each teacher interpreted direct interaction with their students without accounting for the myriad of the contexts in which each of these teachers were teaching. It is noteworthy however, that when teachers were asked to self-evaluate, 69% of general education teachers and 64% of special education teachers estimated that **less than half of their typical day was spent in direct interaction with their online students**.

The majority of general education teachers (74%) and special education teachers (61%) agreed that **online learning required them to spend more time preparing materials for their students**. Grading the online student work and providing feedback also took more time than

traditional methods, according to 44% of general education teachers, with 38% estimating that grading took about the same amount of time as before, and 17% saying it took less time. The picture was somewhat different in special education, where 45% of teachers felt that it took about the same amount of time to provide online feedback and grading as it did with their in-person materials, while the remaining special educators were split between whether it took more time (26%) or less time (28%) than their in-person efforts.

Communicating with Students and Families

Communicating with Families

General education and special education teachers working in the primary and middle school grades were asked whether communicating with *the families of their online students* was much easier, about the same, or much harder than communicating with the families of students they had taught face-to-face. Special education teachers reported the least differences with 67% judging communication was about the same, although 17% said it was harder, and 16% said it was easier. The picture was different for general education teachers, who reported roughly twice as much difficulty, with 36% of primary grades, and 31% of middle grades teachers viewing communication with these families as more difficult than those of students attending face-to-face.

Communication methods

Primary grades teachers reported using an average of three different communication methods to reach families with text messaging dominating these efforts at 94%, followed by sending emails (74%), and making voice calls (70%). Only 14% used traditional mail methods while 25% reached out to families through social media such as Facebook or Twitter, and 34% offered to hold face-to-face meetings with their online families.

Middle grades teachers also used an average of three different communication methods although they reported somewhat less use of text messaging than the primary grades teachers (89%) and instead made more use of emails (82%) and voice calls (75%). Middle grades teachers also relied less on traditional mail (11%) or social media (18%) than the primary teachers. Use of face-to-face meetings with online students' families was similar at 31%.

Both the primary and middle school groups **identified text messaging as being the most successful method for helping teachers stay connected to their online students' families.** Although these teachers had reported more use of emails than making voice calls, both primary and middle grades teachers rated voice calls as more effective than emails for staying connected with families.

Communicating with Students

High school teachers were asked about the difficulty level of communicating with their online students, and 73% of the general education teachers rated it as *much more difficult* than with their face-to-face students. Only 23% said it was about the same. Most high school special education teachers also rated these communications as more difficult (59%) although they were more likely than general education teachers to rate it as about the same (41%).

Communication methods

To reach their online students, high school teachers used an average of three different methods. Emails sent through their school's LMS were almost universally relied upon (92%), while 66% of teachers reported they communicated with their students through social media. Voice calls to students were used by 36% of the teachers, while a text messaging service was used by 27% of teachers. Postal mail was sent by 8% of teachers, face-to-face conferences were held by 8% of the respondents, and 4% reported using one-to-one video conferences with students. Although using social media posts to reach students was the second most cited communication method among teachers, less than one percent of teachers identified it as the most effective. Instead, high school teachers rated emails through the LMS and text messages through a service such as Remind most highly for staying engaged with their students. In this way, **the most effective communication tools for interacting with students differed from the most effective methods for engaging with families.**

Barriers to Communication

When asked what the greatest barriers to *successful engagement with families of online students* had been during the COVID-19 pandemic, the response from all teachers was highly consistent, with **82% of teachers identifying the primary communication barrier as families' lack of access to technology and connectivity**. The teacher's own limited access to technology or internet connectivity at home was also cited by 22% of respondents. Alongside lack of access, 58% of K-12 teachers faulted the lack of families' understanding of modifications to district policy related to the pandemic, which may have been a result of the lack of internet access that would have allowed them to be informed on such policies. Lack of staff training in use of online communication tools was seen as a great barrier by 28% of K-12 teachers, with 23% also reporting their school had insufficient resources to communicate with families in these ways. When interacting with families, language barriers were problematic for 10% of teachers, cultural barriers were identified by 7% of teachers, and 7% of teachers attributed the difficulties to a perceived lack of family involvement.

When asked what the greatest barriers to *successful engagement with online students* had been, 71% of high school teachers identified students' access to technology and connectivity, mirroring the same difficulty found with family communications. However, **88% of high school teachers said that the lack of responses from their students was their greatest barrier to successful communication**. Lack of staff training in how to communicate/engage online students may have been to blame according to 29% of teachers, along with their own limited access to technology or internet connectivity at home (22%), or insufficient resources to communicate with online students (19%). Cultural barriers (6%) and language barriers (2%) were also cited.

Teacher Supports

Adequate support for teachers is essential to be able to provide effective instruction. All of the general education and special education teachers in this survey were asked open-ended questions about communication from their school leadership, the types of professional development they wished they could have, and how much the emergency online teaching situation had impacted

their own mental health. Participants could write as much as they chose or could also choose to skip any question.

Administrative Leadership

All survey respondents were presented with an open-ended question asking about their experience with communication from their school leadership and how it had impacted them in the classroom. Interestingly, only 273 teachers, or 34% of respondents answered this question, while 66% of teachers skipped ahead to questions that followed. While the reasons for skipping this question cannot be known from the data that was collected, this is a concerning percentage. Missing data that is not random indicates that there is a part of the story that needs to be explored further.

Due to the qualitative nature of this question, responses varied widely although a common feature of the comments was whether they carried a positive, negative, or neutral tone from the writer. For example, the comment*, "Our school leadership has been amazing with how they communicated with us,"* was identified as positive, while *"There was SO LITTLE communication from school leaders! I mean, seriously, none."* was identified as negative. An example of a neutral comment was, *"To be honest, we just survived the year. A lot of changes took place throughout the year, so we did the best by adapting to each of the changes."* An analysis of the responses by tone found that while 56% of teacher comments about their administration carried a positive tone, there were noticeable differences between subgroups. Special education teachers were the most positive group with 68% writing open responses about feeling informed and supported such as, *"My school leadership was great in keeping us informed and directing us through the struggle,"* and *"Administration has been in constant contact with teachers, giving positive feedback and updates. In my opinion, our administration does a wonderful job of keeping teachers motivated, which positively impacts the classroom."* This was counterbalanced by 32% of special education teachers evaluating their communication experiences negatively, *"There has been bare minimal communication. We are constantly left in the dark."*

Most primary and middle grades teachers (62%) also tended to write comments with a positive tone such as, *"Our principals worked very hard to help all the teachers in any way possible,"* and *"Supportive, graceful, and clear are the best ways to describe our administration throughout this entire year."* For the 38% of primary and middle grades teachers who shared negative experiences, the comments tended to be focused on district-level communication. *"It felt like our administration did not know what was going on half the time at the beginning of the year. I think Central Office may have been unclear about some things, which lead them to be unclear with us,"* was a typical example of this.

In contrast to the other groups, **the majority of responses written by high school teachers (64%) carried a negative tone and touched on multiple reasons for the negative communications experiences with administration.** High school teachers expressed dissatisfaction with a lack of shared decision-making with explanations such as, *"Communication from school leadership hasn't been great this year. There are a lot of decisions that have been made without teacher input that have impacted us greatly."* and *"To my knowledge, and that of every other teacher I've spoken with, no classroom teachers (if any) were*

involved to any extent in the scheduling of hybrid, online, or face to face instruction." They also reported feeling uninformed, such as the teacher who wrote *"There was a serious lack of communication with my school's leadership, which was detrimental to classroom efficiency,"* along with many other comments such as, *"I felt we were all in uncharted waters and school leadership did not communicate with us clear expectations of what they wanted us to accomplish."* Finally, high school teachers shared about feeling unsupported, ranging from short comments such as, *"It would have been nice to have been more supported in what we were doing,"* to longer expressions of emotion like, *"Communication?? Blanket reprimands through email or Remind or text messages are not the best way to communicate. These are the forms of communication that have been typical for my school year and all I needed was a sincere face-to-face greeting."*

Teacher Mental Health

Toward the very end of the survey, teachers were presented with a question asking whether *their own social-emotional well-being during the pandemic had impacted the quality of the online instruction* they were able to provide for students. Interestingly, 23% of the teachers who were asked this question actively abstained from answering it, instead skipping ahead to the last three questions that followed, which they then answered. While the reasons for teachers to skip this question cannot be known from the data that was collected, this is a concerning percentage. Missing data that is not random indicates that there is a part of the story that needs to be explored further.

