

Strategies for Supporting Student Learning Needs during the COVID Pandemic in Maine and Other States



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Overview of the Study

Why was this study conducted? This report is part of an on-going series of research studies conducted by the Maine Education Policy Research Institute (MEPRI), commissioned by the Maine State Legislature, to understand how PK-12 schools are supporting students and teachers during the challenging time of a pandemic where normal instructional practices have been disrupted. Previous studies explored remote instruction for special education students in Maine during the pandemic (Lech & Johnson, 2021a) and the delivery of therapeutic services to students through remote or “telehealth” modalities both before and during the pandemic (Lech & Johnson, 2021b). As part of a larger study conducted by MEPRI this year, we describe strategies to support teachers’ instructional efforts and mental health in a separate report (Fairman et al., 2022), and strategies to support student learning in this report. This study seeks to identify and describe practices that emerged in Maine and elsewhere in the US during the pandemic to support PK-12 students’ learning needs (including academic, social-emotional and mental health needs) through the remote, online or hybrid modalities during this challenging period in education.

What do you need to know to put this study into context? The COVID-19 pandemic brought about the sudden closing of schools and disruption in PK-12 student education from mid-March to June 2020. In the two school years which followed, many students continued to learn remotely or online from home or attended their schools on a hybrid schedule (Rickles et al., 2020). State education agencies, schools and educators everywhere scrambled to figure out how to overcome barriers including access to high-speed internet and computer hardware devices, and to adopt new online platforms and tech tools to facilitate remote and online learning (Hamilton, et al., 2020; Young & Donovan, 2020). Maine was better positioned than many states because of its policy of supporting 1:1 laptop or iPad access statewide for all middle school students and some secondary students over the past twenty years. In addition, schools and classroom teachers enacted programs and instructional practices to improve student engagement in remote learning, support students’ diverse learning needs, and to address the social-emotional and mental health impacts of a long pandemic. Federal relief funding was provided to states and districts to address some of their highest priorities during the pandemic, and these resources have targeted the goal of reducing the digital divide in rural regions and programs and improving equity in education (Blad et al., 2021; OESE, 2021a). The state ARP ESSER applications from 2021 that we reviewed for this study prioritized three broad areas using a variety of strategies: improving student enrollment, attendance and engagement; addressing student learning losses; and expanding the curriculum to increase learning opportunities.

What did we learn from the study? A high-level overview of the key findings is summarized here.

Part I. Findings from the Survey The MEPRI survey of district curriculum directors statewide sought to identify new practices or strategies districts used to support students that emerged

during the remote learning and hybrid learning phases of the pandemic (March 2020 through June 2021), and to learn which practices districts intended to continue or not in the current school year (2021-22) and why. A total of 254 public and private district-designated curriculum directors were surveyed and 66 (26%) completed surveys in fall 2021. The response rate from public districts was higher at 31%. We highlight key findings from this survey in this section.

Demographics.

- Curriculum directors worked primarily with grades PK/K -12 (61%) or PK/K -8 (25%).
- The responses rate was similar for curriculum directors in city, small town and remote rural areas.
- The majority of responding districts (54%) were located in small towns.

Delivery Mode for Instruction.

- The primary mode of instruction for most students was hybrid for city and suburban districts (78%) and small town districts (59%). In person instruction four or five days a week was the most common mode for remote rural districts (85%).
- All schools returned to their usual mode of operation in 2021-22. All but the virtual schools had in person student learning in schools this year.

School and Instructional Scheduling.

- Remote schooling on snow days was adopted by 41 districts. Twenty-seven are continuing this and ten would like to continue this practice but are unable to do so.
- Scheduled time for individualized learning (accelerated learning or “tutor time”) was adopted by 39 districts. Most (32) are continuing scheduling individualized learning time.
- Scheduled time during the day for student interactions (e.g., SEL, clubs, Homeroom) was adopted by 30 districts. All but one district is continuing it or wants to continue it.
- Ten districts adopted later scheduled start times for middle school and high school during the pandemic. Four districts are keeping the later start times while three others would like to adopt later start times but are unable to do so.
- Several curriculum directors left the practice of scheduling longer class sessions blank on the survey, indicating that their districts may have adopted this practice prior to the pandemic. An A/B schedule is one way districts schedule longer class sessions while maintaining the same amount of class time each week. Other districts schedule fewer classes in a semester. Nine districts adopted and are continuing a schedule that has longer class periods.

Instructional Delivery Modes and Practices.

- Online platforms were adopted by many districts. Forty-three responding districts adopted online platforms for the elementary grades. Online collaborative platforms (e.g., Google Classroom) were adopted by 44 districts.
- Outdoor learning was adopted by 38 districts during the pandemic and continued by all but one district.
- Synchronous virtual learning with some students participating from the classroom and others participating remotely was adopted by 30 districts. However, 22 of these districts plan to discontinue the practice.
- There were mixed responses on the use of technology when all students were in person. During the pandemic, asynchronous virtual learning with all students in person was adopted by 14 districts and was not adopted by 27 districts. Synchronous virtual learning with all students present was adopted by 24 districts and not adopted by 20 districts.
- The instructional practices of project-based learning and incorporation of allied arts into educational projects (STEAM) were each adopted by 16 districts. All districts that adopted either of these practices are continuing the practice.

Student Grouping Practices. Thirty-nine curriculum directors reported that their districts made changes to their student grouping practices. These thirty nine curriculum directors were given additional questions on student grouping.

- Nineteen districts adopted the frequent use of small groups. Four districts want to continue frequent use of small groups but are unable to do so. The other fifteen districts are continuing frequent use of small groups.
- Twelve districts adopted the practice of grouping students by performance level within a grade during the pandemic.
- Eight districts adopted multi-level grades during the pandemic. Seven of these districts are continuing the practice of multi-level grades. Four of these districts are grouping students by performance level across grades. An additional five districts are grouping students across grades by performance level.
- Thirteen districts adopted one-on-one academic time during the pandemic. All would like to continue this practice, but six are unable to do so.
- Fourteen districts began doing IEPs for some students without special needs. Three districts are doing IEPs for all students. One comment indicated a district started doing IEPs for gifted students.

Online Learning Opportunities for Students

- Fifty-one districts adopted at least one new online opportunity for students during the pandemic.
- Maine Department of Education’s online learning modules were adopted by thirty districts. Maine Online Opportunities for Sustained Education (MOOSE) modules were

adopted by 17 districts. Social Emotional Learning with Intention (SEL4ME) was adopted by 16 districts.

- Online educational videos such as Khan Academy were adopted by 24 districts with 23 districts continuing to use them.
- Advanced high school courses and special interest courses were adopted by some districts. Early College courses for credit (n=13), online Advanced Placement (AP) classes (n=12), and remote online high school classes (n=12) from other educational institutes were adopted by districts.
- Online tutoring for some students was arranged by 15 districts. Seven curriculum directors thought families in their districts had arranged online tutoring for their student.

Academic and Other Supports for Students

- Fifty-one districts adopted some practices to support students such as tutoring, mentoring, home visits, outreach to families and counseling.
- Additional tutoring times were adopted by 29 districts. Most districts added tutoring during scheduling academic time (n=22) or before and/or after school (n=22). Twelve districts added tutoring outside traditional academic educational time (evenings/weekends).
- Ten districts adopted regular one-on-one social support meetings between every student and a designated staff person.
- Career mentoring (n=9) and work internship programs (n=7) were adopted by a few districts.

Decision to Adopt New Practices

- Curriculum directors felt the primary reasons that their districts adopted new instructional practices during the pandemic were the increased funding (n=36) and new resources that were made available (n=26). Twenty-seven curriculum directors felt change was based on the district's experience during the pandemic.

Written Comments about Changes to Support Students

- Noteworthy strategies that emerged during the pandemic included adopting new software, online learning platforms and providing one-to-one devices to younger students. One curriculum director mentioned that there was now home access to the internet for students, families and communities.
- There were perceived benefits and drawbacks to remote learning. One curriculum director noted remote learning options allowed more students to meet and interact with students from other towns and communities. Some noted there was cyber-bullying of teachers and schoolwork was not always completed.
- Districts are currently considering instructional practices that allow more student choice. These include multiple pathways for secondary students, micro-credentialing, adopting

more options for students to take courses remotely or choosing a completely virtual school option.

- A few districts are considering flexible grouping “learning pods” rather than instructional grade-based groupings.
- Curriculum directors felt staff shortages (n=12) and teacher stress (n=11) presented a challenge to implementing new instructional strategies.

Part II. Review of the Literature Our review of the literature published during the pandemic revealed that schools and classroom educators have prioritized three broad areas (student engagement, student health and wellness, curriculum and instruction), in selecting and implementing technology, programs, practices or strategies to support student learning through remote, online and hybrid modalities. Some of the approaches addressed multiple goals simultaneously. Many of these practices are consistent with the strategies Maine school districts described in our fall 2021 survey. We highlight some of the successful practices as well as challenges described in the literature.

Student Engagement. The shift to remote and online learning from home precipitated a decline in student attendance and engagement in classes. Schools used a broad range of strategies to overcome the technology barriers and to motivate and re-engage students:

- Home visits with parents and students at bus or meal drop-off times.
- Brief chats with parents at PreK student drop-off/ pick-up times.
- Learning materials provided directly to students to use at home.
- Online learning modules, for-credit courses and resources for parents and students provided through school platforms or external sources and organizations.
- Distribution of computer devices such as laptops or iPads for use at home.
- Hotspots to improve internet access for students learning at home.
- Increased use of standard methods of communication with parents (phone, email, online messaging) as well as other communication strategies (text messaging, FaceTime chats, video-conferencing, online platforms for course management such as Google Classroom, principals’ and teachers’ video recordings and personalized messages to students).
- Increased efforts to communicate with and engage parents and caregivers supported improved school-home relationships, but also had negative impacts such as increased time demands for parents and teachers and some privacy concerns (i.e., video-conferencing from home).
- On-going challenges to engage students and parents from low-income and rural families.
- New technology to increase active learning and engagement in class activities (e.g., iPads, interactive whiteboards, choice boards, digital screens, overhead projectors,

- cameras and microphones for teachers).
- Use of online apps for fun activities for remote learners (e.g., games, competitions, scavenger hunts, surveys).
 - Increased choice for student learning by interest (e.g., individual projects or topics).
 - Broader range of options for participation and demonstration of knowledge through student choice and creative expression (e.g., writing, videos, art, music, or other student creations and products).
 - Opportunities for students to draw upon their own cultural backgrounds in their learning and sharing with their class.
 - Opportunities for students to teach their peers or share out during class time.
 - Expanded online (synchronous and asynchronous) learning options for students, particularly secondary students (more student choice in learning by interest, online modules and for-credit courses offered outside the district).

Physical, Social-Emotional and Mental Health. Students’ disengagement and/ or isolation during periods of remote or online learning contributed to increased social-emotional and mental health challenges during the pandemic. Schools used a variety of strategies to support students’ physical, social-emotional and mental health needs:

- Several districts adopted later start times during remote learning. During remote learning, especially asynchronous instruction, more middle school and high school students slept more. Districts saw the benefits of students having increased sleep.
- The pandemic heightened awareness of how school schedules can increase adolescent sleep, which led many districts to adopt later start times for middle school and high school students in 2021-22.
- Prior to the pandemic, California passed a law requiring high schools to start no earlier than 8:30 AM. Some other states are now considering new legislation to create later start times for middle and/ or secondary grades.
- Addressing student and family food insecurity and nutritional needs during the pandemic through delivery of meals and food to homes when students were learning from home.
- Provision of other basic supplies to students’ homes during remote learning.
- Increased communication with families about supports and resources for health, social-emotional or mental health supports (e.g., district and school website).
- School and community partnerships to staff and fund school-based or community health clinics that provide health screenings and referrals.
- Continued provision of social-emotional and mental health services and counseling, with increased use of remote modalities.
- More intentional incorporation of social-emotional and mental health supports into regular instruction, including more self-expression for students and strategies to

- reduce stress (e.g., mindfulness, yoga, music, art and exercise).
- Moving classrooms outdoors or encouraging students to go outdoors for learning and exercise at home.
 - Use of online apps, challenges, contests and assignments to give students choice in exercise and encourage physical exercise and wellness.
 - Small group or partnered work (e.g., “learning buddies”) and student mentors.
 - Use of community partnerships to tap volunteers to work with students and offer wrap-around services and programs that provided physical exercise and social-emotional learning supports.
 - Use of apps and online tools to encourage students to share their social-emotional or mental health feelings in a confidential way.
 - Increased use of phone, email, video, other communication methods and active listening strategies, to check in with students and parents.
 - Online resources and activities for parents to support their children’s physical, social-emotional and mental health at home.

Instructional Technology. States and school districts increased students’ access to the internet and 1:1 computer devices to support the rapid shift to remote and online learning during the pandemic. Multiple strategies were used in the effort to increase equitable access to technology and instruction.

- Distribution of computer devices such as laptops or iPads for use at home, hotspots for internet connectivity and new instructional technology adopted.
- Yet, there is evidence of continued inequities in students’ access to high-speed internet at home, particularly in low-income and rural communities.
- Purchase and implementation of online platforms for course management, communications with parents and students, and video-conferencing tools.
- Yet, teachers, students and parents needed significant training and support to learn how to use these new tools, adding to their stress and workload.

Curriculum and Instruction. The on-going disruptions to schooling and shift to remote and online modalities required changes in how students accessed learning assignments, materials and resources across the content areas. Educators in the allied arts faced unique challenges in delivering remote or online instruction to students without the materials and equipment normally available in schools. Reduced learning time for some students meant teachers were able to cover less of the curriculum, and also needed to adapt existing curricula and lessons for new modalities. Schools and educators used various strategies to deliver curriculum and instruction:

- Some schools moved forward with pre-existing plans to implement new curricula, while others put those efforts on hold during the pandemic.

- Some schools and teachers moved classes outdoors for in-person learning time, and others encouraged students to go outdoors for investigations and exercise when learning at home.
- Place-based or community-based learning increased as students engaged in more learning activities and projects from home, with the opportunity to investigate real-world problems of relevance to them and their community.
- Hands-on inquiry increased in some cases, where students were encouraged to conduct projects, create art, do science investigations or collect data outdoors.
- Increased choice for student learning by interest (e.g., individual projects or topics).
- Opportunities for students to draw upon their own cultural backgrounds in their learning and sharing with their class.
- Opportunities for students to teach their peers or share out during class time.
- More use of the “flipped” classroom instructional approach.
- Use of smaller class groupings for instruction, or grouping by performance levels.
- Increased individual or personalized instruction and support to students.
- More ways for students to demonstrate their knowledge and for teachers to assess their learning.
- Increased use of formative rather than summative assessment, and more frequent, individualized feedback to students. Teachers shared feedback in writing, video-conferences, and recorded messages or videos.
- Online learning modules, for-credit courses and resources for parents and students provided through school platforms or external sources and organizations.
- Online resources and activities provided for physical education and exercise for students to choose from at home, data collection activities like nutrition logs, and use of social media to encourage student exercise and wellness activities at home.
- Music instruction emphasized more student creativity and composition using new tech tools and online apps.
- Art instruction allowed more choice to use materials at home or new tech tools to create and share digital art in a variety of forms. Online art clubs provided extra-curricular options for remote and online students.
- School and community partnerships provided safe spaces with adult supervision and internet connectivity for students to connect to school remotely. Partnerships also provided wrap-around services such as afterschool homework support or mentoring.