Of the teachers who responded**, 69% of them reported that their own social-emotional well-being during the pandemic had definitely impacted the quality of their online instruction**. In addition, 41% of these teachers wrote extensive open-ended comments such as, *"I have never been more physically or emotionally exhausted. I was very over-worked and am currently considering leaving teaching as a result,"* and *"I am exhausted. I feel like I have been pulled in several directions with little to no support and have had more expectation placed upon me. I've had more stress this year than any other year and have considered changing professions."* Such quotes were illustrative of a recurrent sentiment from these **41% of teachers expressing a very high stress level teaching online to the point of burnout.**

Professional Development

Despite the inherent challenges, approximately half of all the Mississippi teachers surveyed rated it as *very important* that a classroom teacher in a role similar to theirs to be able to offer online instruction in an emergency situation that does not allow for in-person learning, and another one-third of the teachers believe it is *critically important* to be able to do so. Recognizing that training is one of the keys to success, one of the statewide survey questions asked teachers about what kind of professional development they wanted most from their administration. While many responses were similar, special education (n=96) and general education teachers (n=683) did have differences in their priorities, so the results were analyzed separately.

Not surprisingly, **special education teachers were most interested in online learning that would support special student populations** (EL, gifted, disabilities, etc.) with 76% wishing for professional development in that area. This was followed closely by 71% wanting training on generating student motivation for online learning, and 65% wanting to learn more about family

engagement with their student's online learning. More than half wanted professional development on supporting online students' social-emotional needs (54%). Along with strong interest in various technologies to deliver instruction (49%), some special education teachers also wanted to hear more about assessment and feedback approaches for online learning (22%). **Professional development on generating student motivation for online learning was the number one request made by 80% of general education teachers.** The next most requested training was for family engagement with their student's online learning (66%) and using various technologies to deliver instruction (61%). More than half of the teachers also wanted professional development on supporting online students' social-emotional needs (52%). Supporting special student populations was also seen an as important need by many general education teachers (44%) along with interest in online learning assessment and feedback approaches (38%).

Critical Challenges for Future Online Learning Success

While they knew that a full return to in-person learning would certainly happen eventually, this didn't lessen the pressure felt by the K-12 teachers who found themselves frantically working to master online learning models during the COVID-19 pandemic. It also didn't reduce the chances that a K-12 teacher in a Mississippi school might once again face a sudden need to use remote learning while weathering a different emergency situation in the future. Thus, the teachers who participated in this statewide survey helped to identify the critical challenges that still impeded the effective instruction that they and their K-12 teaching colleagues hoped to provide online.

Even after gaining months experience with teaching online, many K-12 teachers still felt powerless to overcome the low student motivation to learn online that many of them encountered. Special education teachers also reported more difficulties than general education teachers due to fewer available resources or existing models to follow for online service delivery.

Alongside teacher concerns about their own efficacy and competency, the greatest barrier to successful engagement with students for learning was lack of access to technology and connectivity. When asked about communicating with the families of their online students, teachers identified the lack of technology and connectivity once again, mirroring the same critical need for comprehensive internet access in Mississippi.

Finally, while providing multiple options for instructional delivery models makes sense at the district level, and possibly even at the school level, attempting to deliver too many different instructional models within a single classroom with the same teacher was not tenable. Thus, how to meet the needs of all students without concurrently having a negative impact on teacher mental health is a conundrum that Mississippi educators must address before the next emergency requiring online instruction arises.

Discussion

Responses to the statewide survey indicated that Mississippi's K-12 teachers were conflicted regarding their own ability to transition to emergency remote teaching and learning during the

COVID-19 pandemic. Although they felt somewhat prepared to use and assist students with the digital tools and delivery platforms themselves, teachers were concerned about lacking the necessary skill set for keeping their students engaged while online, as well how to provide sufficient support and differentiation for special student populations. In the face of these uncertainties however, Mississippi teachers proved to be remarkably resourceful. What worked best for online learning, according to these educators, was being involved in selecting their content-specific resources, providing students with an organizational structure that suited to their grade levels, conducting synchronous instruction using smaller groups of students, being more flexible with due dates and resubmissions, and using multiple communication channels to stay connected to online learners and their families. What continued to worry Mississippi's teachers were issues of internet connectivity for families, appropriate online resources for English language learners and academically struggling students, and the social emotional well-being of students who were separated from their teachers and peers for an extended amount of time.

In general, teachers reported that they had little to no control over the decision to move to remote learning, though they had varying degrees of control over the Learning Management Systems (LMS) they would use to deliver instruction, as well as the instructional resources employed during implementation and assessment. While teachers' experience using a specific LMS during the pandemic was generally dependent on whether they taught at in the primary, middle, or high school levels, Google Classroom, Canvas, and Schoology were all rated as acceptable options by the teachers who used them. K-12 teachers were more likely to be involved in selecting the online resources to use within their specific content areas. One positive outcome of this involvement was that it allowed Mississippi teachers to broaden their awareness of these resources and give them an opportunity to practice implementing them with their students, and many primary, middle, and high school teachers in this study reported a wide variety of beneficial free or for-pay resources they identified as successful for their students.

Once the LMS and online resources had been identified, K-12 teachers reported implementing multiple types of organizational scaffolds such as various types of calendars and "to do" lists, along with learning supports such as videos of themselves explaining or modeling the content and providing both verbal and written feedback on student performance. Special education teachers also emphasized providing the state standards and learning objectives, along with providing multiple delivery, practice, and assessment approaches for the student. As a part of ongoing feedback, teachers indicated they made an average of three adjustments to what they would have otherwise done under regular circumstances. The most common adjustment was using flexible due dates with fewer late penalties, followed by allowing students to resubmit or re-attempt graded work. Special education teachers mentioned using multiple methods for progress monitoring as well, such as requiring demonstration or performance of a target skills, accompanied by observation of the student and collection of student work samples. However, most teachers found online progress monitoring to be very difficult.

The amount of time required for all of these efforts to provide successful online learning was considerably greater than K-12 teachers normally allotted for preparation for in-person learning. Due to a combination of the steep learning curve for emergency online learning as well as the inherent time demands in creating instructional videos, providing more detailed extensive feedback, and using more written communication methods, teachers reported spending more

time preparing for online learning than actually being able to deliver it. Among K-12 teachers who were assigned to provide multiple delivery models simultaneously, such as holding in-person instruction in their classroom while providing online access for real-time interaction with students joining from home, in addition to providing support for students who were using asynchronous online learning or pre-printed packets, the challenge was immense and certainly untenable.

A concerning number of teachers in this survey shared that the chronic stress of emergency online teaching and learning was strongly impacting their ability to perform their role to the point of possible burnout. High school teachers also reported feeling less supported by their own administrations than their primary grades or middle school counterparts, likely contributing to the reported decline in mental well-being. Despite the negative impact on their own mental health—or perhaps because of it—77% of teachers in this survey believed that it was very important for all K-12 teachers to be trained in how to provide effective online instruction in the event of an emergency. Special education teachers primarily wished they knew more about effective digital tools, materials, and methods for serving students with IEPs. This desire was highly consistent with the perceptions of the special education directors, who also expressed their concerns about existing online forms of resource and service delivery not adequately meeting the special education needs in their districts. For general education teachers, the most popular request was for guidance and training on how to motivate and engage students who struggled in an online learning environment, especially at the high school level. This too was consistent with the views of administration who perceived that while online learning was working well for some of their students, certain special populations such as English language learners or students who were academically struggling were still problematic.

Although nearly 60% of the teachers who worked with EL students reported receiving no additional support of any kind to support those students online, these Mississippi teachers instead showed their resourcefulness by seeking out their own sources of training and resources, looking toward professional organizations and colleagues for suggestions. Similarly, special education teachers were resourceful in using co-teaching models and community partnerships in their efforts to ensure students received the supports to which they were entitled. Providing adaptive or daily living skill instruction as well as social/behavioral instruction and support remained extremely difficult to deliver online, but most special education teachers were pleased with the effectiveness of holding virtual IEP meetings using videoconferencing, a finding which mirrored that of the special education directors in the previous survey.

In the midst of all of their efforts to provide a supportive online learning environment, K-12 teachers nonetheless still perceived a social-emotional strain on their online students. At the high school level, the majority of both general and special education teachers said extended online learning had resulted in students feeling increased confusion over what should happen next after graduation. Furthermore, across all grade levels teachers expressed great concern that 100% online learning was having a negative effect on their own students' well-being. They also perceived that if full in-person learning was not possible, including some in-person contact through a hybrid model was less harmful to their students' mental health.

To compensate for the lost time together, K-12 teachers employed a broad range of communication methods to connect with students and their families, similar to the lists provided by superintendents and principals (e.g., text messages, emails, voice calls, traditional mail, social media, face to face meetings). Through much experimentation, most Mississippi teachers found that text messaging was the most successful method for stay connected to their online students' families while emails through their school's LMS was the most effective method for communicating with their students. It is important to recognize that these are general findings however, and that different student populations or community resources may generate communication preferences that differ from these results, highlighting the need for teachers to continue to explore and document what works best for the students and families they serve.

Future Policy and Practice Recommendations

The results of the research shared within this report provide educational stakeholders with useful insights into how Mississippi's K-12 educational system was impacted by the unpredicted need for alternative educational models during a statewide emergency. The voices of the superintendents, special education directors, K-12 principals, general education teachers, and special educators contained here also help to illuminate what worked for Mississippi. The extended nature of the pandemic also served to separate those challenges that were eventually solvable for many school districts versus those challenges that still need to be addressed by education stakeholders. What follows here are policy and practice recommendations that government policy makers, state level educational decision makers, K-12 administrators, and teachers who may need to suddenly shift to remote learning can use to help prepare Mississippi for future emergency situations.

Mississippi public policymakers should:

- make comprehensive internet connectivity a priority for the state,
- continue to simplify the process for school districts to quickly receive contingency funding in an emergency,
- publicly recognize that as long as it is safe to provide, in-person learning is the best instructional delivery model for students in Mississippi's K-12 educational system.

State level educational decision makers should:

- ensure school districts receive the required resources to provide uninterrupted instruction, even during emergency circumstances. Approvals for fund re-allocations as well as applications for additional funding should not be complicated, and barriers to receiving and using funds should be expedited,
- use superintendent feedback to define a clear top-down communication plan at the state-level for dissemination of helpful information during an emergency,
- curate and promote resources for serving special student populations through online learning, particularly English language learners and students with IEPs,
- explore potential solutions to the chronic issue of student absenteeism that worsened with online learning.

K-12 administrators should:

- use in-person instruction as much as possible. If remote learning must be used, provide students and families with synchronous online instruction led by a teacher or a hybrid blend of in-person and online instruction as the preferred methods. Asynchronous online models and pre-printed, self-paced learning packets provide little to no feedback and are not effective choices to support students' continued growth and achievement,
- ensure the school district has a clear emergency communication plan that incorporates both social media and direct communications such as texts, emails, and phone calls, as well as a dedicated staff member to implement the plan,
- work with their teachers to identify the most effective online resources and digital tools for their student population, and work to increase their familiarity and use among all

teachers, students, and families so that relying on them in emergency circumstance is not overly difficult
- continue to build and strengthen community partnerships. In rural states like Mississippi, bonds between schools and their community partners are vital to providing quality education and meeting the needs of students and their families, particularly in times of crisis.

K-12 Teachers should:
- be proactive and take advantage of opportunities for professional development related to synchronous online instruction as well as how to communicate online effectively with families. Emergencies can rarely be predicted, so teachers should have workable plans in place even before a situation arises.
- avoid providing more than one type of instruction to different sets of students simultaneously. Trying to present in-person instruction while supporting synchronous online access for real-time interaction with all students, in addition to being asked to provide asynchronous support with resources is not sustainable and increases the risk of teacher burnout.
- remember that when using online instruction, focusing on student well-being and staying connected to families become even more critical to overall student success. Students need positive interactions and reinforcement from their teachers to help maintain their motivation to learn under stressful conditions. Consider using text messages and emails for directly reaching student families, and social media and LMS messaging for reaching older students.
- ask for support from their school administrators and community partners—let them know what is needed and how they can help. This study found that administrators were not always aware of the struggles teachers felt they were facing when using online learning with their students, thus they did not always offer or know how to support teachers.

Finally, it is important for all stakeholders to keep in mind that additional adjustments to how Mississippi responds to emergency situations are still sure to be needed. What works at one juncture may not always continue to work. Additionally, one size does not fit all. Individual schools need the autonomy to make the best decisions for the communities they serve, even within a district. Being responsive to the needs of all stakeholders as teachers, administrators, and policy leaders make decisions at the classroom, school, district, and state levels remains the key to making Mississippi's educational system robust, even in the face of an unpredictable emergency.

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Available Online Resources

As an extension of this research, a free online repository titled *Emergency Online Teaching—What Works for Mississippi* has been created to provide educators, and communities with access to additional information related to news articles, research studies and reports, online teaching materials, and resources for administrators.

To access this resource, please visit https://guides.library.msstate.edu/k12remoteteaching

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Additional Publications

As an extension of this research, a series of Best Practices & Innovations briefs have also been produced by the research team, using responses to the statewide survey as well as context taken from focus group discussions held with a subset of each participant group in Summer 2021.

Alley, K.M., & Hopper, P.F.. (2022, June). COVID-19 best practices and innovations brief: What Mississippi teachers need from leadership during an emergency teaching situation. *College of Education Publications and Scholarship*. 34. https://scholarsjunction.msstate.edu/coe-publications/34

Alley, K.M., & Javorsky, K. (2022, June). COVID-19 best practices and innovations brief: Effective crisis communication in Mississippi's K-12 system. *College of Education Publications and Scholarship*. 27. https://scholarsjunction.msstate.edu/coe-publications/27/

Alley, K.M., & Javorsky, K. (2022, June). COVID-19 best practices and innovations brief: How Mississippi teachers used organizational scaffolds and learning supports during an emergency learning situation. *College of Education Publications and Scholarship*. 36. https://scholarsjunction.msstate.edu/coe-publications/36

Alley, K.M., & Javorsky, K. (2022, June). COVID-19 best practices and innovations brief: How Mississippi used learning management systems as supports during an emergency learning situation. *College of Education Publications and Scholarship*. 33. https://scholarsjunction.msstate.edu/coe-publications/33

Fondren, K.B., & Hopper, P.F. (2022, June). COVID-19 best practices and innovations brief: How Mississippi ensured free and appropriate public education for students receiving special education services online. *College of Education Publications and Scholarship*. 32. https://scholarsjunction.msstate.edu/coe-publications/32

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Javorsky, K. (2022, June). *Mississippi's K-12 emergency online learning response to the COVID-19 pandemic: Executive summary of research findings.* Emergency online teaching—What works for Mississippi. https://scholarsjunction.msstate.edu/coe-publications/28/

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Survey Design Advisory Panel

A special thank you to our Mississippi educators who provided evaluative feedback during the survey design stage of this research:

Donnie Gholston, Superintendent
Dr. Ken McMillan, Superintendent
Dr. Angela Farmer, Superintendent
Dr. Scott Cantrell, Superintendent
Dr. Jennifer Maness, Director of Special Education
Sara Fraza, Director of Special Education
Kim Stallings, Principal, K-12 Administration
Susan Watts, Principal, K-12 Administration
Dr. Bob Fuller, Principal, K-12 Administration
Pamela Barr-Lenoir, Principal, K-12 Administration

Appendix A: Superintendent Survey

Q1	Name and title as given by the respondent Q1_1 - Superintendent Q1_2 - Assistant Superintendent Q1_3 - Interim Superintendent Q1_4 - Executive Director/Other
Q2	Year and month respondent was first employed in current position
Q3	Thinking back to the beginning of the COVID-19 pandemic when school facilities first closed, how did your district continue providing instruction for students? Q3_1 - Self-paced instruction at home using online tools and websites
	Q3_2 - Self-paced instruction at home using pre-printed learning packets Q1C Q3_3 - Online instruction in real-time with classroom teachers
Q4	When school restarted in Fall 2020, what options for instruction did your school provide, even if only for a short period of time? Q4_1 - Self-paced instruction at home using online tools and websites Q4_2 - Self-paced instruction at home using pre-printed learning packets Q4_3 - Online instruction in real-time with classroom teachers Q4_4 - In-person instruction at the school
	Q4_5 - A hybrid model of some in-person instruction and some online learning
Q5	Which of the following delivery models are currently being provided in your district right now? Q5_1 - Self-paced instruction at home using online tools and websites
	Q5_2 - Self-paced instruction at home using pre-printed learning packets Q5_3 - Online instruction in real-time with classroom teachers Q5_4 - In-person instruction at the school Q5_5 - A hybrid model of some in-person instruction and some online learning
Q6	Which of the following factors was the primary reason for the district's decision to use the current delivery models structure? Q6_1 - Available financial resources Q6_2 - Available physical resources Q6_3 - Staffing concerns Q6_4 - Health and safety concerns Q6_5 - Local or state mandates Q6_6 - Multiple factors/unable to choose
Q7	On a scale of 1 to 5, with 1 being not at all successful and 5 being highly successful, how successful do you feel each of these models has been for your district? Q7_1 - In-person learning during the pandemic Q7_2 - 100% online model that is primarily asynchronous Q7_3 - 100% online model that is primarily real-time teacher instruction Q7_4 - A hybrid model of some at-school instruction and at-home instruction
Q8	What is the primary delivery model being used by *guidance counselors* in your middle and high schools when advising students' course selections and college admissions? Q8_1 - In-person appointments at the school Q8_2 - Online appointments Q8_3 - Both In-person and online appointments Q8_4 - No answer given / Not applicable
Q9	