Part III. States’ ARP ESSER Plans The 2021 American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) applications from fifty states and two territories were reviewed. These funds were intended to safely reopen schools in the 2021-22 school year and to keep schools open while meeting student needs, focusing on equity and recovery of learning loss for students. Proposed plans were restricted to evidence-based interventions. While the majority of the funding was delegated to school districts, several state education agencies felt

some services were best provided at the state level. Broadly, state and district strategies to support student learning fell into three broad categories: improving student enrollment, attendance and engagement in school; addressing student learning losses; and changes in the school curricula to expand and support learning opportunities.

Student Enrollment, Attendance and Engagement. States described various approaches to address the problems of decreased student enrollment, attendance and engagement in their public school systems during and beyond the pandemic. States are also challenged by increased competition for students from private, for-profit education providers.

- States are using a variety of strategies to identify, track and re-engage students that were chronically absent during the 2020-21 school year. Louisiana is hiring state specialists for this purpose. Other states are funding partnerships with community organizations and municipalities to address this problem. Another group of states is using ESSER funds at the district level to identify and re-engage students.
- Arizona was unique in setting an objective of getting not just chronically absent students, but students who are home schooling, in virtual schools, and in private schools to enroll in public schools.
- There has been an expansion of for-profit schools during the pandemic. Some have aggressive marketing strategies. Families' expectations for states to pay for virtual and home schooling has increased. In some states, a homeschool bridge program is routing \$1,700 of the state subsidy funding to districts back to families.
- States are investing ESSER funds in summer and afterschool activities that appeal to student interests such as outdoor learning and performing arts.
- States are using ESSER funds to sponsor statewide student competitions in robotics or digital media. At the local level, students attend workshops afterschool and in the summer to prepare for these competitions.
- States are using ESSER funds to promote existing educational activities and provide student passes to them. These activities include museums, zoos, state parks and fairs.

Addressing Student Learning Losses. One of the major goals of the ARP ESSER funding was to address student learning losses and states were required to use 20% of their funding for this purpose. States outlined a range of strategies for this purpose. Summer learning, afterschool programs, and tutoring were part of all state programs.

- States used ESSER funds to engage families and support student learning by providing caregivers with training and resources. Literacy kits were given to families in some states. Other states encourage parents to volunteer and work in the schools.
- States partnered with their higher education institutes and community organizations for tutoring and summer-afterschool programming.
- Tennessee and Arkansas created statewide tutoring programs.

- States also partnered with higher education institutes to meet specific needs such as a state-wide individualized learning system, an individualized math program and coach for schools without a qualified math teacher.
- Hawaii is creating Individualized Education Plans (IEPs) for all students.
- One state is encouraging multi-age small group instruction while another is requiring all students to be exposed to grade level material.
- Learning management systems are being funded in several states including Maine.
- A few states are providing additional assessments for use by schools and districts.
- So that all students have access to quality learning material, a few states are providing curricula for districts to use. States are providing teachers and districts support on implementing the curricula.

Curriculum Change to Increase Learning Opportunities. States outlined different approaches to meet ESSER’s requirement to improve equity in students’ educational opportunities.

- Hawaii is expanding the culture and language program in their schools.
- States are continuing and expanding their contracts with outside organizations for 24/7 online tutoring of students.
- States are contracting for adaptive learning software for individualized student learning.
- Indiana and Rhode Island have created course networks that allow PK-8 students to take enrichment courses.

Advanced Secondary Coursework. States are using their ESSER funds to expand students’ options to take challenging courses that interest them.

- The course networks in Indiana and Rhode Island also have courses that high school students can take for credit. Some of the courses are dual credit courses. Other courses are work-based learning with an industry partner. Advanced Placement courses are also offered.
- Tennessee is promoting Advanced Placement courses to all secondary students.

Career Awareness and Preparation. States are engaging students in school through career exploration and preparation programs.

- Career exploration is being implemented in K-8 grades with ESSER funding.
- States and community partners are starting career pathway programs with meaningful out-of-school learning opportunities.
- Teachers are being coached on advising students about career options and pathways.
- Maine is using ESSER funds to develop extended learning programs with local employers.
- Rural states are engaging in statewide or regional collaboration for career preparation programs.

College Readiness and Access. While there is a separate fund for higher education, ARP HEERF III, two states are using ESSER funds for adults.

- Indiana is paying for students to complete community college or take a block of 30 credits that can transfer to other universities.
- South Carolina is paying for adult GED programs and adult literacy programs
- Using non-ESSER funds, Maine has a program for adult education students to take a free community college course.

Evaluation of Opportunity to Learn Indicators. ESSER funds can be used to track opportunity to learn indicators. In addition to tracking chronic absenteeism, and student discipline measures, some states are tracking participation in advanced courses or other indicators of opportunity to learn.

- Rhode Island is tracking participation in their course network for PK-12 students
- Several states have been tracking participation in Advanced Placement classes. Others are using ESSER funds to begin tracking participation by school.
- Nevada has a high school rating system that measures career and college readiness. Students that meet more rigorous standards earn a College and Career Ready high school diploma.
- There is a federal database maintained by the Office of Civil Rights that has information by school on participation in Advanced Placement courses. Data lag by two years. Data for Maine shows that 15% of high schools did not have any students enrolled in Advanced Placement courses in the 2017 and 2019 data.

What did we conclude overall from the study? Our statewide survey indicated that school districts in higher population areas in Maine typically delivered instruction using a hybrid schedule in 2020-21, while rural remote school districts were more likely to continue in-person instruction that year. In the current 2021-22 school year, all responding districts returned to in-person instruction with options for some remote learning when needed, with the exception of the virtual schools and one private school that went to a schedule of four days in-person and one day asynchronous. Increased COVID cases and on-going, severe staffing shortages forced disruptions and an intermittent return to remote learning and instruction for some schools during the late winter months. Maine districts provided new technology to students and adopted new online learning management systems or platforms to support remote and hybrid instruction. Some districts added new online learning options for students, including the MDOE's MOOSE or SEL4ME platforms, Kahn Academy's online instructional videos, online secondary or Advanced Placement courses, and computer-adapted learning. Districts addressed learning losses through tutoring and provided SEL supports in various ways that included in-person and remote support. Some districts experimented with new instructional grouping practices based on

students' performance needs rather than traditional grade levels. A few districts adopted later start times during the pandemic for older students.

The survey, literature and review of state ESSER applications provide evidence that schools have more broadly adopted practices that had already been used successfully in education in a few places prior to the pandemic, and that schools adopted a wide range of different practices within a short period of time. Some of these practices included: widespread adoption of online, remote and hybrid instructional modalities; online platforms for synchronous and asynchronous communication, instruction and supports; smaller instructional groups, individualized and student-directed learning; project-based learning and outdoor learning; and the use of a variety of online platforms, apps and other tech tools for instruction and communication with families. However, there is also evidence from the research literature that students in smaller school systems and higher poverty communities in Maine and elsewhere have been less likely to communicate with schools, to fully engage in remote or online instruction and to receive supports for student learning during the pandemic. The pandemic allowed for some headway in reducing the digital divide, but there is more work to do.

The collective findings from this study also indicate that states, school districts and educators consistently prioritized the need to increase student attendance and re-engage students in school after they saw an alarming decline in student attendance and engagement early on in the pandemic. School districts and educators placed a high priority on supporting students' social-emotional and mental health needs during the pandemic through a variety of strategies. Using a variety of existing and new technology tools, educators intentionally addressed students' learning and mental health needs throughout the school day when teaching remotely or in hybrid formats. Educators adapted curricula and online learning modules or activities to fit the changing instructional modalities and students' learning needs, and they provided more options for student choice and ways to access learning materials and to share their work with peers. It remains to be seen if school districts will continue some of the practices they found to be effective even as students return to in-person learning in schools and beyond the pandemic.

States and school districts across the US initially used new federal relief funding during the pandemic to tackle the existing digital divide, by obtaining additional technology hardware and improving internet access to support students' remote and online learning. Later on, they also used federal funding opportunities to address the challenges of declining student enrollment, attendance and engagement in school through a variety of strategies that included new partnerships as well as staff positions and media campaigns directed at the state level. In this effort, states are seeing increased competition from private, for profit businesses that seek to grow the home school market. Federal funding has also been used to address student learning losses, often through new partnerships, through strategies that include promoting family and student participation in various educational activities, after school programs, academic tutoring and more personalized learning approaches. Some states are trying to standardize curricula across their school districts to reduced inequities in opportunities to learn. Schools and districts are also using federal funding to expand and strengthen their curricula to include instruction on

cultural heritage and indigenous groups, language programs, increased online learning options, advanced coursework at the secondary level, supports for college and career awareness and readiness, and tracking different opportunity to learn indicators.

What are some potential implications for education policy and/ or practice? While Maine has implemented many of the strategies described in this report to support students' learning needs during the pandemic, there are additional strategies used in other states that could be helpful and worth consideration. Maine could draw on some of those models and adapt them to fit the state and local needs. Some general approaches that could be strengthened or expanded in Maine include:

- Student attendance has been a recurring concern and challenge for many districts in Maine and elsewhere, even prior to the pandemic. Some states are putting more resources into building capacity at the state level to provide more support and guidance to school districts and also increasing capacity at the local level to improve attendance and engagement of families to get students back into school as well as back into the public school systems. Other strategies included increased public informational efforts using a wider variety of communications tools. Policy implications for Maine include both staffing at the state level and public communications efforts.
- Some districts in Maine would like to continue having one day per week designated for asynchronous time for student learning. The asynchronous day could allow more time for individualized learning supports, online learning options, career and postsecondary learning explorations. State legislation may be needed to allow public school districts to adopt or sustain new scheduling models to meet the learning needs of students.
- Online, remote tutoring as additional academic support beyond the regular instructional day is an option some states are using to address learning losses that occurred during the pandemic. Partnerships might also be developed at the state or regional level to provide academic support to students through remote modalities.
- Student access to advanced coursework at the secondary level (including in-school courses, online courses, and postsecondary courses for credit), varies across school districts. Technology provides opportunities for improving equity in students' opportunity to learn, overcoming barriers of geographic isolation, school size or local resources. State and local leadership can facilitate improvements in this area, using regional partnerships among districts as well as partnerships with higher education.
- Some states are using ESSER funding to expand and strengthen their curricula in cultural heritage and languages. In Maine, legislation (LD 291) adopted in 2001 requires that all schools provide students with instruction on Maine Native American history and culture. The state education agency and/ or school districts could use ESSER funds to develop or implement curricula and partnerships with community organizations or universities in this area.

- Maine is using ESSER funding to develop extended learning opportunities with employers. Efforts in other states provide ideas for additional strategies to strengthen students' awareness and preparation for career and postsecondary education and training opportunities. Maine could more strategically link efforts to increase career awareness and preparation pathways with areas of high need in workforce development statewide, such as in education, mental health services, technical skills and computer security.
- Later school start times for older students have been pursued in other states through legislation, supported by research linking sleep to academic performance and other outcomes. Some Maine districts are experimenting with this scheduling change, but legislation could encourage more widespread adoption of this change.
- Increasing competition from for-profit private companies has also motivated some states to invest in public media campaigns to inform families of the benefits of participating in public education. Districts that were unprepared for this trend were in a reactive rather than proactive mode, and may benefit from stronger collaboration with their state education agencies.
- While this report focused primarily on strategies to support PK-12 students, our review of state ESSER applications also revealed a focus on providing additional financial and other supports to improve student access and retention in higher education programs. Maine's efforts to support tuition costs for community college students and educators is one important strategy to encourage more students to seek postsecondary education. Additional strategies may also be needed to improve retention and degree completion for students and to prepare them for work in their selected fields.

While Maine had the advantage of a well-established 1:1 laptop program for middle grades and some secondary grade students, the pandemic highlighted disparities and gaps in the state's and local districts' readiness to shift to remote or online learning when needed. Even as the pandemic may subside, policy, planning and investment efforts should continue to ensure that students don't experience prolonged disruptions in their education. Areas needing attention include the state's infrastructure for high-speed internet access, disparity in equitable access to both the internet and computer devices for students and teachers, planning for how course delivery remotely or online, policies to allow for reassignment of staff during periods of remote/online instruction, and more attention in preservice and inservice training to provide all educators with the technology skills and effective instructional strategies they need to teach and support students through different modalities when needed.

What methods were used to conduct this study? To learn about strategies to support PK-12 student learning from across the US, our research team cast a broad net to search both published research reports and news articles released since March 2020. We also reviewed states' ARP ESSER applications submitted in 2021. To examine practices that emerged in Maine schools, we conducted an online statewide survey of public and private Maine school district curriculum

directors over a period of four weeks from November through December 2021. The broad research questions guiding this MEPRI study were the following:

- How have Maine and other US states and school districts supported student instruction, learning and engagement during the COVID-19 pandemic and, and what new practices did they adopt?
- What positive benefits as well as challenges have Maine and other US school districts experienced with these efforts?

How robust are the findings? This project included a large search and review of the available published literature, including both academic research articles and news articles, to identify a wide range of practices or strategies that have successfully been implemented both in Maine and elsewhere in the US to support students' learning needs. Our aim is to provide these ideas as resources for school systems, educators, and policymakers at all levels. In addition, the project also included a survey of Maine school district curriculum directors to hear in their own words what new practices emerged in their schools and the challenges and successes they experienced in implementing these practices during the pandemic.

We surveyed 254 curriculum directors, both public and private, and 66 responded for a 26% overall response rate. While this response was lower than ideal, it was sufficient for the purpose of this study. However, we cannot know what practices other districts might have implemented in non-responding districts (roughly 75% of those surveyed). The response rate from public school districts specifically was better with nearly a third (31%) responding. The survey participants were representative of the population of Maine's curriculum directors by region and in terms of urban or rural settings.