	Which of the following statements describes your district's ability to offer *cooperative education experiences* in the upper grades this year? Q9_1 - We have not been able to offer them due to the pandemic Q9_2- We have offered some using a modified format such as virtual online experiences or a more limited number of physical placements Q9_3 - We have offered some in essentially the same way as we have in the past
Q10	Has your district offered *special education services* online?
Q11	Please rank the following challenges on a scale of 1 to 5, with 1 being *not at all difficult* and 5 being *extremely difficult*: Q11_1 - Having enough special education staff Q11_2 - Implementing effective online delivery models Q11_3 - Establishing sufficient communications with families
Q12	Does your district have *English Language learners* who are participating in online learning?
Q13	Please rank each of the following challenges on a scale from 1 to 5, with 1 being *not at all difficult* and 5 being *extremely difficult*. Q13_1 - Having enough EL-trained staff Q13_2 - Implementing effective online delivery models Q13_3 - Providing culturally responsive instruction online Q13_4 - Establishing sufficient communications with families
Q14	Did your district have to reallocate existing financial resources in response to the 2020 pandemic?
Q15	Would you describe the process in doing so as *very complicated, somewhat complicated*, or *not complicated*?
Q16	Did your district formally request additional funds to cover any pandemic-related expenses?
Q17	Would you describe the process in doing so as *very complicated, somewhat complicated*, or *not complicated*?
Q18	On a scale of 1 to 5 where 1 is *much slower* and 5 is *much faster*, how would you describe the wait time before receiving your pandemic-related funds when compared to the wait time for normally budgeted funds?
Q19	If your district received additional funding, was any of it earmarked for providing *online instruction*?
Q20	Please rate each of the following groups as either a *primary support* or *background support* for your funding decisions related to online instruction in your district: Q20_1 - Mississippi Department of Education Q20_2 - Other Mississippi superintendents Q20_3 - Your school district staff Q20_4 - Your local school board
Q21	For each of the following items, please identify whether it was "*a substantial obstacle*", "*somewhat of an obstacle*", or "*not an obstacle*" for your school district: Q21_1 - Existing procurement and acquisitions policies, such as for vendor selection or bulk purchases Q21_2 - Scarcity of inventory items you wanted to purchase Q21_3 - Existing policies related to human resources such as staffing ratios, teacher contract language, or licensure requirements Q21_4 - Amount of time needed to make informed decisions Q21_5 - Amount of time until promised funding was available to spend
Q22	On a scale of 1 to 5, with 1 being *very inconsistent* and 5 being *very consistent*, how consistent did you find each of the following information streams during the pandemic?

	Q22_1 - State-level official informational channels such as Mississippi Department of Education, Department of Health, and the Governor's Office Q22_2 - Local-level official informational channels such as school board, elected officials, health officials and business leaders Q22_3 – National-level official informational channels
Q23	On the same scale of 1 to 5, how useful did you find each of those information streams? Q23_1 - State-level official informational channels such as Mississippi Department of Education, Department of Health, and the Governor's Office Q23_2 - Local-level official informational channels such as school board, elected officials, health officials and business leaders Q23_3 – National-level official informational channels
Q24	Which of the following communication methods are you currently using to relay information to school district stakeholders? Q24_1 - Social media posts such as Facebook or Twitter Q24_2 - A text-messaging service such as ReMIND Q24_3 - Automated voice calls from school administrators Q24_4 - Announcements posted on school and district websites Q24_5 - Emails to families Q24_6 - Postal mail to families Q24_7 - Other (please describe) Q24_8 becomes Home visits Q24_9 becomes Zoom/Webex/video meetings Q24_10 becomes local newspaper/radio Q24_11 becomes LMS (Canvas)/School Platforms (Schoology, ActiveParent, School Status) Q24_12 becomes Newsletters Q24_13 becomes individual phone calls (counselors, principals, social workers, truancy officer)
Q25	Which communication methods that you are currently using would you classify as most successful for reaching family and students in your online or hybrid models? Q25_1 becomes social media Q25_2 becomes text messages Q25_3 becomes phone calls Q25_4 becomes emails (often through LMS) Q25_5 becomes Other (Postal, Webex)
Q26	Which of the following types of support have any of your community partners provided during the pandemic? Q26_1 - Donations of technology or equipment Q26_2 - Providing open access Wi-Fi hotspots Q26_3 - Donations of PPE or other pandemic-related school supplies Q26_4 - Cash donations Q26_5 - Offers to use additional physical spaces Q26_6 - Volunteers to support students in school or online Q26_7 - Other professional services offered for free
Q27	From those selected in the previous question, please rate the top 3 community supports that met a critical need for your district.
Q28	From the following list, please select the top three challenges your district has faced during the pandemic: Q28_1 - Providing meals for students Q28_2 - Following health & safety measures under COVID-19

	Q28_3 - Providing high-quality online instruction Q28_4 - Delivering Special education services Q28_5 - Having enough funding Q28_6 - Supporting after school care for students Q28_7 - Offering mental health services and referrals
Q29	Specific to *providing online instruction*, please categorize each of the following challenges as either *not an issue*, *a solved issue*, or *an ongoing issue*: Q29_1 - Staffing Q29_2 - Low student attendance Q29_3 - Technology and support for students, staff, and families Q29_4 - Professional development for teachers Q29_5 - Ability to provide synchronous instruction Q29_6 - Serving struggling learners Q29_7 - Serving English language learners
Q30	Would you be willing to participate in follow-up web-based conversation about innovative solutions?

Appendix B: Special Education Director Survey

Q1	Which of the following models did special educators in your district use to continue providing special education services once buildings closed in **Spring 2020**? (check all that apply) Q1R1C1 - Early Grades (K-3) Self-paced instruction at home using online tools and websites Q1R1C2 - Middle Grades (4-8) Self-paced instruction at home using online tools and websites Q1R1C3 - Upper Grades (9-12) Self-paced instruction at home using online tools and websites Q1R2C1 - Early Grades (K-3) Self-paced instruction at home using pre-printed learning packets Q1R2C2 - Middle Grades (4-8) Self-paced instruction at home using pre-printed learning packets Q1R2C3 - Upper Grades (9-12) Self-paced instruction at home using pre-printed learning packets Q1R3C1 - Early Grades (K-3) Online instruction in real-time with a special education teacher Q1R3C2 - Middle Grades (4-8) Online instruction in real-time with a special education teacher Q1R3C3 - Upper Grades (9-12) Online instruction in real-time with a special education teacher
Q2	How were special education services provided when school restarted in **Fall 2020**? (check all that apply) Q2R1C1 - Early Grades (K-3) Self-paced instruction at home using online tools and websites Q2R1C2 - Middle Grades (4-8) Self-paced instruction at home using online tools and websites Q2R1C3 - Upper Grades (9-12) Self-paced instruction at home using online tools and websites Q2R2C1 - Early Grades (K-3) Self-paced instruction at home using pre-printed learning packets Q2R2C2 - Middle Grades (4-8) Self-paced instruction at home using pre-printed learning packets Q2R2C3 - Upper Grades (9-12) Self-paced instruction at home using pre-printed learning packets Q2R3C1 - Early Grades (K-3) Online instruction in real-time with a special education teacher Q2R3C2 - Middle Grades (4-8) Online instruction in real-time with a special education teacher Q2R3C3 - Upper Grades (9-12) Online instruction in real-time with a special education teacher Q2R4C1 - Early Grades (K-3) In-person instruction at the school Q2R4C2 - Middle Grades (4-8) In-person instruction at the school Q2R4C3 - Upper Grades (9-12) In-person instruction at the school Q2R5C1 - Early Grades (K-3) A hybrid model of some in-person instruction and some online learning Q2R5C2 - Middle Grades (4-8) A hybrid model of some in-person instruction and some online learning Q2R5C3 - Upper Grades (9-12) A hybrid model of some in-person instruction and some online learning
Q3	How are special education services being provided **currently in Spring 2021**? (check all that apply) Q3R1C1 - Early Grades (K-3) Self-paced instruction at home using online tools and websites Q3R1C2 - Middle Grades (4-8) Self-paced instruction at home using online tools and websites Q3R1C3 - Upper Grades (9-12) Self-paced instruction at home using online tools and websites Q3R2C1 - Early Grades (K-3) Self-paced instruction at home using pre-printed learning packets Q3R2C2 - Middle Grades (4-8) Self-paced instruction at home using pre-printed learning packets Q3R2C3 - Upper Grades (9-12) Self-paced instruction at home using pre-printed learning packets Q3R3C1 - Early Grades (K-3) Online instruction in real-time with a special education teacher Q3R3C2 - Middle Grades (4-8) Online instruction in real-time with a special education teacher Q3R3C3 - Upper Grades (9-12) Online instruction in real-time with a special education teacher Q3R4C1 - Early Grades (K-3) In-person instruction at the school Q3R4C2 - Middle Grades (4-8) In-person instruction at the school Q3R4C3 - Upper Grades (9-12) In-person instruction at the school Q3R5C1 - Early Grades (K-3) A hybrid model of some in-person instruction and some online learning Q3R5C2 - Middle Grades (4-8) A hybrid model of some in-person instruction and some online learning Q3R5C3 - Upper Grades (9-12) A hybrid model of some in-person instruction and some online learning

Q4	On a scale of 1 to 5, with 1 being *least successful* and 5 being *most successful*, how successfully have students and families been **adopting and using** the following models? (or indicate if not offered) Q4_1 - In-person learning during the pandemic Q4_2 - 100% online model that is primarily asynchronous Q4_3 - 100% online model that is primarily real-time teacher instruction Q4_4 – A hybrid model of some at-school instruction and at-home instruction
Q5	On a scale of 1 to 5, with 1 being *not at all difficult* to 5 being *very difficult*, how difficult would you say it has been for your teachers to **deliver instruction** using each of the following models? (or indicate if not offered) Q5_1 - In-person learning during the pandemic Q5_2 - 100% online model that is primarily asynchronous Q5_3 - 100% online model that is primarily real-time teacher instruction Q5_4 – A hybrid model of some at-school instruction and at-home instruction
Q6	Where are your special education staff who deliver online instruction located while teaching?
Q7	On a scale of 1 to 5, with 1 being *not at all important* and 5 being *very important*, how important do you believe the teacher's location is to the quality of the online instruction?
Q8	On a scale of 1 to 5, how successful have each of these models been at **meeting the academic needs** of your students receiving special education services? (or indicate if not offered) Q8_1 - In-person learning during the pandemic Q8_2 - 100% online model that is primarily asynchronous Q8_3 - 100% online model that is primarily real-time teacher instruction Q8_4 – A hybrid model of some at-school instruction and at-home instruction
Q9	On a scale of 1 to 5, with 1 being *very negative* and 5 being *very positive*, how would you rate the effect that *100% online instruction* has had on the **social-emotional well-being** of students receiving special education services?
Q10	If you are offering a *hybrid model*, on a scale of 1 to 5, with 1 being *very negative* and 5 being *very positive*, how would rate the effect that model has had on the **social-emotional well-being** of students receiving special education services?
Q11	What delivery model did your school district offer for **the 2020 extended school year** for qualifying students using virtual learning? Q11_1 – 100% online model that is primarily asynchronous Q11_2 – 100% online model that is primarily real-time teacher instruction Q11_3 – A hybrid model of some at-school instruction and at-home instruction Q11_4 – Did not use virtual learning for extended school
Q12	Did inadequate funding prevent you from offering online instruction to all students at your school?
Q13	Did any of your community partners provide the following to support online learning? Q13_1 – Donations of technology or equipment Q13_2 – Providing open access Wi-Fi hotspots Q13_3 – Volunteer manpower such as for tech support Q13_4 – Other (please specify)
Q14	Were any of the following partnerships instrumental in supporting online learning at your school? Q14_1 - After-school providers Q14_2 - Related services (physical therapy, occupational therapy, etc) Q14_3 - Public libraries Q14_4 - Cultural centers such as museums or science centers Q14_5 - Local businesses Q14_6 - Non-profit or service organizations Q14_7 - Universities or community colleges Q14_8 - Other (please describe)

Q15	In addition to district wide resources provided to all students, did students served through special education receive specific *technology devices* to provide or support their online instruction?
Q16	(If YES to Q15) Please explain.
Q17	In addition to district wide resources provided to all students, did students served through special education receive *specific software* to provide or support online instruction?
Q18	(If YES to Q17) Please explain.
Q19	Which of the following communication methods is your school using to relay information to students, families **participating in online learning**? Q19_1 - Social media posts such as Facebook or Twitter Q19_2 - A Text-messaging service such as ReMIND Q19_3 - Automated voice calls to families Q19_4 - Announcements posted on school websites Q19_5 - Emails to families Q19_6 - Postal mail to families Q19_7 - Other (please describe)
Q20	Which two have been the **most successful** for staying connected to those families? (pick TWO) Q20_1 - Social media posts such as Facebook or Twitter Q20_2 - A Text-messaging service such as ReMIND Q20_3 - Automated voice calls to families Q20_4 - Announcements posted on school websites Q20_5 - Emails to families Q20_6 - Postal mail to families Q20_7 - Other (please describe)
Q21	Would you say communicating with families using the hybrid model is *much easier, about the same,* or *much harder* than communicating with families using the 100% online model?
Q22	Would you say communicating with families using the 100% online model is *much easier, about the same*, or *much harder* than communicating with families using traditional instruction?
Q23	Which of the following challenges did your district experience while communicating with families receiving special education services online? (check all that apply) Q23_1 - Personal limited accessibility to technology or internet connectivity at home Q23_2 - Lack of clarity in my own understanding of pandemic policies and procedures Q23_3 - Families' understanding of modifications to district policy related to the pandemic Q23_4 - Sufficient resources to communicate with families Q23_5 - Families' access to technology and connectivity Q23_6 - Lack of staff training in use of online learning management systems and tools to communicate Q23_7 – Other (please explain)
Q24	What areas of professional development on delivering online services and support has the district provided to your special education teachers and staff? (check all that apply) Q24_1 - How to provide academic instruction and support Q24_2 - How to provide social/behavioral instruction and support Q24_3 -How to provide adaptive or daily living skill instruction and support Q24_4 – Progress monitoring IEP goals and objectives Q24_5 – Parent involvement and communication Q24_6 – Transition planning Q24_7 - Providing related services (OT, PT, Speech, etc.) Q24_8 - Confidentiality in providing feedback in a virtual learning environment

Q25	What roles did **paraprofessionals** play during online learning in your district? (check all that apply) Q25_1 - Provided supplemental instruction via a synchronous learning environment Q25_2 - Provide non instructional roles to help plan and prepare Q25_3 - Assisted in family communication Q25_4 -Assisted in cleaning equipment and learning spaces Q25_5 - Paraprofessionals did not assist in online learning
Q26	Did you provide training and support for **paraprofessionals** in your district to assist in online learning?
Q27	Did you provide training and support for **parents** of students receiving special education services in your district to assist in online learning?
Q28	What types of training did you provide for parents of students receiving special education services? (check all that apply) Q28_1 - How to access district resources Q28_2 - How to implement the provided academic instruction and supports Q28_3 - How to provide social/behavioral instruction and support for their child Q28_4 - How to provide adaptive or daily living skills instruction and support Q28_5 - How to assist in progress monitoring IEP goals and objectives Q28_6 - How to participate in transition planning Q28_7 - How to receive related services (OT, PT, Speech, etc...)
Q29	What challenges did you face in **delivering online instruction** to students receiving special education services? (check all that apply) Q29_1 – Parent's ability to help facilitate a virtual learning environment. Q29_2 – Student's current levels of performance impacted his/her ability to participate in a virtual learning environment Q29_3 – Personal limited accessibility to technology or internet connectivity at home Q29_4 – ck of clarity in my own understanding of pandemic policies and procedures Q29_5 – Families' understanding of modifications to district policy related to the pandemic Q29_6 – Sufficient resources to communicate with families Q29_7 –Families' access to technology and connectivity Q29_8 – Lack of staff training in use of online learning management systems and tools to communicate/engage families Q29_9 –Other (please describe)
Q30	What factors impacted your district's **transition planning and instruction** while delivering instruction online? (check all that apply) Q30_1 – Parent's ability to help facilitate a virtual learning environment. Q30_2 – Student's current levels of performance impacted his/her ability to participate in a virtual learning environment Q30_3 – Student's motivation in participating in transition instruction Q30_4 – Personal limited accessibility to technology or internet connectivity at home Q30_5 – Lack of clarity in my own understanding of pandemic policies and procedures Q30_6 - Families' understanding of modifications to district policy related to the pandemic Q30_7 – Sufficient resources to communicate with families Q30_8 –Families' access to technology and connectivity Q30_9 – Lack of staff training in use of online learning management systems and tools to communicate/engage families Q30_10 - Community partners were closed or not accepting students for transition instruction during the pandemic Q30_11 –Other (please describe)
Q31	On a scale of 1 to 5, with 1 being *very ineffective* and 5 being *very effective*, how effective do you believe online learning is for supporting students' progress towards meeting IEP goals?
Q32	On a scale of 1 to 5, with 1 being *no impact* and 5 being a *significant impact*, how much did online learning impact progress monitoring of IEP goals?
Q33	Is your district holding IEP meetings in a virtual format?