The federal government offered states several rounds of relief funding programs to address challenges identified during the pandemic. This study did not examine state plans for all of these funding programs, but only the ARP ESSER applications submitted by 50 states and two territories in 2021, prior to the fall 2021 school year. Further, our focus in this study was to identify ESSER-funded supports for student learning specifically. State strategies to address other needs related to the pandemic were not a focus for this study.

Introduction

This report is part of an on-going series of research studies conducted by the Maine Education Policy Research Institute (MEPRI), commissioned by the Maine State Legislature, to understand how PK-12 schools in Maine and elsewhere in the US are supporting students and teachers during the challenging time of a pandemic where normal instructional practices have been disrupted. Previous studies explored remote instruction for special education students in Maine during the pandemic (Lech & Johnson, 2021a) and the delivery of therapeutic services to students through remote or “telehealth” modalities both before and during the pandemic (Lech & Johnson, 2021b).

The intent of this current study was to identify and describe “new or innovative” practices that emerged during the pandemic to support PK-12 students’ learning needs (including academic, social-emotional and mental health needs) through remote, online or hybrid modalities. In a separate report from the larger study, we describe practices to support teachers’ instructional and mental health needs during the pandemic (Fairman et al., 2022). Our investigation involved a review of published literature, news articles, a review of state and district planned strategies to support teachers using federal funding, and a survey of district curriculum directors in Maine. We found that most of the technologies and strategies school districts used to support student learning during the pandemic were not entirely new, but had been used to some degree before the pandemic. The widespread challenges in education during the pandemic simply created conditions that allowed these strategies to be taken up on a wider scale. We found that school districts and educators prioritized their efforts to improve student engagement in learning as well as physical, social-emotional, mental health during the pandemic, followed by a focus on academic learning. To address these three areas, schools and educators employed existing technologies and instructional strategies, and also adopted a broader range of technologies and instructional strategies they found helpful.

States and school districts used federal funding to improve internet access to students and teachers to support remote and online education, and to increase the level of 1:1 access to computer hardware (e.g., laptops or iPads) to students. Federal funding also supported efforts to address declining student enrollment and engagement in school during the pandemic, to address students’ learning losses during the pandemic, and to improve educational opportunities and

equity for students through curriculum changes and expanded online learning options. Some of the more innovative approaches leveraged resources for these goals through regional and statewide partnerships.

Background

The sudden closure of school buildings and shift to remote and online instruction for students in spring 2020 due to the COVID-19 pandemic health crisis disrupted students' education worldwide and required students to engage in learning in a very different way (Fernandes, 2020; New York Times, 2020; Rickles et al., 2020). State education agencies and school districts scrambled to address the need for internet access, computer hardware and online software platforms to facilitate video-conferencing, remote sharing of teaching assignments and student work, and different ways for teachers to communicate and work with students individually or in groups (Hamilton, et al., 2020; Ohm, 2020, April 5; Young & Donovan, 2020). While a few school districts in Maine and other districts in the US had the advantage of being prepared before the pandemic to offer virtual learning during snow days, particularly for older students, most were not prepared (Abbate, 2020; Cramer, 2020).

During spring 2020, Maine schools struggled and had varying degrees of success in their efforts to provide learning materials, instruction and supports to students. The different approaches ranged widely, and included: dissemination of photocopied worksheets, phone or email check-ins by teachers, online materials and assignments, shortened instructional sessions by video-conference with teachers or support service professionals, and even full-length classes by video-conference in a few schools (Abbate, 2020; Abbott, 2020; Biddle et al., 2020; Lech & Johnson, 2021a). Nationally, schools and parents scrambled to support the special learning needs and disabilities for some students in the home setting (Lech & Johnson, 2021a; Young & Donovan, 2020). On the whole, the spring 2020 period of PK-12 education was commonly referred to as “emergency education” or “educational triage” where flexibility was the mantra and expectations were very modest. Government agencies, non-profit education groups, and higher education institutions stepped forward to offer online resources and instructional activities for teachers and students, and for parents who suddenly found themselves in the new role of overseeing their children's academic learning from home (COEHD, 2020; Community Learning for ME, 2020; MDOE, 2020; NCEE, 2020).

Moving into the 2020-21 school year, many schools in Maine and elsewhere were more prepared to deliver virtual learning through remote, online or hybrid modalities, with new policies, online platforms, computer devices and internet access to support a variety of school instructional modalities and school schedules (Cramer, 2020; Hodgman et al., 2021; Lech & Johnson, 2021a; Prothero, 2021). On one national survey, 67% of parents/ caregivers indicated their children's classes had moved to distance learning in September 2020 (NCES, 2021). On another national survey, the percentage of districts (n=565) using primarily in-person instruction increased from 41% in fall 2020 to 54% in the winter of that school year (Hodgman et al., 2020). Districts prioritized in-person learning for elementary students, while a larger percentage of middle and secondary students received instruction remotely (Hodgman et al., 2020). However, rural/ town districts were twice as likely to use in-person instruction for elementary grades and nearly four times as likely to use in-person instruction for secondary grades than suburban/ city districts (Hodgman et al., 2020). States and districts used federal relief funding to acquire new technology and to improve internet access for remote and online learning (Blad et al, 2021). Nationally, schools continued to provide professional development to teachers to improve their skills in using online learning management systems (LMS) and other tech tools, software and delivery of remote or hybrid instruction (Hamilton et al., 2020; Young & Donovan, 2020). While the pandemic continued, school districts continually adjusted their instructional delivery modes based largely on state guidelines, the prevalence of COVID rates in their communities, local school board policies, the preferences of individual families or parents, and on-going staffing shortages, forcing teachers to continually adapt their instructional practices as well (Bangor Daily News, 2020; Ohm, 2020, Oct. 25). School districts across Maine and elsewhere in the US used a mix of both remote/ online instruction (both synchronous and asynchronous) for some students as well as hybrid and in-person instruction for smaller numbers of students in class groupings. Schools often had students alternate between in-person days and learning from home, or chose modalities by grade span levels (Hodgman et al., 2021; Lech & Johnson, 2021a). Students with Individualized Education Plans (IEPs) received academic support or specialized therapy services either in their schools or remotely by video-conference (Lech & Johnson, 2021a; Lech & Johnson, 2021b; Young & Donovan, 2020). States and schools increased their attention to addressing the growing social-emotional and mental health needs of students and staff during the pandemic (Biddle et al., 2020; Gilbert, 2020; Minahan, 2020).

For the fall 2021-22 school year, policymakers at the national, state and local levels continued to set a high priority on getting PK-12 students back into schools for in-person instruction for the full school day and school week (Graham & Hanna, 2021; Maine Governor's Office, 2021; OESE, 2021a; Shapiro, 2021). The option for remote instruction was largely eliminated in many school districts or reserved only for special cases when students were ill or needed to quarantine at home. However, the increased rates of COVID infection nationally and in Maine throughout the fall and winter, and growing staffing shortages for classroom instruction, support and auxiliary services, resulted in a pattern of unpredictable, periodic shifts from in-person to remote school days or weeks (Maine Public, 2022). When staff were out of school and at home in quarantine or caring for their children at home, schools pulled teachers, other staff and even principals to cover classrooms or supervise students as needed. Substitutes and educational aides were in short supply prior to the pandemic, but became very scarce during the pandemic. The lack of sufficient numbers of school bus drivers also required the sudden shift to remote school days for some students. Maine schools continue their desperate pleas for temporary workers and volunteers to help alleviate sudden and severe staffing shortages (MDOE, 2022a; Maine Public, 2022). Again, many of these staffing shortages in PK-12 education are not new, but the effects of the pandemic made them much more severe and put a broader spotlight on this persistent problem.

Over the course of the pandemic, the federal government implemented new programs to fund state or local efforts to help schools continue to deliver education remotely or online initially, and then to reopen schools safely for in-person instruction. The programs also sought to address some of the negative impacts of the pandemic on schools, educators and students, particularly historically under-served students, and to improve equity in PK-12 education for students. The largest such program to date is the American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) signed into effect in March 2021. The initial COVID-19 relief funding for education was through the CARES Act. It was followed by education funding through the CRRSA Act (OESE, 2022c). ESSER required states to select evidence-based practices in their plans, and states and local school districts have used these funds to support student learning using a range of different approaches (OESE, 2021b). Another federal program, the U.S. Department of Education's (USDOE) Education Stabilization Fund:

Rethink K-12 Education Models Grant program, seeks to promote innovation in remote education (OESE, 2021a).

School districts seeking federal funding submitted plans to their state educational agencies and revised those plans throughout the period of the pandemic. States then submitted their plans through applications to the USDOE. Maine's allocation through the American Rescue Plan Elementary Secondary School Emergency Relief Fund (ARP ESSER) so far exceeds \$411 million (OESE, 2021b). As part of the ESSER's CARES Act, Maine spent \$7.8 million early in the pandemic to provide hotspot devices to improve internet connectivity for students during periods of remote learning. The Maine Department of Education (MDOE) also earmarked part of their ESSER funding to help school districts acquire learning management systems for more personalized instruction (OESE, 2021c). While most of the ESSER funding is directed to local school district efforts, some will fund state-level initiatives or services to support schools. Maine was also one of eleven states that received funding (\$16.9 million) through the USDOE's program for innovative remote education. Maine's Rethinking Remote Education Ventures project (RREV, <https://www.maine.gov/doe/rrev>) will fund online professional development to help educators design remote instruction and school districts can apply for RREV funding for their own initiatives (OESE, 2021d).

Methodology

This study involved both a literature review and survey methods to explore how states and school districts were working to support students' learning needs (including academic, physical, social-emotional and mental health needs) during the pandemic. We describe these methods here.

Broad Literature Search

Our research team cast a very broad net to search for research reports and other articles published during the period of March 2020 through March 2022 that described strategies to support student learning during the pandemic. We used online databases (e.g., ERIC, Education Full Text, One Search, Google Scholar and Global Newsstream), as well as individual newspaper websites for major US cities and regions of Maine, and a variety of search words to find reports describing how schools and educators were providing instruction and other services to students during the pandemic, the challenges they were encountering and strategies they found helpful or

effective. We also reviewed archived issues of the national weekly publication *Education Week* (www.edweek.org) for articles published since the beginning of the pandemic to see how the delivery of instruction changed over time and for particular approaches used in different states or locales. We searched for reports and news announcements on national and state governmental agency websites (e.g., the U.S. Department of Education, National Academy of Science, the Maine Department of Education, and the Maine Governor’s Office), and on websites for regional educational laboratories. In addition, we examined the websites of a wide variety of national and state professional associations and education think tanks to find both research reports and descriptions of school practices. Our team closely reviewed more than 100 relevant reports and articles and summarized them narratively by topic and the instructional approach described. Our findings from this review are described later in this report.

Review of States’ ESSER-Funded Approaches

To explore how states and school districts are seeking to support student learning during the pandemic beyond the published literature, our research team reviewed the ARP ESSER applications submitted by each state including Maine and one territory. These state plans were obtained from USDOE websites (OESE, 2021b; 2021c). These documents reflect the particular priorities and needs in each state and across diverse school districts. While some of the approaches described in the plans sought to expand existing practices or programs, others reflect new approaches. Using standard methods for qualitative analysis of documentation content, two members of the team reviewed these plans to identify and categorize the strategies states and school districts are hoping to implement with the support of federal funding. Narrative summaries were developed to describe these approaches for supporting student learning more broadly and are shared in the Findings section of this report. This report describes strategies outlined in the state ARP ESSER applications submitted in spring-summer 2021, focusing on strategies that relate specifically to supporting student learning, including academic, health, or mental health supports. These applications included other efforts aimed at supporting students and schools, which we do not describe in this report.

Survey of Maine Curriculum Directors

MEPRI conducted an online statewide survey (see Appendix A) of Maine school district curriculum directors over a period of four weeks from November through December 2021. This survey explored both district strategies to support student learning and also strategies to support

teachers during the pandemic. This report focuses on supports for students, and we report on teacher supports in a separate MEPRI report (Fairman et al., 2022). Questions explored the following broad topics: changes in instructional schedules, modalities, curricula, use of online learning, student grouping, academic and other supports for students. The survey aimed to learn about new practices that districts had tried and whether or not those practices were being continued. Open-ended questions explored challenges in implementing changes and additional strategies districts were contemplating.

Using staffing lists available from the MDOE and verifying them with individual school district website information, we sent emailed invitations and a weblink for the survey to 254 public and private district curriculum directors (special schools for students with disabilities or incarcerated youth were not included in the survey), along with informed consent information. All survey materials were reviewed and approved by the University of Maine's Institutional Review Board. Survey content and questions were developed based on our findings from the literature review and through input from members of the Maine Curriculum Leaders Association (MCLA). The survey was pilot tested with district curriculum directors and revised based on their feedback. We conducted the survey through the Qualtrics online platform. Reminders were automatically emailed twice to non-responders. By the close of the survey in late December, a total of 66 administrators had completed the survey for an overall response rate of 26%. However, there was a significantly higher response rate for curriculum directors from the regular PK-12 public systems (31%) compared to other public schools (13%) that include the charter schools, magnet schools, Indian Education, state-operated schools and the Unorganized territory, the eleven private schools (18%) that are mostly secondary schools with 60% or more public funding, and other private schools (9%) that include both sectarian and non-sectarian schools. More information about the schools and regions represented in the survey sample can be found in the Findings section and the Appendix.

The survey included both fixed-choice items and open-ended items that allowed for participants to write comments. Demographic data were collected from respondents. Email addresses were matched with National Center for Educational Statistics and MDOE data on districts to allow for analysis of response rates. The majority of fixed-response questions presented respondents a list of related instructional practices. Fixed-choice responses were tabulated and the percentage of survey respondents was calculated for each choice. Districts were

grouped by county into four areas: Central (Kennebec, Knox, Lincoln, Sagadahoc, and Waldo), Northern (Aroostook, Hancock, Penobscot, Piscataquis and Washington), Southern (Cumberland and York) and Western (Androscoggin, Franklin, Oxford, and Somerset). Using SAS statistical software, selected responses were compared by geographic location, district status (public, public-private, private) and rural location to examine if there were any differences in response by county, region or locality, or district status.

Four open-ended survey questions explored school district strategies to support student learning needs during the pandemic. One question asked curriculum directors to describe any “noteworthy” district strategies to support student learning during the pandemic. Another question asked about any “new or innovative” instructional strategies districts had adopted last year (2020-21) but did not continue this school year (2021-22). A third question asked about challenges districts were experiencing in implementing instructional changes this school year. A fourth question asked what other strategies districts were thinking about adopting. These four questions generated 93 individual comments. Typed comments were analyzed by two members of the research team using spreadsheets and standard, qualitative analysis and coding methods. Each comment was categorized and sorted by the topic and ideas expressed by participants. Narrative summaries were developed describing the overall findings from this analysis. These are shared in the Findings section of this report.