Q34	(If YES to Q33) On a scale of 1 to 5, with 1 being the *much less effective* and 5 being *much more effective*, how would you rate the virtual IEP meetings as compared to traditional in-person meetings?
Q35	(If YES to Q33) What were common barriers to facilitating IEP meetings in an online format? Q35_1 - Personal limited accessibility to technology or internet connectivity at home Q35_2 - Lack of clarity in my own understanding of pandemic policies and procedures Q35_3 - Families' understanding of modifications to district policy related to the pandemic Q35_4 -Sufficient resources to communicate with families Q35_5 - Families' access to technology and connectivity Q35_6 - Lack of staff training in use of online learning management systems and tools to communicate Q35_7 - Other (please describe)
Q36	Some of the special education directors from this survey will be invited to participate in a follow-up web-based conversation about innovative solutions. If selected, would you be willing to participate?

Appendix C: Principals Survey

Q1	Thinking back to the beginning of the COVID-19 pandemic when school facilities first closed, how did your district continue providing instruction for students? Q1_1 - Self-paced instruction at home using online tools and websites Q1_2 - Self-paced instruction at home using pre-printed learning packets Q1_3 - Online instruction in real-time with classroom teachers Q1_4 - Other (please describe)
Q2	When school restarted in Fall 2020, what options for instruction did your school provide, even if only for a short period of time? Q2_1 - In-person instruction at the school Q2_2 - Self-paced instruction at home with online resources Q2_3 - Self-paced instruction at home with pre-printed learning packets Q2_4 - Online instruction in real-time with classroom teachers Q2_5 - A hybrid model
Q3	Which of the following delivery models are currently being provided in your district right now? Q3_1 - In-person instruction at the school Q3_2- Self-paced instruction at home with online resources Q3_3 - Self-paced instruction at home with pre-printed learning packets Q3_4 - Online instruction in real-time with classroom teachers Q3_5 - A hybrid model
Q4	On a scale of 1 to 5, with 1 being *least successful* and 5 being *most successful*, how successfully have students and families been **adopting and using** the following models? (or indicate if not offered) Q4_1 - In-person learning during the pandemic Q4_2 - 100% online model that is primarily asynchronous Q4_3 - 100% online model that is primarily real-time teacher instruction Q4_4 – A hybrid model of some at-school instruction and at-home instruction
Q5	On a scale of 1 to 5, with 1 being *not at all difficult* to 5 being *very difficult*, how difficult would you say it has been for your teachers to **deliver instruction** using each of the following models? (or indicate if not offered) Q5_1 - In-person learning during the pandemic Q5_2 - 100% online model that is primarily asynchronous Q5_3 - 100% online model that is primarily real-time teacher instruction Q5_4 – A hybrid model of some at-school instruction and at-home instruction
Q6	Where are your teachers who deliver online instruction located while teaching?
Q7	On a scale of 1 to 5, with 1 being *not at all important* and 5 being *extremely important*, how important do you believe the teacher's location is to the quality of the online instruction?
Q8	On a scale of 1 to 5, how successful have each of these models been at **meeting the academic needs** of your students? (or indicate if not offered) Q8_1 - In-person learning during the pandemic Q8_2 - 100% online model that is primarily asynchronous Q8_3 - 100% online model that is primarily real-time teacher instruction Q8_4 - A hybrid model of some at-school instruction and at-home instruction
Q9	On a scale of 1 to 5, with 1 being *very negative* and 5 being *very positive*, how would you rate the effect that *100% online instruction* has had on the **social-emotional well-being** of those students?
Q10	If you are offering a *hybrid model*, on a scale of 1 to 5, with 1 being *very negative* and 5 being *very positive*, how would rate the effect that model has had on the **social-emotional well-being** of those students?

Q11	If your school has **English Language learners** who are participating on your online delivery model, please rank each of the following challenges on a scale from 1 to 5, with 1 being *not at all difficult* and 5 being *extremely difficult*. Q11_1 - Having enough EL-trained staff Q11_2 - Implementing effective online delivery models Q11_3 - Providing culturally responsive instruction online Q11_4 - Establishing sufficient communications with families
Q12	If your school provided **online special education services**, please rank each of the following challenges on a scale of 1 to 5, with 1 being *not at all difficult* and 5 being *extremely difficult*. Q12_1 - Having enough special education staff Q12_2 - Implementing effective online delivery models Q12_3 - Establishing sufficient communications with families
Q13	Is there anything else we may have missed?
Q14	(If Q12 not empty) On a scale of 1 of 5, with 1 being *not at all* and 5 being *almost always*, how much of **online special education services** were provided as: Q14_1 - 100% online model that is primarily asynchronous Q14_2 - 100% online model that is primarily real-time teacher instruction Q14_3 - A hybrid model of some at-school instruction and online instruction
Q15	Do you feel that your school received an equitable amount of resources (PPE, technology, educational resources, etc) during the pandemic compared to other schools in your district?
Q16	Did inadequate funding prevent you from offering online instruction to all students at your school?
Q17	Did any of your community partners provide the following to support online learning? Q17_1 - Donations of technology or equipment Q17-2 - Providing open access Wi-Fi hotspots Q17_3 – Volunteer manpower such as for tech support
Q18	Were any of the following partnerships instrumental in supporting online learning at your school? Q18_1 – After-school providers Q18_2 – Public libraries Q18_3 – Cultural centers such as museums or science centers Q18_4 – Local businesses Q18_5 –Non-profit or service organizations Q18_6 – Universities or community colleges
Q19	Which of the following communication methods is your school using to relay information to students, families participating in online learning? Q19_1 – Learning Management System (Google classroom, Canvas, etc) Q19_2 – Social media posts such as Facebook or Twitter Q19_3 – Announcements posted on school website Q19_4 – A Text-messaging service such as ReMIND Q19_5 – Announcements through your Learning Management System Q19_6 – Automated voice calls Q19_7 – Emails to families Q19_8 – Postal mail to families
Q20	Which two have been the **most successful** for staying connected to those families? Q20_1 – Learning Management System (Google classroom, Canvas, etc) Q20_2 – Social media posts such as Facebook or Twitter Q20_3 – Announcements posted on school website Q20_4 – A Text-messaging service such as ReMIND Q20_5 – Announcements through your Learning Management System

	Q20_6 – Automated voice calls Q20_7 – Emails to families Q20_8 – Postal mail to families
Q21	Would you say communicating with families using the ***hybrid model*** is *much easier*, *about the same*, or *much harder* than communicating with families using the 100% online model?
Q22	Would you say communicating with families using the 100% online model is *much easier*, *about the same*, or *much harder* than communicating with families using traditional instruction?
Q23	Reflecting on how your school has been providing online instruction, please categorize each of the following challenges as either (1) was *not an issue*, (2) *a solved issue*, or (3) *still an ongoing issue*: Q23_1 – Staffing Q23_2 – Low student attendance Q23_3 – Technology and support for students, staff, and families Q23_4 – Professional development for teachers Q23_5 – Ability to provide synchronous instruction Q23_6 – Serving struggling learners Q23_7 – Serving English language learners
Q24	Does your school serve any students in grades 6-12?
Q25	Has your school used any virtual/online experiences as a way for students to participate in any career/vocational Cooperative Education this year?
Q26	Please share which fields you were able to provide this for (horticulture, mechanical, etc.):
Q27	On a scale of 1 to 5, with 1 being *least successful* and 5 being *most successful*, how successful do you feel those efforts have been?
Q28	Have your guidance counselors used online appointments as a way to offer academic counseling this year?
Q29	On a scale of 1 to 5, with 1 being *least successful* and 5 being *most successful*, how successful do you feel those efforts have been?
Q30	Were there elective courses that could not be offered this year because you lacked a way to provide instruction online?
Q31	Can you please name a few examples?
Q32	Some of the principals from this survey will be invited to participate in a follow-up web-based conversation about innovative solutions. If selected, would you be willing to participate?

Appendix D: K-12 Teachers Survey

Q1	What grade levels do you teach? Q1_1 – Elementary, Grades Kindergarten – 3rd grades Q1_2 – Middle, 4th – 8th grades Q1_3 – High school, 9th-12th grades
Q2	Which of the following describes your current *online* teaching role? 1 – General education 2 – Special education
Q3	*SPECIAL EDUCATION TEACHERS ONLY* What roles do you perform as a special education teacher? (check all that apply): Q3_1 - Co-teaching online with a general classroom teacher (Inclusion) Q3_2- Provide remedial services online in addition to the general instruction (Resource) Q3_3 - Provide online instruction to students with significant cognitive disabilities (self-contained) Q3_4 - Other (please explain your role in providing special education online)
Q4	*SPECIAL EDUCATION TEACHERS ONLY* During a typical school day, how many teaching sessions (individual block of time providing instruction) do you provide for students?
Q5	*SPECIAL EDUCATION TEACHERS ONLY* Are any of your teaching sessions held as one-on-one instruction?
Q6	*SPECIAL EDUCATION TEACHERS ONLY (If YES to Q5)* How effective do you think this model has been at providing an appropriate education for the students you are serving online?
Q7	*SPECIAL EDUCATION TEACHERS ONLY* Are any of your teaching sessions held in small groups (2-5 students)?
Q8	*SPECIAL EDUCATION TEACHERS ONLY (If YES to Q7)* How effective do you think this model has been at providing an appropriate education for the students you are serving online?
Q9	Are any of your teaching sessions held with groups of more than 5 students?
Q10	*SPECIAL EDUCATION TEACHERS ONLY (If YES to Q9)* How effective do you think this model has been at providing an appropriate education for the students you are serving online?
Q11	*SPECIAL EDUCATION TEACHERS ONLY* What methods of progress monitoring did you use to keep track of IEP goals during online learning? (Check all that apply) Q11_1 – Checklists Q11_2 - Work samples Q11_3 – Rubrics Q11_4 – Observation Q11_5 - Demonstration/performance Q11_6 - I was not able to accurately monitor progress through online learning.
Q12	*SPECIAL EDUCATION TEACHERS ONLY* Did your school district offer an extended school year in 2020 in a virtual learning environment for qualifying students?

Q13	*SPECIAL EDUCATION TEACHERS ONLY* Did you have a paraprofessional to assist in your classroom during online learning?
Q14	*SPECIAL EDUCATION TEACHERS ONLY (If YES to Q13)* What roles did the paraprofessional play during online learning. (check all that apply) Q14_1 – Provided supplemental instruction via synchronous learning Q14_2 – Provide non instructional roles to help plan and prepare Q14_3 – Assisted in family communication Q14_4 – Assisted in cleaning equipment and learning spaces Q14_5 – My paraprofessional did not assist in online learning
Q15	*SPECIAL EDUCATION TEACHERS ONLY* Overall, what challenges did you face in *delivering special education services online* to students receiving special education services? (check all that apply) Q15_1 - Parent's ability to help facilitate a virtual learning environment. Q15_2 - Student's current levels of performance impacted his/her ability to participate in a virtual learning environment Q15_3 - Student's lack of motivation in participating in instructional activities Q15_4 - Personal limited accessibility to technology or internet connectivity at home Q15_5 - Lack of clarity in my own understanding of pandemic policies and procedures Q15_6 - Families' understanding of modifications to district policy related to the pandemic Q15_7 - Sufficient resources to communicate with families Q15_8 - Families' access to technology and connectivity Q15_9 - Lack of staff training in use of online learning management systems and tools to communicate/engage families Q15_10 - Confidentiality in providing feedback in a virtual learning environment Q15_11 - Online delivery does not support an appropriate education for the students you are serving
Q16	*SPECIAL EDUCATION TEACHERS ONLY* The next 7 questions ask you to think about the **level of difficulty to deliver online instruction** compared to traditional in-person learning when providing special education services. On a scale of 1 to 5, with 1 being not at all difficult and 5 being very difficult, how would you rate: Q16_1 - providing academic instruction and support online as compared to traditional in-person? Q16_2 - providing social/behavioral instruction and support online as compared to traditional in-person? Q16_3 - providing adaptive or daily living skill instruction and support online as compared to traditional in-person? Q16_4 - progress monitoring IEP goals and objectives online as compared to traditional in-person? Q16_5 - transition planning and implementation online as compared to traditional in-person? Q16_6 - providing related services (OT, PT, Speech, etc..) online as compared to traditional in-person? Q16_7 - holding IEP meetings online as compared to transition in person?
Q17	*SPECIAL EDUCATION TEACHERS ONLY* The next 7 questions ask you to think about the **effectiveness** of an online delivery model for *providing* special education services. On a scale of 1 to 5, with 1 being *not at all effective* and 5 being *very effective*, how would you rate: Q17_1 - providing academic instruction and support online as compared to traditional in-person? Q17_2 - providing social/behavioral instruction and support online as compared to traditional in-person? Q17_3 - providing adaptive or daily living skill instruction and support online as compared to traditional in-person? Q17_4 - progress monitoring IEP goals and objectives online as compared to traditional in-person? Q17_5 - transition planning and implementation online as compared to traditional in-person? Q17_6 - providing related services (OT, PT, Speech, etc..) online as compared to traditional in-person? Q17_7 - holding IEP meetings online as compared to transition in person?
Q18	*SPECIAL EDUCATION TEACHERS ONLY* Looking back on your professional experiences during this pandemic overall, what would you say was the *biggest obstacle you overcame* in providing online services to students with disabilities? (please share as much or as little as you'd like)

Q19	*SPECIAL EDUCATION TEACHERS ONLY* Likewise, what would you say was one of your *best successes* with delivering online instruction that could be useful for other teachers in an emergency situation that doesn't allow for in-person learning? (please share as much or as little as you'd like)
Q20	What content areas do you teach online? (check all that apply) Q20_1 - English Language Arts Q20_2 - Math Q20_3 - Science Q20_4 - Social Studies Q20_5 - Foreign Language Q20_6 - Computer Skills/ICT Q20_7 - Art Q20_8 - Music/Band/Chorus Q20_9 - Physical Education Q20_10 - Library/Media Services Q20_11 - Career and Technical/CTE Q20_12 - (please tell us your field) Q20_13 - Guidance counselor Q20_14 - Other (please explain)
Q21	What Learning Management System (Google Classroom, Canvas, etc) is your school using? (open response item was recoded as shown below) Q21_1 – Google Classroom Q21_2 – Canvas Q22_3 – Schoolology Q22_4 - SeeSaw
Q22	Please give your current learning management system a grade (A, B, C, D, or F) for each of the following: Q22_1 - Ease of use for the instructor to set up and deliver content/instruction Q22_2 - Ease of use for the students to navigate and utilize on their own Q22_3 - Effectiveness for conveying the content you want to teach Q22_4 - Effectiveness for students trying to learn and practice the content
Q23	How involved are you in the decision making process regarding the *general learning resources* that you are currently using with your students online?
Q24	How involved are you in the decision making process regarding the *content-specific* resources that you are currently using to teach your subject matter online?
Q25	What content-specific subscriptions or tools (Scholastic News, Newsela, etc) are you finding *most beneficial* for providing your students with effective instruction, that you would recommend to others? (If unsure, please leave blank)
Q26	What percentage of your assigned students are you currently teaching online?
Q27	How much control did you have over the decision that you would be teaching online this year?
Q28	How would you rate your skill set in each of these aspects? Q28_1 - Providing effective content area instruction in an online environment Q28_2 - Motivating your students to learn in an online environment Q28_3 - Helping students master the use of digital tools (Google Classroom, Flipgrid, etc)