The broad research questions guiding this MEPRI study were the following:

- How have Maine and other US states and school districts supported student instruction, learning and engagement during the COVID-19 pandemic, and what new practices did they adopt?
- What positive benefits as well as challenges have Maine and other US school districts experienced with these efforts?

Findings

We report findings from this study in three sections below. First, we describe key findings from our statewide survey of Maine school district curriculum directors (public and private) to learn how districts have supported student learning during the pandemic. Next, we describe the strategies schools and districts have used across the US to support students from our review of recently published research reports and news articles. Finally, we provide an overview

of the strategies planned by various states and school districts, gleaned from states’ federal ARP ESSER applications.

Part I. Findings from the Survey

In this section, we present results of a statewide survey of school district curriculum directors conducted in late fall 2021. First, we describe the districts completing this online survey and how representative the survey was overall. Next, we summarize the most common modes of delivering instruction for the 2020-21 and 2021-22 school years for the participating districts, to provide some context for the changes we describe. After that, we describe the changes districts made during the pandemic in a variety of areas including: school and instructional scheduling, instructional delivery modes, student grouping and individualized learning practices, use of online learning opportunities within and outside the district, academic and other supports provided to students, and what factors led districts to adopt these changes. A brief summary of key results and limitations is provided at the end of this section.

Response Rates

The aim of this survey was to uncover new and innovative practices that emerged during the pandemic in Maine schools to support student learning. Private and private-public school districts were included. Schools that primarily serve students with special needs were not included. The response rate from public school curriculum directors was 31%. A much lower response rate (9%) was obtained from the 34 private school curriculum directors.

Table 1. *Response Rate by District Type*

	Responses		Sent		Response rate
Public	89%	59	76%	193	31%
Private - 60% Publicly Funded	3%	2	4%	11	18%
Other Public	3%	2	6%	16	13%
Private	5%	3	13%	34	9%
Total	100%	66	100%	254	26%

When responses were examined by district locale, the response rate was similar for city or suburban, small town and remote rural curriculum directors. The data on locale were obtained from the NCES site, which does not private schools, public-private schools and some special purpose schools.

Table 2. *Response Rate by Locale*

	Responses		Sent		Response rate
City or Suburb	21%	14	18%	46	30%
Town	58%	38	51%	129	29%
Rural remote	14%	9	12%	31	29%
Missing NCES data	8%	5	19%	48	10%
Total	100%	66	100%	254	26%

Demographics

The curriculum directors represented a cross-section of Maine school districts. Of those providing demographic information, most (60%, n=31) served as curriculum director for PK-12 or K-12 grade levels. The next most common position (25%, n=13) was curriculum director for grades PK-8 or K-8.

Table 3. *Grade Levels Served by Curriculum Directors (n=51)*

Grade Levels	Response rate	N
PK-12 or K-12	61%	31
PK-8 or K-8	25%	13
9-12	10%	5
6-12	4%	2
Total		51

The curriculum directors represented districts in all geographic regions of the state and all locales. Most (54%, n=28) indicated their district was in a small town. Twenty-nine percent (n=15) were in remote rural areas. Curriculum directors primarily were in large districts with 1,000 or more students (n=19) or smaller districts with 101-500 students (n=20).

Table 4. *District Size by Geographic Location (n=52)*

	City or Suburban	Small town	Remote rural	Total
1000 or more students	37% 7	63% 12	0% 0	100% 19
501-999 students	10% 1	50% 5	40% 4	100% 10
101 to 500 students	5% 1	40% 8	55% 11	100% 20
less than 100 students	0% 0	100% 3	0% 0	100% 3
Total	17% 9	54% 28	29% 15	100% 52

Delivery Mode for Instruction

While all schools went remote in March 2020 through the end of the school year, districts adopted different modes of instructional delivery for the 2020-21 school year. During the year, some districts went remote due to COVID outbreaks. As cases declined in the spring of 2021, many districts shifted to five-day or four-day in person learning. About half of the responding curriculum directors (47%, n=23) reported that the primary mode of instruction for most students in their district during the 2020-21 school year was five-day week in person (n=17) or four-day week in person (n=6). One district was fully remote. The other twenty-five districts primarily had some form of hybrid scheduling for most students that year. However, the delivery mode varied by district locale. Remote rural districts (85%, n=11) were more often in person, while city and suburban districts (78%, n=7) reported their most common mode of instruction was hybrid instruction in 2020-21. Districts with more than 1,000 students (79%, n=15) were more likely than smaller districts to primarily use hybrid instruction last year. Districts that only offered education through the eighth grade (78%, n=7) were also more likely to have used in person instruction most of last year.

Table 5. *Mode of Instruction for Most Students in 2020-21 by District Setting (n=49)*

District setting	Fully remote	Hybrid	In person 4 or 5 days per week	Total
City or Suburban	0% 0	78% 7	22% 2	100% 9
Small town	4% 1	59% 16	37% 10	100% 27
Remote rural	0% 0	15% 2	85% 11	100% 13
Total	2% 1	51% 25	47% 23	100% 49

This school year (2021-22), schools returned to their usual mode of operation. All responding districts except the virtual schools reported they returned to five-day per week in-person instruction in fall 2021. In November 2021, prior to the Omicron COVID surge, curriculum directors in one-third of the districts (n=17, 35%) reported that some isolated or quarantined students received remote or online instruction temporarily. Six (12%) said that an entire school had shifted to remote with online instruction temporarily.

Table 6. *Modes of Instruction Used in 2021-22 in Traditional Schools (n=49)*

	Percentage	N
In-person, 5 days per week	33%	17
Hybrid (For example, each student scheduled 1 to 3 days per week in person, remaining days remote)	31%	16
In-person for younger students, hybrid for older students	17%	9
In-person, 4 days per week	12%	6
Hybrid for younger students, fully remote for older students	2%	1
Fully remote	2%	1
In-person for younger students, fully remote for older students	0%	0
Other	4%	2
	100%	52

Format for Survey Responses

The survey asked districts about many specific kinds of practices their districts may have adopted during the pandemic. These items required curriculum directors to choose among the fixed-choice options. If their district had adopted a practice during the pandemic, they were asked to indicate if the district planned to continue the practice or not (plan to continue, want to continue but unable to do so, or want to discontinue the practice). If they did not adopt a particular practice during the pandemic, they could indicate that. If their district had adopted a practice prior to the pandemic, they were instructed to leave that item blank. Thus, we interpreted these blank items to mean that districts had already adopted the practice prior to the pandemic.

School and Instructional Scheduling

Some districts made school scheduling changes during the pandemic that they plan to continue. Forty-one districts adopted remote learning on snow days and most districts (n=27) plan to continue this scheduling practice while ten districts want to discontinue this practice.

Scheduling time during the regular school day for individualized learning was a practice adopted by 39 districts during the pandemic. All but three of these districts are continuing (n=32) or want to continue (n=4) this individual learning time. Fourteen districts left this practice blank, indicating that their district had adopted some form of individualized learning time prior to the pandemic.

Another commonly adopted practice during the first year of the pandemic was scheduling time during the school day for student interactions such as clubs or home room. Thirty districts adopted this practice to increase student interaction time during the pandemic. Sixteen districts left this item blank, indicating that they had already adopted this practice prior to the pandemic.

For most students, remote schooling created a later start time since they did not have to spend as much time getting ready for school and commuting to school. Ten districts responding to the survey indicated that their districts adopted later start times for middle schools and/or high schools. Four districts plan to continue later start times. Three districts want to continue later start times but are unable to do so, and three other districts want to discontinue the later start times.

The largest number of responding districts (n=21) left the question on scheduling longer class sessions blank, indicating that many had already used this scheduling approach prior to the pandemic. This practice is more common at the middle school or high school level. It can take the form of scheduling fewer class sessions each day, while having the same total number of class time hours each week (e.g., A/B schedules), or can take other forms. Nine districts adopted this type of schedule in some of their schools during the pandemic and are continuing it.

Table 7. *Scheduling Changes During the Pandemic and Intent to Continue Them (n=66)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
	%	n	%	n	%	n	%	n	%	n	
Remote learning on snow days	11%	7	27%	18	41%	27	6%	4	15%	10	100%
Scheduled time for individualized learning (Tutor time, accelerated learning time)	21%	14	20%	13	48%	32	6%	4	5%	3	100%
Scheduled time for individual interactions, clubs, SEL, (Home room)	24%	16	30%	20	36%	24	8%	5	2%	1	100%
Adopted later start time for middle/ high school students	27%	18	58%	38	6%	4	5%	3	5%	3	100%
Scheduling longer class sessions (A/B blocks, fewer classes in a semester)	32%	21	53%	35	11%	7	3%	2	2%	1	100%
Other	94%	62	0%	0	5%	3	0%	0	2%	1	100%

Instructional Delivery Modes and Practices

Districts adopted new modes of delivering instruction and other instructional practices during the pandemic and many are continuing them. The use of online platforms in elementary grades (n=43) and use of online collaborative platforms (n=44) were the most common instructional changes adopted during the pandemic by the responding districts. Only two districts want to discontinue use of one of these platforms.

Outdoor learning was adopted by 38 districts during the pandemic with all but one continuing this mode of instruction. This practice might include many different approaches, such as moving classes outside the school building due to health reasons during the pandemic, or could be used for content-focused instruction such as art, creative writing, science and nature study, or other areas.

One instructional mode that many districts adopted during the pandemic and want to discontinue is synchronous virtual learning where some students attend in person and other students are remote (n=22). Many districts left the survey items about in-person synchronous virtual learning (n=22) and asynchronous virtual learning (n=25) blank, indicating they were already using these practices to some extent before the pandemic. Twenty districts said that their districts did not adopt synchronous learning while all students were in person, while 25 districts said that they adopted this practice during the pandemic. The same pattern was seen for asynchronous virtual learning

For the instructional approaches including project-based learning, incorporation of allied arts into educational projects (STEAM), and community projects, 21-30 of the 66 responding districts left these survey items blank, indicating they were already using these practices to some extent prior to the pandemic.

Table 8. *Modes of Instruction & Instructional Practices Adopted During the Pandemic (n=66)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
Use of online platform to support collaborative learning (e.g. Google Doc)	32%	21	3%	2	62%	41	2%	1	2%	1	100%
Use of online platform (Google, Seesaw) in elementary grades	32%	21	3%	2	64%	42	0%	0	2%	1	100%
Outdoor learning	32%	21	11%	7	56%	37	0%	0	2%	1	100%
Synchronous virtual learning with all students in-person	33%	22	30%	20	18%	12	2%	1	17%	11	100%
Synchronous virtual learning with some students in-person while others are remote	33%	22	21%	14	11%	7	2%	1	33%	22	100%
Students are in-person doing asynchronous virtual learning	38%	25	41%	27	14%	9	2%	1	6%	4	100%
Project-based learning	42%	28	33%	22	24%	16	0%	0	0%	0	100%
Incorporation of allied arts into educational projects (STEAM)	42%	28	33%	22	24%	16	0%	0	0%	0	100%
Community projects	45%	30	24%	16	30%	20	0%	0	0%	0	100%

Student Grouping Practices

There were thirty-nine district curriculum directors who indicated that their districts made adjustments in student grouping practices or modes of instruction during the pandemic such as multi-age groups or asynchronous learning. This subset of curriculum directors was given a series of questions about their district student grouping practices. A common grouping practice is the use of small learning groups for instruction. Most of these curriculum directors (n=23) left the choice of frequent use of small learning groups blank indicating they may have already been

doing this. Nineteen indicated their district adopted frequent use of small learning groups during the pandemic. Four of these districts want to continue this practice but are unable to do so.

As the pandemic has progressed, districts have seen greater variation and gaps in students' academic performance. Some districts have responded by grouping students by performance level within a grade level. Twelve districts indicated they had adopted the practice of grouping students by performance level within a grade for some subjects, while an equal number of districts (n=12) indicated they did not adopt this practice during the pandemic. Fifteen left this option blank indicating that they may have been grouping students by performance level within a grade prior to the pandemic.

Some of Maine's very small schools had multi-age group classrooms and even one-room schools prior to the pandemic. Eight districts of various sizes in a variety of locales indicated that they adopted multi-level grades during the pandemic. Seven of these districts are continuing the practice of multi-level grades. Another option is grouping students by performance level across grades for some subjects. In the most common form, this practice requires coordination between classrooms so that all grades are being taught math or another subject at the same time. Students from different grades can then be grouped by performance level in that subject. Nine districts indicated that they adopted this practice during the pandemic. Five of these districts were not ones with multi-level grades. Four districts are continuing this practice.

Individualized Learning

The thirty-nine curriculum directors that reported their districts made adjustments in student grouping practices or modes of instruction during the pandemic were asked additional questions about individualized learning practices in their districts. Thirteen curriculum directors (29%) indicated their districts had adopted the practice of individualized learning during the pandemic. However, a quarter of respondents (n=10, 26%) said that their districts did not adopt individualized learning during the pandemic. There was no pattern in adoption or non-adoption of this practice by rural/ urban locale, district size or geographic region. The remainder of districts left this item blank, indicating that their districts may have already implemented this approach prior to the pandemic.

Thirteen district directors said their districts adopted one-on-one academic learning time. While all thirteen districts wanted to continue this practice, about half indicated they were unable to do so.

Another approach to individualized instruction is computer-adapted learning or computer-adapted assessments. Thirteen districts said that they began computer-adapted learning during the pandemic. Six districts reported not adopting either of these practices during the pandemic.

Just three district curriculum directors indicated their districts started doing Individualized Education Plans (IEPs) for all students during the pandemic. Eleven other districts begin doing IEPs for some students without special needs during the pandemic and are continuing this practice. One director commented that this practice was for gifted students in their district. The eleven districts that are doing IEPs for some students without needs are of various enrollment size and are scattered across the state.

At the secondary level, a form of individualized learning is allowing students to design their own independent learning courses for credit. Three districts adopted this practice during the pandemic and are continuing the practice.

Table 9. *Student Grouping and Individualized Instruction Practices (n=39)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
	%	n	%	n	%	n	%	n	%	n	
Frequent use of small learning groups	59%	23	3%	1	28%	11	10%	4	0%	0	100%
Strategic grouping of students by performance level within a grade for some subjects	38%	15	31%	12	26%	10	5%	2	0%	0	100%
Strategic grouping of students by performance level across grade levels for some subjects	31%	12	46%	18	18%	7	5%	2	0%	0	100%
Multilevel grades	33%	13	46%	18	18%	7	3%	1	0%	0	100%
Student designed courses for credit	31%	12	62%	24	8%	3	0%	0	0%	0	100%
Individualized learning	46%	18	26%	10	26%	10	3%	1	0%	0	100%
Individual education plans for all students	33%	13	59%	23	3%	1	5%	2	0%	0	100%
Individual education plans for some students without IEP needs.	36%	14	33%	13	28%	11	3%	1	0%	0	100%
One-on-one academic time	41%	16	26%	10	18%	7	15%	6	0%	0	100%
Computer adapted learning	51%	20	15%	6	31%	12	3%	1	0%	0	100%
Computer adapted assessment to guide lesson	49%	19	21%	8	28%	11	3%	1	0%	0	100%

Online Learning Opportunities for Students

Fifty-one of the 66 responding curriculum directors reported their districts adopted at least one of the listed online learning options for students during the pandemic. Online learning opportunities listed on the survey included some provided by the state education agency, private providers, universities and school districts.

The Maine Department of Education (MDOE) developed two sets of online resources for teachers, families and students to use. They could be used as part of a class curriculum or as supplementary learning resources for families and students. The MDOE's Social Emotional Learning with Intention (SEL4ME) website includes information, resources, and learning modules that focus on students' social-emotional learning (MDOE, 2021a). The MDOE's Maine Online Opportunities for Sustained Education (MOOSE) offers learning activities, instructional videos and other resources for various content areas for grades K-12 (MDOE, 2020). Over half of the responding districts adopted at least one of these state-sponsored online resources during the pandemic. Nine districts adopted both MOOSE and SEL4ME during the pandemic. Twenty-one districts adopted either MOOSE or SEL4ME. All but three of the 33 adopting districts are continuing this practice.

Among the other online options with non-district providers, 24 districts indicated they had adopted Khan Academy videos during the pandemic, and 23 are continuing to use them. Thirteen districts indicated they had adopted Early College online courses where secondary students can take college level courses online for credit.

For online options offered by school districts, 13 districts indicated they had adopted remote high school classes from other educational providers during the pandemic, and 12 districts had adopted online Advanced Placement (AP) classes. Most of the districts that adopted these online learning options during the pandemic indicated they are continuing these options for students.

When asked about the practice of online academic support or tutoring, curriculum directors from fifteen districts said their districts had arranged online tutoring for some students and seven districts indicated students using online tutoring arranged by students and their families.

Table 10. *Use of Online Learning Opportunities (n=51)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
MOOSE modules	25%	13	41%	21	29%	15	0%	0	4%	2	100%
SEL4ME	31%	16	37%	19	29%	15	0%	0	2%	1	100%
Early College online	41%	21	33%	17	25%	13	0%	0	0%	0	100%
Advanced Placement Classes online	43%	22	33%	17	20%	10	0%	0	4%	2	100%
Remote high school classes (e.g. BYU courses)	45%	23	29%	15	24%	12	0%	0	2%	1	100%
Online educational videos such as Khan Academy	47%	24	6%	3	45%	23	2%	1	0%	0	100%
Online individual tutoring arranged through the district/schools	29%	15	41%	21	27%	14	2%	1	0%	0	100%
Online individual tutoring arranged by students/families	35%	18	51%	26	14%	7	0%	0	0%	0	100%

On another survey question, curriculum directors were asked why their students did not use the online learning opportunities listed on the survey. The most common reasons were: disinterest, lack of accessibility and lack of awareness. Twenty-four curriculum directors chose the response: “teachers, students and families were aware of some of these options but chose not to use them.” An equal number (n=24) checked the response: ”some teachers, students and families did not have internet to easily access and/or devices to access these options.” Eight of the 66 responding curriculum directors (12%) noted that their districts were not aware of some these online learning opportunities for students. These eight districts were larger districts that also indicated other reasons why these online options were not used. In 21 districts, curriculum directors indicated students were not using the online options because the district and schools chose not to promote some of them. Again, the three online resources most frequently adopted

by the responding districts during the pandemic included the state's MOOSE and SEL4ME materials, and Kahn Academy's instructional videos.

Academic and Other Supports for Students

The majority of district directors (n=51) reported their districts adopted some additional practices to support students during the pandemic. These practices included: tutoring, mentoring, home visits, outreach to families and counseling. The most common academic support practice that these 51 districts adopted was tutoring. A total of 29 districts added tutoring. Districts adopted tutoring at different time periods. Three districts added tutoring before and/or after school. Seven districts just added tutoring during the school day. Seven more districts added tutoring before and/or after school and during the school day. Eight districts added tutoring throughout the week: outside traditional academic times (evenings or weekends), before and/or after school, and during scheduled academic time. Four districts adopted tutoring time before and/or after school and outside traditional academic times. Tutoring outside of traditional school hours is a practice that most of the responding districts (n=25) indicated they did not adopt during the pandemic.

Ten districts indicated they had adopted the practice of having a staff member check in with individual students for one-on-one social support during the pandemic. Two districts indicated they want to continue this practice but are unable to do so. About half of the districts (n=25) said that they did not adopt this practice during the pandemic.

Nine districts adopted the practice of providing career mentoring during the pandemic. Work internships were adopted by seven districts, however, only four of these districts were able to continue them. A high number of districts said that they did not adopt career mentoring (n=22) or work internships (n=25) during the pandemic.

Table 11. *Academic and Other Student Support Practices (n=51)*

	No answer		Did not adopt during the pandemic		We plan to continue this practice		We want to continue this practice but are unable to do so		We want to discontinue this		Total
	%	n	%	n	%	n	%	n	%	n	
Tutoring before or after school	39%	20	18%	9	43%	22	0%	0	0%	0	100%
Tutoring during scheduled academic time	33%	17	24%	12	33%	17	8%	4	2%	1	100%
Tutoring outside traditional education time (evenings or weekends)	27%	14	49%	25	22%	11	0%	0	2%	1	100%
Extended school year	35%	18	31%	16	29%	15	4%	2	0%	0	100%
Regular one-on-one meetings for every student with a designated staff person (Social support)	31%	16	49%	25	16%	8	4%	2	0%	0	100%
Career mentoring	39%	20	43%	22	16%	8	2%	1	0%	0	100%
Work internship programs	37%	19	49%	25	8%	4	6%	3	0%	0	100%

Decision to Adopt New Practices

Curriculum directors were asked to select up to three primary factors affecting their districts’ decision to adopt new practices during the pandemic. The most common driver of changes in practices to support student learning across all locales (city or suburban, small town, and remote rural) was the opportunity to access increased funding since March 2020 (68%, n=36), followed by new resources made available since March 2020 (49%, n=26). City and suburban curriculum directors were more likely than small town and remote rural curriculum directors to indicate that their districts adopted new practices because of their districts’ experience during the pandemic or due to a change in school community attitudes toward new instructional practices during the pandemic. Eight district curriculum directors (15%) indicated that a change in practices was delayed due to a desire to return to normal practices. Just four of the 53 districts that answered this question indicated that no significant changes were considered for this school year (2021-21).

Table 12. *Factors Contributing to the Adoption of New Instructional Practices (n=53)*

	City or Suburban	Small town	Remote rural	Total
Change was made possible due to increased funding since March 2020	80% 8	63% 17	79% 11	68% 36
Change was based on district's experience during pandemic	80% 8	41% 11	57% 8	51% 27
Change was made possible due to new resources made available since March 2020	30% 3	59% 16	50% 7	49% 26
Change was planned prior to the pandemic	20% 2	22% 6	7% 1	17% 9
Change was delayed due to a desire to return to normal before instituting change	20% 2	19% 5	7% 1	15% 8
Change occurred due to change in school community attitudes toward new instructional practices during pandemic	30% 3	7% 2	7% 1	11% 6
Change was made due to shortages (staff, supplies)	20% 2	4% 1	21% 3	11% 6
No significant changes were considered this school year	0% 0	11% 3	7% 1	8% 4
Change was delayed due to the pandemic (lack of resources or staff)	0% 0	7% 2	0% 0	3% 2
Total	100% 10	100% 27	100% 14	100% 53

Written Comments about Changes Implemented to Support Students

Three open-ended survey items asked curriculum directors to describe the most “noteworthy” practices their districts had adopted during the pandemic to support student learning, what “new or innovative” practices their districts had adopted last year but would not continue this year, and what additional practices their districts were considering. We summarize these written comments in this section.

A total of 26 directors responded to the question asking for descriptions of any “noteworthy” strategies that emerged during the pandemic to support students' learning needs. The comments showed a fairly even distribution with approximately three to five responses mentioning one of the following strategies to support students: offering students electronic devices, providing online learning platforms, and using social-emotional learning practices. In addition, two comments described having assigned or dedicated teachers for the remote learning

modality. Two comments described the practice of providing tutoring and academic support to students, and one comment described using outdoor learning.

Four comments described how districts provided students with electronic devices and five comments described the use of online learning platforms. Curriculum directors explained how their districts increased students' access to technology and the internet. Five comments described how districts adopted various platforms or software to deliver instruction through remote learning. The following comments describe some of these strategies: "Our ability to provide access to online internet to rural Maine was remarkable for some of our towns, families, and students;" and

All students have access to a device to allow continuous learning when remote.

The district has found ways for all students to connect to the internet when remote. Small group work was supported through the use of Zoom breakout rooms. Study groups and teacher office hours at the high school were accessed through Zoom breakout rooms.

Our PreK-2 school finally became a 1:1 device school with the purchase of iPads for everyone. We trained students on using SeeSaw for activities on the iPad. We also had licenses that allowed for personalization of learning (like assigned book bags in Epic) and engaged students.

Four comments described districts' use of social-emotional learning practices and supports for students, and some directors also mentioned how their schools had incorporated time into the schedule for social-emotional learning. These strategies were described in the following comments: "Creating time within the school day to do social activities, clubs, enrichment, etc. was important for social-emotional learning;" and

We found that having the students at [grades] 6-12 follow the same schedule remotely when quarantined was especially helpful to maintaining their emotional wellness... Teachers could conduct breakout rooms with small groups and still be available for students who had individual questions.

Some strategies were mentioned by only one district. Some examples included: placing less emphasis on scaled grades, hiring interventionists, individualized meetings for student support, and engaging with other towns or schools. One such comment was the following:

Through remote learning options, more students are able to meet and interact with students from other counties, towns and communities which has widened their own student base. That has been the biggest, noteworthy strategy.

Another open-ended question asked curriculum directors to describe any “new or innovative practices” their districts had adopted last year (2020-21) but did not continue this school year (2021-22). Eleven directors responded to this survey question. Eight of the comments emphasized changes in school scheduling last year that were not continued this school year. These comments described the shift from remote learning last year to more in-person learning this year, and some of the reasons that included staffing shortages, expectations to “return to normal” this year, and other challenges. Comments included the following:

Last year we did in person instruction and remote at the same time. This year we did not [continue this] due to lack of staffing, unfair teacher workload, and the fact that remote had terrible results and students were staying home for reasons other than the pandemic. Many of our students stayed home to work and to play but not to do their schoolwork.

Generally, the students who chose to stay at home were students who needed the attention and structure of the in-person classroom. We began to see cyber-bullying of students towards teachers, work not completed or passed in, and a breakdown in family relations.

Hybrid and remote options for learning. The district was unable to continue to offer these options due to inadequate staffing.

Two comments described other changes that districts had adopted last year but did not continue this year. One comment described changes in the school week schedule to provide more time for teacher professional development, referring to: “4 day in person learning with 1 day of professional development, planning, prepping for teachers/staff.” Another comment described the decision not to continue to offer a virtual learning academy:

We opted not to offer a district-sponsored Virtual Academy. This school-within-a-district model was put together quickly, had a fragile infrastructure, and was costly to support.

Looking beyond the changes that districts have implemented during the pandemic, another open-ended survey question asked curriculum directors what “new or innovative instructional strategies” their districts are thinking about adopting. A total of 24 directors described curricular, instructional or other changes their districts are considering. A majority of the comments (17) fell into the category of curricular changes that districts were considering. Some of these approaches included: interdisciplinary approaches to learning, project-based learning at the middle level, and place-based or community-based learning. Three directors wrote that their districts were thinking about implementing alternative education or multiple pathways for secondary students, with one district specifically looking at more secondary courses to prepare students for trades and work after high school. That director wrote: “We are in the process of increasing student course choices at the high school that align more to the trades/occupation postsecondary paths.”

Two districts were considering expeditionary or experiential learning, or outdoor-learning at the elementary grade level. One director wrote their district was thinking about adopting “experiential learning (including outdoor learning) in our curriculum and instruction Mobile Makerspace for elementary school.” Another director described how their district might provide more enrichment opportunities to students through community partnerships. And one district was considering the use of micro-credentialing and badges for students demonstrating competency in certain areas.

A few directors described diverse strategies their districts were considering in the area of instruction. Five directors described their districts’ movement toward adopting more options for students to take courses remotely or to choose a completely virtual option, primarily at the middle or secondary levels, as they have learned through the pandemic experience that this modality works well for some students. Two comments included the following:

We now understand that students can learn/practice skills remotely and teachers can provide effective remote instruction. We know that when there is a need to be out of school we can provide appropriate instruction that allows students the opportunity to learn.

We have continued with a full remote option for our 7-12 students and look to expand that even more. Students in our full remote option still have the ability to take in person classes but also do a majority of their classes online. We chose not to do this with the younger students as our data and research indicated that being in person for elementary students was more beneficial than our middle to high school students.

Other instructional strategies that were being considered in a single district included: engaging students in learning through multiple senses, using universal design for learning (UDL) for improving accessibility in learning, and shifting away from traditional instructional grade-based grouping of students to more flexible grouping or “learning pods.” One director wrote: “We have attempted to look at the structure of our schools in terms of delivery, looking beyond "grade" and more to need/be it acceleration or remediation.”

Challenges in Implementing Changes

One open-ended question asked district curriculum directors what challenges their districts had faced in implementing desired instructional changes this school year (2021-22). A total of 31 directors wrote comments to this question, describing challenges that primarily centered on staffing shortages, followed by teacher stress and workload. Another challenge mentioned less frequently focused on implementing COVID protocols.

More than a third of the written comments (12) emphasized the challenge of school staff shortages as a reason that schools struggled to implement desired instructional changes this year. Some of these comments were the following: “Shortage of substitutes--We are all just covering for each other;” “Finding staff to provide additional instructional services,” and “Positions are filled, but many staff members have been unable to work for a variety of reasons.”

Just over a third of the comments (11) emphasized the challenge of teacher stress/health as a challenge for implementing desired practices. Some comments connected the staffing shortages with increased teacher workload and stress, creating negative health impacts for teachers. Comments describing these challenges included the following:

Staff are exhausted and in a constant state of change. The amount of time focused on things like contact tracing...has taken up so much of their time that they are just in survival [mode]...They cannot focus on the education of students... We are

a rural district with limited resources--so every "extra" record keeping falls to someone who is already running on nothing.