	Q28_4 - Finding alternatives to support students who are struggling in an online environment
Q29	On a typical school day, what percentage of your day do you spend in **direct interaction** with your online students?
Q30	How would you describe the amount of time it takes to **prepare materials and lessons** for online instruction, *as compared to traditional instruction*?
Q31	How would you describe the amount of time it takes to **grade assignments and provide feedback**, *as compared to traditional instruction*?
Q32	Consider a typical week of online instruction for your students. Which of the following do you *often* include in a typical lesson unit for your online students? (check all that apply) Q32_1 - A synchronous class just for you and your online students Q32_2 - Online students join your face-to-face classroom using video conferencing Q32_3 - A recording of you modeling/delivering instruction Q32_4 - A recording of someone else explaining/modeling the content Q32_5 - Assigned readings (either online or using textbooks from the school) Q32_6 - Assigned writing of essays, papers, and other written projects Q32_7Skills practice using an approved website (iReady, Nearpod, Flocabulary, Flipgrid, etc) Q32_8 - Paper/pencil tasks for the student to complete Q32_9 - Students video record themselves performing the task or skill Q32_10 - Students deliver work products to the school for teacher evaluation Q32_11 - Other (please explain) Q32_12 (derived from Q32_11) –Proctored assessment (online or in-person)
Q33	Which of the following do you have built into your online class that your students can access at any time? (check all that apply) Q33_1 - A daily to-do list for the student to complete Q33_2 - A weekly to-do list for the student to complete Q33_3 - A calendar of all the assignment due dates for the current nine weeks Q33_4 - The learning objectives for the current lessons Q33_5 - The state standards for the current lessons Q33_6 - The student's scores on all graded assignments Q33_7 - The student's current grade in your course
Q34	What percentage of your students would you say are struggling with your content *specifically because it is being delivered online* rather than taught face-to-face?
Q35	Are any of your online students also English Language Learners?
Q36	(If YES to Q35) What additional materials, resources, or professional development did you receive to support your instruction with those students?
Q37	(If YES to Q35) Would you share a particular approach or accommodation that you found especially helpful for providing strong online instruction for your English Language Learners?
Q38	In spite of the inherent challenges, how important do you believe it is for a classroom teacher in a role similar to yours to be able to offer online instruction in an emergency situation that doesn't allow for in-person learning?
Q39	Which of these methods do you *frequently* use to ensure your online students get feedback? (check all that apply) Q39_1 - verbal feedback during live instruction Q39_2 - peer feedback during live instruction Q39_3 - Chat feedback during live instruction Q39_4 - video feedback from teacher on submitted assignments (Flipgrid, etc) Q39_5 - video feedback from peers on submitted assignments (Flipgrid, etc)

	Q39_6 - written feedback on submitted assignments (Canvas, Google Docs, etc) Q39_7 - Online reward systems (ClassDojo, etc) Q39_8 - Other (please share) Q39_9 (derived from Q39_8) – parent communications Q39_10 (derived from Q39_8) - student emails Q39_11 (derived from Q39_8) – app-generated feedback
Q40	Did you adjust your assessment and/or grading practices this year to account for the inherent difficulties in online learning?
Q41	(If YES to Q41) What was done differently from your normal approach when teaching face-to-face? (Check all that apply) Q41_1 - Flexible due dates (fewer late penalties) Q41_2 - Allowing students to resubmit or re-attempt graded work Q41_3 - Reduced number of classroom-based assessments Q41_4 - More lenient scoring on *formative* assessments Q41_5 - More lenient scoring on *summative* assessments Q41_6 - "Freezing" grades (no grades issued below a certain cut-off) Q41_7 - Reduced number of standardized tests Q41_8 - Other (please explain) Q41_9 (derived from Q41_8) – additional assessment accommodations
Q42	(If YES to Q1_3 High School) What effect has the pandemic seemed to have on your students' after-graduation plans?
Q43	How would you rate the effect that *100% online instruction* has had on the social-emotional well-being of your students who are learning in this way?
Q44	If your school was/is offering a *hybrid model* where some of your students alternate between online and in-person instruction, how would rate the effect that model has had on the social-emotional well-being of those students?
Q45	(If YES to Q1_1 Early Grades OR Q1_2 Middle Grades) Would you say communicating with your *online students' **families*** is *much easier, about the same,* or *much harder* than communicating with families when you are teaching face-to-face?
Q46	(If YES to Q1_1 Early Grades OR Q1_2 Middle Grades) What have been your greatest barriers to engaging with *online students' **families*** during the COVID-19 pandemic? (check all that apply) Q46_1 - My own limited access to technology or internet connectivity at home Q46_2 - Lack of staff training in use of tools to communicate/engage families Q46_3 - Sufficient resources to communicate with families Q46_4 - Families' access to technology and connectivity Q46_5 - Lack of families' understanding of modifications to district policy related to the pandemic Q46_6 - Language barriers Q46_7 - Cultural barriers Q46_8 – Other (please share) Q46_9 (derived from Q46_8) - Perceived lack of family involvement
Q47	(If YES to Q1_1 Early Grades OR Q1_2 Middle Grades) Which of these methods are you using to communicate with *online students' **families*** who participate in online learning? (check all that apply) Q47_1 - Social media such as Facebook or Twitter Q47_2 - Text-messaging service like ReMIND Q47_3 - Voice calls to families Q47_4 - Emails to families

	Q47_5 - Face-to-face interactions Q47_6 - Postal mail
Q48	(If YES to Q1_1 Early Grades OR Q1_2 Middle Grades) Which two methods above are the *most successful* at helping you stay connected to your *online students'* ***families***? Q48_1 - Social media such as Facebook or Twitter Q48_2 - Text-messaging service like ReMIND Q48_3 - Voice calls to families Q48_4 - Emails to families Q48_5 - Face-to-face interactions Q48_6 - Postal mail
Q49	(If YES to Q1_1 Early Grades OR Q1_2 Middle Grades) Can you briefly explain why you think that is?
Q50	(If YES to Q1_3 High School) Would you say communicating with your *online-only students* is *much easier*, *about the same*, or *much harder* than communicating with the students you are teaching face-to-face (or have taught face-to-face in the past)?
Q51	(If YES to Q1_3 High School) What have been your greatest barriers to engaging with *online-only students* during the COVID-19 pandemic? (check all that apply) Q51_1 - My own limited access to technology or internet connectivity at home Q51_2 - Lack of staff training in how to communicate/engage online students Q51_3 - Sufficient resources to communicate with online students Q51_4 - Students' access to technology and connectivity Q51_5 - Lack of response from students to my attempts to engage with them Q51_6 - Language barriers Q51_7 - Cultural barriers
Q52	Which of these communication methods are you using to communicate directly with your students who are learning online? (check all that apply) Q52_1 - Emails through the LMS (Canvas, etc) Q52_2 - One-on-one Videoconferencing (Zoom, Webex, Google Meet, etc) Q52_3 - Social media such as on Facebook or Twitter Q52_4 - Text-messaging service like ReMIND Q52_5 - Voice calls to students Q52_6 - Face-to-face interactions Q52_7 - Postal mail Q52_8 - Other (please explain) Q52_9 (derived from Q52_8) – School Status software Q52_10 (derived from Q52_8) – Chat through LMS Q52_11 (derived from Q52_8) – School email account Q52_12 (derived from Q52_8) – Educational website tools Q52_13 (derived from Q52_8) – Written feedback
Q53	Which two methods above are the *most successful* at helping you stay connected to your students who are learning online? Q53_1 - Emails through the LMS (Canvas, etc) Q53_2 - One-on-one Videoconferencing (Zoom, Webex, Google Meet, etc) Q53_3 - Social media such as on Facebook or Twitter Q53_4 - Text-messaging service like ReMIND Q53_5 - Voice calls to students

	Q53_6 - Face-to-face interactions Q53_7 - Postal mail Q53_8 - Other (please explain) Q53_9 (derived from Q52_8) – School Status software Q53_10 (derived from Q52_8) – Chat through LMS Q53_11 (derived from Q52_8) – School email account Q53_12 (derived from Q52_8) – Educational website tools Q53_13 (derived from Q52_8) – Written feedback
Q54	Can you briefly explain why you think that is?
Q55	Quality communication with school leadership is essential for teachers to provide effective instruction. Is there anything you would like to share about your experience with communication from your school leadership this year and how it impacted you in the classroom? (If unsure, please leave blank)
Q56	In addition to the obvious challenges of teaching online, how much do you believe *your own social-emotional well-being* during the pandemic has impacted the quality of the online instruction you've been able to provide?
Q57	Which professional development topics would be most helpful for your school to be better-prepared for a future emergency situation that doesn't allow for in-person learning? (check all that apply) Q57_1 - Using various technologies to deliver instruction Q57_2 - Generating student motivation for online learning Q57_3 - Online learning assessment and feedback approaches Q57_4 - Supporting students' social-emotional needs Q57_5 - Supporting special student populations (EL, gifted, disabilities, etc) Q57_6 - Family engagement with their student's online learning Q57_7 - Other (please describe) Q57_8 (derived from Q57_7) - teacher self-care
Q58	Looking back on your professional experiences during this pandemic overall, what would you say was the *biggest obstacle you overcame* in providing online instruction for your students? (please share as much or as little as you'd like)
Q59	Likewise, what would you say was one of your *best successes* that could be useful for other teachers in an emergency situation that doesn't allow for in-person learning? (please share as much or as little as you'd like)
Q60	As part of this grant, we are looking for a representative sample of teachers from across the state to participate in some focus group conversations (using videochat) to share some of the best practices and/or innovations that you are using in your online teaching. If this was scheduled at your convenience, would you be interested/willing to be part of our focus group? (yes/no)