Energy. Everyone is overly stressed and overworked. Everyone is exhausted. Classrooms are in constant states of disarray as kids and teachers come in and out of quarantine. People just don't have the capacity or willingness to make major systemic changes as its taking all of their energy and more just to do the bare minimum.

Five written comments mentioned “COVID protocols” as a challenge that made it more difficult to implement other desired practices in schools. One curriculum director commented:

The biggest challenge has just been managing all the different protocols from the [Maine] DOE and Maine CDC. While we would like to provide best practices and professional development, our teachers are struggling themselves emotionally with all the changes and unfinished learning of our students.

One other comment noted the lack of teacher buy-in or support for new practices was a challenge: “Buy in from all teachers--these new instructional practices take a lot of work and not all teachers are comfortable with them, for various reasons.” Another comment described the challenge of support students with IEPs remotely:

Providing remote specialized instruction (IEP) has been challenging. We are able to put students into breakout rooms when they are in the same classroom. It is more challenging with you need to pull students from different remote homerooms.

Some directors described having limited time for teacher professional development, limited funding, and communication challenges within the school community and with external stakeholders as challenges for implementing desired changes. Curriculum directors explained these challenges in their comments:

Profoundly inadequate time for teacher professional learning [and] limited funding to support program pilots or expansion (especially in light of ongoing costs associated with schools serving as frontline public health agencies).

The amount of time focused on things like contact tracing, having materials ready for quarantine students, reaching out to families, helping students remember to pull up their mask...

Summary and Limitations of the Survey

The statewide survey of public and private school district curriculum directors identified many new practices that Maine districts adopted during the pandemic to support student learning. The responding districts adopted a wide range of schedules and modalities to deliver instruction last year (2020-21), including 5-day in person, 4-day per week, hybrid and remote instruction. Larger and more urban districts were more likely to use hybrid modalities last year, while smaller and rural districts more often had in person instruction last year. With the exception of virtual school districts, all responding districts indicated they had returned to 5-day in-person instruction this year (2021-22), with temporary remote options for some students who needed to quarantine. Other scheduling changes that were adopted during the pandemic included the use of remote instruction during snow days, more time for individual learning, and adding time for student clubs or homeroom time.

In their written comments, some curriculum directors indicated their districts had provided students with additional computer or iPad devices, and some districts adopted online platforms and other software to support remote and online learning during the pandemic.

Responding districts also adopted new instructional grouping practices during the pandemic, with some shifting away from grade-level grouping to some type of performance grouping for instruction, either within grade levels or across grade levels. These grouping changes were intended to address the widening diversity in student learning needs and performance.

Some of the online learning opportunities districts adopted during the pandemic included online tutoring or other academic support for students, computer adapted learning, remote courses at the secondary level, and online Advanced Placement courses. Most of the responding districts did make use of the MDOE's MOOSE and SEL online resources for learning and social-emotional supports for students, and many used Kahn Academy's online instructional videos.

The most common instructional practice to support students during the pandemic was adding tutoring at different times. Other practices adopted to support students during the

pandemic included remote tutoring for students, mentoring, individual check-ins with students, outreach to families, career mentoring, and a variety of SEL supports.

Most of the responding districts cited the availability of additional funding from state and federal sources and other resources as the primary factors for adopting new practices to support students. However, they also cited increased teacher workload, stress, staffing shortages, time-consuming COVID protocols such as contact tracing and the general expectation to return to normal schooling as reasons they would not continue some of the changes adopted last year.

While the survey was helpful in identifying many of the practices districts adopted to support students during the pandemic, there are some important limitations to consider when interpreting the survey results. First, the survey did not ask about every possible strategy that districts might have adopted during the pandemic to support students. The open-ended items did allow directors to mention other practices not listed on the survey specifically. Another limitation is related to the format of the fixed-choice survey items. We structured the survey to find out what practices were adopted during the pandemic and which ones might be continued or not. Despite the effort to pilot the survey instrument, some curriculum directors may have found the format confusing, making it difficult to interpret the results when they left some items blank. Finally, while the districts completing the survey were representative of Maine districts overall, a large percentage of the 254 districts surveyed (74%) did not complete the survey. We cannot know what practices may have been adopted in non-responding districts.

Part II. Review of the Literature

In our search through published research reports, news articles and other literature on PK-12 school practices to support student learning during the pandemic across the US, we found that states, school districts, schools and educators often adopted strategies that had been used successfully, but in a more limited way, before the pandemic. The unique circumstances of the pandemic stimulated a widespread adoption of remote, online and hybrid approaches to delivering instruction, as well as changes in the instructional scheduling and grouping of students. Teachers could not assume that all the students in a class would connect together for instruction at the same time, given the technology barriers and decreased engagement of many students. Students may also have lacked appropriate learning materials or supports and adult guidance at home. Disrupted schooling meant less material was covered and students showed uneven learning progress and growing gaps. Finally, the prolonged experience of the pandemic

and social isolation that went with it had a significant impact on students' social-emotional and mental health, which state education agencies, schools and educators worked to address. Despite the challenges presented during a period of "emergency" education, new opportunities were available for schools and teachers to try out different approaches, many of which they viewed as beneficial for teaching and learning.

The literature we reviewed indicates a growing consensus during the pandemic that schools and educators needed to prioritize engagement and re-engagement of students and their families or caregivers through increased communication efforts and a wider variety of communication strategies or modalities, and also increase support for students' social-emotional well-being and mental health (CCSSO, 2020; Darling-Hammond & Hylar, 2020; Hamilton et al., 2020; Minahan, 2020). These priorities have been viewed as a necessary foundation for tackling the instructional challenges and problem of academic learning gaps. In this section, we provide an overview of strategies schools and educators were using during the pandemic to improve student engagement; support students' physical, social-emotional well-being and mental health; and to provide instruction through in-person, remote, or hybrid modalities which required the adoption of new instructional technologies as well as changes to the curriculum and instructional practices. We also describe some of the chief challenges they encountered in these efforts, as well as the perceived benefits and improvements they have observed.

Student Engagement

As PK-12 instruction in the US was first disrupted by school closures in March 2020 and then abruptly moved from school buildings to students' homes, both educators and families confronted new challenges to keep students connected through technology tools and actively engaged in their learning. Within the first months and year of the pandemic, many students disengaged from their classes. Schools and educators looked for different approaches to communicate and re-engage with students and their caregivers. These efforts also provided opportunities to strengthen school-family relationships (Bishop, 2021; Epstein, 2021; Hamilton et al., 2020).

The research literature and widespread news reports describe how schools sent staff or other community volunteers to make in-person visits to students' homes, often using the existing bus routes, to deliver meals, supplies for childcare needs and learning materials to families and students (Lech & Johnson, 2021a; Shen, 2021; Weiland et al., 2021). This effort allowed schools

to attend to some of the pressing, basic needs of students, but also to check on the well-being of families and to open conversations about learning and school engagement (Epstein, 2021). Staff in early childcare centers and PreK programs increased in-person communication with parents and caregivers at drop off and pick up times at their facilities, when families were no longer admitted inside facilities (Weiland et al., 2021).

Educators and administrators increased their use of existing methods to communicate with families through phone calls, email, and school webpage messaging (Lech & Johnson, 2021a). School districts also scrambled to acquire and adopt new online platforms such as Google Classroom or applications to share class assignments and communicate with parents and students individually or collectively. They used Google Classroom, Google Meet, Zoom or other online platforms to support both asynchronous online instruction and synchronous video-conferencing for remote instruction. Classroom teachers and parents increased their use of direct text messaging, FaceTime and other video-conferencing to communicate about students' schedules, schoolwork and class participation. While these increased efforts to communicate with families may have improved the flow of information and supports to parents or caregivers and supported student engagement during the pandemic, some of these tools also raised concerns about privacy (Lieberman, 2020), and increased the time and workload demand on teachers and parents. Teachers also found it challenging to communicate with families that lacked computer devices and internet access, particularly in rural areas (Lech & Johnson, 2021a).

School districts in some places made more online (asynchronous) learning options available to families and students as an alternative when students could not be in school in person. Secondary students continued to have the option to take post-secondary courses online for credit, as before the pandemic. Schools also acquired tech devices like iPads for students, and interactive whiteboards, digital screens, overhead projectors, cameras, microphones and other hardware for teachers to increase student participation and engagement (Lieberman, 2020).

Teachers also made more use of online applications and platforms to provide fun, interactive games, competitions, scavenger hunts, surveys and other activities in their remote or hybrid teaching as a way to both engage students and to reduce the effects of the social-emotional and mental health challenges for students (Bartlett, 2021; Chen & Greenwood, 2021; Martin-Sómer et al., 2021). Teachers used various online apps and platforms for their classes to recreate a classroom scene with images of the teacher, chalkboard, desks and other familiar

objects, helping students to navigate through links and videos to various learning activities (Gewertz, 2020; Minero, 2020). Both educators and school administrators shared motivational videos online with their students, where some of them dressed up as superheroes (Borup et al., 2020). Teachers used choice boards and other tools to invite students to share their own interests, provided time for students to share positive events in their lives, and to engage in a variety of ways (through writing, drawings, video or other images), as a strategy to both engage individual students and to help students connect with their peers during remote instruction (Bishop, 2021; Borup et al., 2020; Lech & Johnson, 2021a). Incorporating the arts through students' IEPs during remote instruction was found to increase student engagement for students with disabilities (Joyal, 2020).

Despite the increased efforts of many schools and educators to improve student and family engagement in school during the pandemic, there is consistent evidence that these efforts have had different levels of effectiveness for some groups by income level and location or community context. Students living in higher poverty, or in smaller, rural school systems were less likely to have the technology (i.e., internet access, computer devices) they needed to continue their schooling remotely or online, adequate learning materials provided to them by their schools, or instructional time and supports for learning at home (Lech & Johnson, 2021a; Rickles et al, 2020; Young & Donovan, 2020). In Maine, special education teachers and directors reported that some parents/ caregivers refused technology supports that were offered by the state or district, such as hotspots to improve internet access and connectivity for students learning from home (Lech & Johnson, 2021a).

When teachers were working in a hybrid format, they often juggled the demands of attending to students in the classroom and students connecting remotely via video-conference at the same time. Having a broader mix of instructional strategies and technology tools to share instruction and student work supported the engagement of both groups of students, but also allowed for more personal contributions from individual students. The literature emerging from the pandemic has helped educators and parents or caregivers understand that the broad notion of “engaging” students in learning includes cognitive, motivational, and behavioral engagement. Another important concept from research on engagement during the pandemic is the important roles of both the student's course/ school community and their personal or home community in being engaged in supporting the student's learning and educational success (Borup et al., 2020;

NCEE, 2021a). Some of the strategies found to be helpful in supporting these aspects of engagement included: giving students opportunities to share, inform or “teach” others in the class; allowing more individual choice in learning and how to demonstrate student knowledge; and valuing student diversity by incorporating student identity and cultural perspectives in students’ learning (Borup et al, 2020; The Learning Accelerator, 2021). More broadly, research-based guidance on effective remote and hybrid learning suggests that schools need to consider six factors that impact student engagement: instructional delivery, technology access, staffing and professional development, family engagement, offering extracurricular options, and social-emotional learning (NCEE, 2021a).

In ways never experienced before the pandemic, parents and caregivers took on the new role of “co-teacher,” helping their students’ navigate the academic, emotional-social, and technological challenges that distance learning entails, while simultaneously trying to attend to their other personal and professional responsibilities (Bishop, 2021; Davis et al., 2021; Fontenelle-Tereshchuk, 2021; Price et al., 2021). Parents and caregivers needed lots of support from schools and teachers in the early months of the pandemic, to get past the technology barriers and cope with a crisis. Lingering challenges included diminishing student engagement, reduced parent energy and capacity to support students’ academic learning at home, and the negative effects of increased stress for both parents and students. The importance of the parent-teacher partnership became more visible during the pandemic, and there is a growing body of literature examining the shared role of parents and teachers in supporting student engagement and social-emotional well-being, whether students are learning from home remotely or in the classroom (Fisher et al., 2020; Wiseman et al., 2021).

Physical, Social-Emotional and Mental Health

Throughout the pandemic, school systems have continued and augmented their efforts to support the physical, social-emotional and mental health and wellness of their students. During periods of school closure and remote learning, many of the services and supports to students needed to shift from in-person to remote delivery using online platforms, iPads, laptop computers, mobile phones or other technology tools.

Prior to the pandemic, school leaders were becoming more aware of how early school scheduled start times can negatively affect middle school and high school students. Research has shown a relationship between school start times and the percentage of middle school and high

school students getting adequate sleep. In 2019, California enacted a law that required middle schools and high schools to start no earlier than 8:30 AM (Ziporyn et al., 2022). In school, lack of sleep for adolescents has been associated with difficulty paying attention, impaired short-term memory and processing of new information, anxiety, depression, substance abuse, engaging in risky behaviors, and car accidents. Later start times have shown reduced negative effects in many of these areas (Schimelpfening, 2021; Ziporyn et al., 2022).

During the pandemic, more districts became aware of the effects of school schedules on adolescents' sleep, and the shift to remote learning increased the amount of sleep for middle school and high school students. A large national survey found that even when schools maintained the same start time, the online synchronous or asynchronous learning allowed teenagers to get more sleep. Teenagers in schools with asynchronous learning got the most sleep, averaging over nine hours per night which was similar to the sleep they got on weekends. Teenagers who attended school in person averaged less than seven and a half hours of sleep. (Meltzer et al., 2021) Some students felt they were better motivated and saw their grades improve during remote learning (Vaznis, 2021). Based on the pandemic experience, many districts changed their middle schools and high schools to later start times this year (Ziporyn et al., 2022). The Portland district in Maine adopted later start times (8:20 AM) this school year (2021-22) for middle schools and high schools (Hoey, 2021). Based on their concerns about student mental health, two New Jersey lawmakers recently introduced a bill similar to California's legislation which requires high schools to start no earlier than 8:30 am (Johnson & Clark, 2022).

As we described in the previous section, the literature and news reports document widespread efforts by PK-12 schools to mobilize in the early days of the pandemic to address some of the basic nutritional needs of students and families, through the distribution of school meals, food and other basic supplies to students' homes (Biddle et al., 2020; Pendharkar, 2021). Schools also set up or expanded access to food pantries and worked with community organizations on this effort (Fairman et al., 2021). As the pandemic went on, schools experienced more challenges in providing meals due to the disruptions in the supply and delivery of goods nationally, as well as health precautions to reduce the spread of COVID in schools (Ngo, 2021). Starting in spring 2020, the federal government eased requirements that allowed for increased funding support for school meals over the summer and school year, to ease hunger and improve

student attendance and learning. This support will be available to students through the current school year (2021-22). California was the first state to pass legislation allowing all public school students to have free school meals regardless of family income (Klein et al., 2021). In July 2021, Maine's legislature and governor approved a budget bill that included funding to expand the free breakfast and lunch program to all 160,000 PK-12 students in Maine, regardless of financial need, starting in the 2022-23 school year. Schools see a clear potential for this policy to benefit student attendance, health and readiness to learn (Feinberg, 2021).

During the period of school closures, surveys found that students' social-emotional and mental health declined rapidly (Gilbert, 2020). Schools increased their effort to provide information and resources to families through their district and school websites and other messaging tools. This information showed attention to the needs of the whole child and families by focusing on physical, social-emotional and mental health of students and families as well as academic learning. Yet, research found that smaller, rural school districts were less likely to provide resources on mental health services to families (Biddle et al., 2020).

Schools expanded health and mental health services provided by their nursing staff, social workers and counselors, or through partnerships, in school or community-based health clinics (Biddle et al., 2020; Fairman et al., 2021). These clinics added the services of screening for COVID, and increased the use of remote video-conference tools to help students and their families connect to physicians for diagnoses and referrals. Mental health services were provided in the school or remotely through healthcare partnerships (Fairman et al., 2021) and special services to students with disabilities also saw increased reliance on remote instruction and telehealth services (Lech & Johnson, 2021a, 2021b). A national survey of 277 school district leaders conducted by RAND in June 2021 found that 57% of the district leaders said their districts were contracting with external mental health providers as they lacked sufficient staff within district (Diliberti & Schwartz, 2021a). Some schools also provided virtual activity nights, competitions, spirit weeks, art exhibits and other events to engage with family and students, reduce isolation and support mental health for students (Biddle et al., 2020).

At the classroom level, educators and support staff used a variety of communication tools to check in with students and their parents or caregivers, as described above (Lech & Johnson, 2021a; Minahan, 2020). There was increased use of phone and video check-ins by the teacher, use of text messaging and other forms of communication between teachers and parents through

various online platforms. Beyond these communication practices, educators also provided more time and used a variety of instructional strategies and technology tools to support students' physical, social-emotional and mental health both during remote and in-person instruction. Educators provided more time for students to share out and converse or collaborate with peers (Bishop, 2021; Lech & Johnson, 2021a). Teachers also used positive behavioral supports in their instruction (Lech & Johnson, 2021a). The importance of maintaining frequent communication and active listening has been emphasized in the literature (Potler-LaHayne, 2020).

Broadly, there is evidence that teachers made increased efforts to integrate social-emotional and mental health supports, and to a lesser extent physical health, into their instruction throughout the day during the pandemic. Published guidance on supporting students' social-emotional and mental health cites practices that were helpful during the pandemic. For example, educators created space and time for students to share their individual experiences, interests, feelings and needs in a variety of ways and to express themselves creatively, whether sharing verbally, in writing, through drawing or artwork, or other creative expressions (Bishop, 2021; Potler-LaHayne, 2020). Educators also adopted new online applications or tools specifically to help students communicate about their social-emotional and wellbeing (Gilbert, 2020). Teachers shared their own feelings and challenges through the pandemic with their students through their personal messages, motivational videos, and music in the hope of easing their students' anxiety and sense of isolation (Borup et al., 2020). Educators also found that it was important to re-establish classroom norms and routines during the pandemic, and that providing consistent structure and routines could reduce students' anxiety (Gilbert, 2020; Minahan, 2020; Potler-LaHayne, 2020). In addition to these strategies, other strategies found to be helpful in supporting social-emotional learning and wellness included having students work with "buddies" or small groups, student mentoring either in person or virtually, tapping community organizations for mentoring or other services and supports, and an intentional focus on strengthening students' self-management skills (Fairman et al., 2021; The Learning Accelerator, 2021). Teachers supported students' physical health and wellness by providing time and encouragement for students to exercise, do yoga, or practice mindfulness (Johnson et al., 2021; The Learning Accelerator, 2021).

Schools and classroom teachers also implemented other instructional approaches and curricular changes in part to support students' social-emotional and mental health needs during

the pandemic. Moving class instruction outdoors, while initially a move to reduce the spread of the virus, was also viewed as beneficial to students' emotional and mental health. During periods of remote learning, teachers gave students more opportunities to go outdoors at home for exercise and learning in a variety of different subject areas (Pratt-Keilly, 2021). We describe instructional and curricular changes more in the next section. Despite the great efforts educators have made, many have continued to voice the need for better initial training and on-going professional development to prepare them to work effectively with students in the areas of social-emotional learning and mental health. Schools continue to cope with the widespread challenge of critical staffing shortages for student support services (Darling-Hammond and Hyler, 2020; ECS, 2020, Oct.; Minahan, 2020).

As we described in the previous section, parents are critical partners, the front line really, in identifying their children's social-emotional and mental health needs and supporting them from home, in collaboration with schools. The pandemic threw parents into the challenging position of having to support their children's special needs from home, often without the aid of training or support staff. Some schools and service providers were able to continue to support students remotely using remote or online modalities (Lech & Johnson, 2021). There was recognition early on that parents, like teachers, also needed additional training and resources to support the social-emotional and mental health aspects of their children's learning. State education agencies, the USDOE, universities, and other educational groups developed and shared online resources that included evidence-based guidance and activities for parents and teachers to support students' social-emotional and mental health during the pandemic and beyond (e.g., COEHD, 2020; MDOE, 2021a; NCEE, 2020; PBIS, 2021). Other research-based publications have also emerged with guidance for parents, teachers and school leaders, to share effective strategies. Some strategies for parents include monitoring students' screen time at home, ensuring they have adequate sleep and rest, modeling positive social and communication skills as well as problem-solving skills for children, and helping children set goals and monitor progress to improve their social skills. Some of the guidance also seeks to strengthen parents' knowledge of child development, and strategies to help their children manage their emotions and navigate peer interactions and relationships (Wiseman et al., 2021).

Instructional Technology

As we've described in previous sections, the closure of schools and need for some teachers or students to continue to connect remotely during the pandemic pushed school systems to adopt a wider range of technology solutions and tools to deliver instruction. The remote and hybrid modalities for instruction required the purchase of more hardware such as laptops, cameras, iPads, hotspots and smartboards. Online platforms were needed to support video-conferencing, messaging or communication between teachers and students, dissemination of assignments and learning resources, and uploading of students' written work, videos or artwork (Young & Donovan, 2020). While the sudden shift to remote learning in spring 2020 rapidly increased 1:1 laptop use for students nationally (Klein, 2021), states and school systems still needed time to address the "digital divide" in internet access, particularly for rural and low-income communities (Abbott, 2020; Mitchell, 2020; Ohm, 2020, April 5; Rickles et al., 2020; Young & Donovan, 2020). States and school districts used federal relief funding to purchase additional technology and to improve internet access for students and teachers to support remote and online learning during the pandemic (Blad et al., 2021). However, the varied responses during the pandemic across the US, together with the existing challenges for rural and low-income students, heightened inequities in both access to education and the quality of students' educational experiences (Abbott, 2020; CCSSO, 2021; ECS 2020, June; Hodgman et al., 2021; Hamilton et al., 2020; Rickles et al., 2020).

The need to shift to remote or online instruction and to learn how to use new technology and platforms created learning challenges for parents and teachers who were less familiar with these systems, and also contributed to increased stress for parents and teachers (Bishop, 2021; Davis et al., 2021; Hamilton, et al., 2020; Lech & Johnson, 2021a). Teachers helped each other informally and also received some training on remote instruction that included using technology tools, engaging students and teaching remotely (Hamilton et al., 2020). Teachers and student service providers assisted parents as they learned how to connect to schools through new online platforms, use video-conferencing tools, position cameras, and assist their children in using the technology or uploading their work (Lech & Johnson, 2021a, b). The pressure for parents to take on the role of teacher at home has had a significant negative impact on parents' and caregivers' mental health, particularly for those whose children struggled more with distance learning (Davis et al., 2021). A national survey of 277 school district leaders in June 2021 found some increase

in the number of districts offering online courses to students, but strong use of online courses for credit even prior to the pandemic. The number of districts operating virtual schools had grown ninefold by June 2021; 25% of the districts planned virtual schools for 2021-22, and nearly half of the urban districts made this plan. For the 2021-22 school year, 20% of the districts indicated there was strong demand from parents for a fully remote schooling option. The report concluded that some district changes in remote instruction would continue past the pandemic (Diliberti & Schwartz, 2021b).

Curriculum and Instruction

While there is strong evidence of the widespread adoption of a larger range of technology for learning and experimentation with different instructional approaches during the pandemic, there is also some evidence, though much less, of changes in PK-12 curricula during the pandemic. It is likely that the significant increase in teachers' workload and instructional demands to plan for and deliver both in-person and remote learning left little time or energy to develop and adopt new curricula. Some schools moved ahead with their pre-existing plans to implement new curricula, while others slowed or halted those efforts during the pandemic.

Some curricular changes during the pandemic reflect a more obvious departure from traditional approaches. For example, some schools added more outdoor learning spaces and teachers added outdoor learning time into their instruction across different content areas such as physical education, writing, science, art or other areas that brought students out of the school building or their homes (Connolly, 2020; Greenbert, 2020; Johnson, et al., 2021; Pratt-Keilly, 2021). Beyond this, schools also found value in adding or expanding outdoor or experiential programs as alternative education for some students who were less successful in traditional classroom environments. Outdoor and "place-based" educational approaches pre-date the pandemic and had even greater attraction with large numbers of students learning from home. The place-based approach encourages students to engage in hands-on learning about real-world problems within their own communities. For example, this could include collecting data on electricity usage or water quality by talking with residents or collecting water samples outdoors. Research on place-based education indicates benefits for motivating and engaging students through increased student choice in learning, as well as improved connections with and relevance for families and communities (Connolly, 2020).

In addition to learning from the existing school curriculum and courses, secondary students continued to have the option to take post-secondary courses online for credit, as before the pandemic. It is unclear whether that practice increased or decreased during the pandemic. State education agencies, universities and non-profit organizations also supported the delivery of PK-12 curricula through instructional materials, course modules and lessons shared online for teachers, students and parents to access as needed, organized by content area (COEHD, 2020; Community Learning for ME, 2020; MDOE, 2020).

Remote instruction, disruptions for individual students and teachers, and less time for instruction all meant that teachers could not fully cover their curricula during the pandemic (Hamilton, et al., 2020). Educators modified and adapted curricula to meet the new demands of remote or virtual education, considering their students' needs and interests, and students' reduced access to some learning materials at home such as science supplies or math manipulatives (NCEE, 2021b). Teachers also segmented lessons into smaller steps or parts to fit the available instructional time (NCEE, 2021b). As we described earlier, teachers allowed more student choice or student-directed learning and project-based learning, in particular for middle and secondary level students, in part to increase student engagement but also to support students' social-emotional needs during this time, and the realities of learning from home (Bishop, 2021).

The literature provides more evidence of changes in teachers' instructional approaches and tools for delivering instruction than curricular changes. We've described in previous sections some of the instructional strategies and tech tools that teachers used to increase student engagement and to incorporate supports for social-emotional and mental health within their instruction. In addition to those changes, some teachers adopted a "flipped" classroom approach where students engage with learning materials or activities independently and then share their learning or obtain feedback during class time (Hoover & Wise, 2022). Some teachers gave students new leadership roles within their classes. For example, one high school teacher relied on student leaders to facilitate the distance learning and breakout sessions and to provide feedback to the teacher on students' learning experience (Ferlazzo, 2021).

The need to deliver instruction remotely using synchronous or asynchronous modalities posed unique challenges for educators in the allied arts (e.g., art, music, physical education). Some educators in these subjects felt marginalized and insufficiently supported in their efforts to shift from in-person to remote instruction, but they also saw benefits in learning how to use new

technologies and instructional approaches that could also improve in-person learning (Ackermann & Harlow, 2020; Hash, 2021; Johnson et al., 2021). Physical education teachers indicated a need for training as well as lesson ideas, plans and videos to use for remote instruction. Other challenges included low student engagement/ participation in remote classes, and a lack of space and equipment for some activities at children's homes. Some teachers had students do yoga or fitness exercise at home, but found student interest was variable. Assessing individual student's motor skills remotely was also a challenge and required video-conferencing. (Johnson, et al., 2021). Some school districts partnered with external programs and organizations to support physical education and wellness. A program in Michigan provided teachers and families with weekly links to curated, virtual physical education content and nutrition education over a period of 12 weeks and showed high levels of engagement. The links were shared through multiple platforms including email, teachers' class Google drives and district blogs. The content allowed for student choice of activities and encouraged them to get outdoors and to work on personal goals (Whalen et al., 2021). Guidance on effective practices for remote physical education includes: multiple methods of maintaining teacher-student communication, inclusion of cooperative student learning approaches, active learning (e.g., data collection or scavenger hunts, nutrition logs, and creating individual fitness logs), providing prompt individual feedback to students, efficiently organized course materials for increased time-on-task, clearly communicating expectations for students' learning and assessment, and a respect for diverse interests (e.g., allowing students choices in learning and assessment, and uploading and sharing of student created work) (Beard & Konukman, 2020).

In music education, teachers shifted from having students sing collectively or play instruments in person to having students create music individually or explore other topics and skills. For example, they increased emphasis on individual musicianship; lessons on music theory, history or culture; and student creativity in composition. Band directors provided materials to students in both electronic and non-electronic forms, and used both synchronous and asynchronous instruction. They placed high priority on student engagement and motivation and supporting students' sense of musicianship during the pandemic. Teachers incorporated new technologies into their instructional approach by using online platforms to support video-conferencing with students, learning management systems, non-interactive websites such as

YouTube, software programs for creating and editing music, and online apps for student assessment (Hash, 2021).

Art educators had some similar challenges as other allied arts teachers, in that some students may not have had the equipment and materials to create the same kinds of art projects at home as they would in school. However, the increased use of online platforms allowed teachers more options for helping students to access the world of art. Online tools, computer or iPad devices allowed students to create digital art (Ackermann & Harlow, 2020; Brumfield-Montero, 2021; MDOE, 2021b). Some teachers started extra-curricular, virtual art clubs for students where they could share images of their physical or digital art (Brumfield-Montero, 2021). As with other allied arts areas, art teachers found that the opportunity for students to continue their creative and artistic expression during periods of remote learning improved student engagement and supported students' social-emotional and mental health (Brumfield-Montero, 2021; Joyal, 2020). The increased use of tech tools for communication improved individual communication and feedback with students and strengthened teacher-student relationships (Brumefield-Montero, 2021). Students' increased access to computer or iPad hardware and online platforms or tools also created more opportunity for student choice and self-directed learning and production of art (Ackermann & Harlow, 2020; Brumfield-Montero, 2021).

Across multiple content areas, remote and in-person instruction during the pandemic also saw increased use of smaller class sizes (partly for health and safety reasons) through the hybrid instructional schedules, as well as more performance grouping of students for instruction within or across grade levels. As mentioned earlier, teachers also increased the use of individualized, personalized and project-based instruction, often through online or remote modalities where the asynchronous schedules allowed teachers more time to work with students one-on-one. With a more individualized approach, teachers were able to offer students more choice in learning about topics of interest to them and more self-pacing (Bishop, 2021; Borup et al., 2020; Lech & Johnson, 2021a).

Assessment practices also shifted during the pandemic. As states suspended their statewide assessment programs and schools and educators reduced summative forms of assessment, there was a reported increase in more frequent, formative assessment and teacher feedback to individual students (NCEE, 2021b). Some teachers reported being able to provide more timely, substantive and individualized feedback to students, and they used a variety of

methods to share that feedback including video conferences with students, voice recordings, videos, and written feedback (Bishop, 2021). The shift toward more individualized, formative feedback is consistent with guidance on effective practices for both in-person and remote education (Fisher et al., 2020).

Previous MEPRI studies have examined instruction and learning for students in special education with IEPs in Maine and the delivery of supports and special services either remotely or virtually (Lech & Johnson, 2021a, 2021b). Technology, through the widespread adoption of online platforms, video-conferencing tools and remote instruction, provided the means for schools to continue to serve students with special needs during the pandemic, although families had widely diverse experiences in the frequency and quality of these support (Ohm, 2020, April 17; Rickles et al., 2020; Young & Donovan, 2020). The literature cites on-going challenges for schools to provide these students with the supports and therapies they may need, given widespread staffing shortages in this area, the constraints of students learning from home, the extra burden on educators to support individual students and their families; and uneven levels of support and engagement that students had from their caregivers (Diliberti & Schwartz, 2021a; Lech & Johnson, 2021a, b; Mitchell, 2020; Ohm, 2020, April 17).

Schools, particularly those located in higher population centers, partnered with community organizations and volunteers during the pandemic to provide adult-supervised spaces for students to connect remotely to their classes when they lacked the technology or adult supervision at home during the school day. Other community organizations provided wrap-around or after-school programs including academic tutoring or homework assistance, mentoring, physical exercise and social-emotional learning support to students (Biddle et al., 2020; Choan, 2021; Fairman et al., 2021; Fredrick and Marttinen, 2021).

Parents and caregivers also have an important role in supporting students' academic learning whether students are learning in school or remotely. We've noted previously the increased challenges and demands for parents during the pandemic, where parents found themselves having to stay at home and supervise their children's education online. The literature outlines guidance for parents that includes the importance of creating suitable spaces for children to learn at home and focus on their schoolwork, the need for limiting screen time, ensuring adequate rest and sleep for students, effective methods for parents to communicate with teachers,

strategies to help students set learning goals and monitor progress, and the need for feedback on learning from parents (Wiseman et al., 2021).

Summary from the Literature

To summarize, our broad findings from a review of the literature highlights the opportunity to reimagine and improve PK-12 education in the future by drawing on what we've learned works during the pandemic. While the particular strategies for supporting student learning during this period are not altogether “new” or “innovative” in the field of education, there is evidence of widespread adoption of a broader range of instructional modalities and strategies to support and improve students' engagement and learning in Maine and other places nationally. These educational practices not only helped schools to continue to deliver student instruction during a challenging time of school closures and remote learning, but they also helped to improve equity and a reduction in the “digital divide,” increased opportunities for student choice in learning and a more individualized approach, increased attention to social-emotional learning through instruction, supported student engagement and mental health, and strengthened home-school communication (Fisher et al., 2020, 2021; Wiseman et al., 2021). Despite these positive efforts, there is also evidence that families and students in smaller school systems and higher poverty communities in Maine and elsewhere have been less likely to communicate with schools, fully engage in remote or online instruction and receive supports for student learning (Biddle & Frankland, 2020; Rickles, et al., 2020; Young & Donovan, 2020). Research on practices to support students during the pandemic is still emerging and more will be available in the next few years.

Part III. Strategies Outlined in State ARP ESSER Plans

To explore what practices and strategies other states and school districts in the US have implemented or plan to pursue to support student learning during the pandemic, we conducted a review of the American Rescue Plan: Elementary Secondary School Emergency Relief Fund (ARP ESSER) fund applications for all 50 states and two territories. Each state received two-thirds of the funds upon passage of the ARP. To receive the final third of the funding, states submitted plans in 2021 on how they would use the ESSER funds to address students' learning loss, social emotional learning and develop the educator workforce (OESE, 2021a, b). This section of the report describes the strategies states proposed in those plans, with a specific focus

on strategies to support students. We begin with some background information about the ARP ESSER funding program. Through the ARP, there is a separate program for postsecondary institutions, the Higher Education Emergency Relief Funds III (HEERF III) that provides funds directly to institutes of higher learning (OPE, 2022).

Background

The purpose of the ARP ESSER funds, also known as ESSER Part III, was to safely reopen K-12 schools and sustain operations. A nationwide analysis of districts' ARP spending found that 28% of expenditures went toward academic recovery, exceeding the program's requirement of a minimum of 20% for targeting student learning losses. The next two largest categories of districts' ARP spending were for facilities (24%) and staffing (24%). Nationwide, programs to support students' physical and mental health accounted for 8% of the spending (DiMarco & Jordan, 2022). This MEPRI report focused specifically on strategies states proposed or have implemented to support academic recovery. A companion report examines states' strategies to support teachers and develop the educator workforce more broadly with ARP ESSER funding (Fairman et al., 2022). A forthcoming MEPRI report will look at how Maine school districts have used federal relief funding to support students' social-emotional learning and mental health (Johnson et al., 2022). The ARP ESSER guidelines asked states to specifically address the needs of historically underserved and low-performing students and schools with longstanding opportunity gaps in proposing their education strategies and to select evidence-based approaches. The program required that the majority of ARP money fund efforts at the local district level. All districts were eligible for funding, and the money was intended to target students who were most severely affected by the pandemic.

Overview

In the ESSER applications, states discussed their priorities and rationale for pursuing specific interventions or strategies to support student learning. Within the academic recovery category, funding applications mandated summer learning opportunities, after school programs, and academic tutoring for students. States were also asked how they planned to support students within specific sub-groups including low-income, racial or ethnic group, gender, English learners, children with disabilities, students experiencing homelessness, children and youth in foster care, migratory students, and other groups the state identified as being disproportionately affected by the pandemic. Within these parameters, states could choose to emphasize specific

interventions. For example, Maine placed an emphasis on social-emotional learning and supporting the “whole child.” While many states delegated the federal funding to continue ongoing programs or strategies, there were also some novel approaches that Maine and other states may want to consider.

Our review of states’ ESSER plans revealed that states emphasized equity in educational opportunity and learning expectations. Most of the state applications noted that all students should have rigorous and challenging schoolwork. While the majority of the funding was delegated to school districts, several state education agencies felt some services were best provided at the state level. Some states felt greater state involvement was needed to improve equity in education. Broadly, state and district strategies to support student learning fell into three broad categories: improving student enrollment, attendance and engagement in school; addressing student learning losses; and changes in the school curricula to expand and support learning opportunities. Some states will also use ESSER funding to examine progress on indicators of opportunity to learn. In the section that follows, we describe specific strategies within these areas of priority along with some challenges that states and school districts are experiencing.

Student Enrollment, Attendance and Engagement

States’ ESSER applications described various approaches to address the problems of decreased student enrollment, attendance and engagement in their public school systems during and beyond the pandemic. These strategies included both statewide and local efforts, creation of new enrollment management staff positions, increased use of public media to encourage re-enrollment and re-engagement in public schools, the use of partnerships, and building on students’ interests through the curriculum or afterschool programs and activities. States are also challenged by increased competition for students from private, for-profit education providers.

Improving Student Enrollment, Attendance and Engagement. The sudden closure of school buildings in spring 2020, interruption to regular delivery of PK-12 instruction and shift to remote and online learning for students at home precipitated a sharp decline generally in student attendance and participation in school and in their classes. Schools and educators attempted to reach out to families and students to re-engage students, and experienced mixed results. Some families withdrew their enrollment in their school systems and elected homeschooling, private schools or online programs instead. Both state education agencies and school districts identified

the task of re-enrolling and re-engaging students in their public schools as a top priority, and some states described strategies around this goal. Strategies to locate students and re-engage these students took several forms. Louisiana addressed the problem from a statewide approach, by creating a new staff position in the state education agency to implement strategies to identify and re-engage students and to serve as an expert on this topic. The state education agency also contracted with a state university to locate, re-engage and track students who were chronically absent last year. Through the university partnership, sixteen attendance specialist positions were funded across the state. These individuals will track students and encourage them to return to their local public schools. Other states addressed the task of identifying students who lost contact with their schools at the local level. Rhode Island and New Mexico looked to school partnerships with community learning centers and municipalities to identify and re-engage students in school. Utah and South Dakota are emphasizing the role of local schools in identifying students that are not participating in school and re-engaging these students.

Arizona's approach to locating, re-enrolling and re-engaging missing students was very different from other states. The focus was not just on non-attending students. Arizona wants students who are home schooling, in virtual and in private schools to re-enroll in their public schools. Students that left high school within the last few years are being encouraged to re-enroll. Arizona started a statewide public information campaign describing the benefits of in-person learning that uses videos and media advertisements through television, radio, digital platforms, social media and outdoor advertisements. Parents were also sent text messages and direct mailings. The Arizona Ready for School advertising and messaging directs families to a designated website of resources for students and families, including information for families to find support with housing and food and links to career counseling sites for adults.

Private Competition for Enrollment. Arizona's strong effort to try to woo students back to public schools from private schools, virtual schools and home schooling may be a response to increased competition from private education providers. The pandemic spurred the expansion of for-profit education programs targeting public school students and their families, and there are no signs that this trend will disappear. Virtual and home school programs are engaged in aggressive marketing campaigns to increase their market share. In some states, for-profit companies run virtual schools under contract with districts or state education agencies.

In Arizona and several other western states, there have been large increases in the numbers of home-schooled students that are enrolled in for-profit programs through their districts. These bridge programs let parents have the independence of traditional homeschooling but still have district support. In turn, the districts receive state monies for educating these students. The testing data from several states show very poor student outcomes from this model so far. In seven states, a for-profit company, Tech Trep, operates bridge programs where districts contract with them to provide resources and testing to home-schooled students. Each student is provided a homeroom teacher, a suggested curriculum, and \$1,700 for educational supplies that can include imaginative play supplies (dolls), physical fitness equipment, as well as Netflix subscriptions. One of the company advertising strategies is encouraging families to post pictures of their children receiving these “educational supplies” as gifts on social media. Families in other districts that see these social media posts may ask their school districts to enroll in the program. It is a very profitable business model; Tech Trep’s corporate income is estimated at over \$45 million dollars and they aim to rapidly expand nationwide. In some cases, districts and state departments of education had little awareness of the program when the contracts were signed (Featherstone et al., 2022). Not only has homeschooling and the desire for virtual schooling increased during the pandemic, but so have families’ expectations that districts and states pay for their students to use these alternative learning modes. State departments of education need to be aware of the effort by for-profit education companies to expand into new states, as it may precipitate further erosion of student enrollment in the public school system.

Building on Student Interests to Re-Engage Students. Several states are trying to re-engage students by appealing to student interests. This is especially true for after-school and summer learning programs which are being directed at all students. Montana is funding after-school workshops in digital media and communication. Students’ creative work can be entered into a statewide student film festival. New Hampshire has taken the same approach with robotics. Charter schools, summer experience and mentoring partnerships will focus on robotics. There will be statewide robotic challenges for students. Although they are not sponsoring statewide competitions, several other states encourage local districts to use funding to incorporate STEM, outdoor learning, art and performing arts into the summer learning experience. Some states are partnering with community organizations to provide summer learning opportunities outside of the school setting. Kentucky partnered with AmeriCorps for outdoor summer enrichment

programs. States are also trying to promote educational activities at various venues. New Mexico and Kansas are using ESSER funds to provide students passes to museums, zoos, state parks and state fairs. This year, New Hampshire is looking to use ESSER funds to provide opportunities for low-income students and those with disabilities to attend a New Hampshire summer camp.

Addressing Student Learning Losses

One of the major goals of the ARP ESSER funding was to address student learning losses and states were required to use 20% of their funding for this purpose. States outlined a range of strategies that included partnerships to provide programming to engage families and students as well as afterschool and summer programs, academic tutoring support, and learning centers. Some states are encouraging more individualized or personalized learning approaches for students. Some states are encouraging more standard curricula across districts in their states, to improve equity in educational opportunity.

Engaging Families and Partnerships. States are also using ESSER funds to increase meaningful family engagement with their public schools and to support stronger educational outcomes for students in certain content areas. For example, Virginia is using ESSER funds to distribute literacy kits to students' families. Nebraska is designating funds to expand family and community engagement in education. New Hampshire and Louisiana are focusing on after school programming that includes digital literacy and mentoring for families. Arizona is seeking not only to engage parents in their children's education but is also trying to strengthen their educator workforce development through a program called All In Education (<https://allineducation.org/>) that provides training for parents to better support their children's learning. All In Education encourages caregivers to volunteer in the classroom with the hope that they will consider becoming employed in schools (All In Education, 2022).

Partnerships with Higher Education Institutions. Several states are using ESSER funds to support partnerships with their higher education institutions to address elementary through secondary education needs. Louisiana is working with a state university to re-engage students that were chronically absent last year. Arkansas' state education agency is partnering with their universities for summer and after-school programming that is directed toward getting secondary students career ready. Oklahoma, Puerto Rico, Virginia and Wyoming are using ESSER funds and their state universities to deliver tutoring to students. Arizona partnered with Arizona State University's virtual K-12 school to offer an interactive, individualized math

program for students in grades five through nine. In Arizona, schools without a qualified math teacher will receive a teaching partner or coach through university partnerships (ASU News, 2021). Connecticut is partnering with a state university to assess the effect of the pandemic on students. Using ESSER funds, New Hampshire partnered with a state university to implement a statewide learning management system for remote learning during the pandemic. This collaboration also included professional development for teachers.

Community Partnerships. Multiple states are using the ESSER funds to support community partnerships with schools. Programs with community partners include tutoring, extended year programs, afterschool programming, learning centers and family instruction. Maine is encouraging districts to use ESSER funds to increase afterschool programming and summer programs. Although it is not mentioned in the ESSER application, the MDOE has also encouraged the expansion of community and school partnerships to support PreK and other education programming more broadly. There is a history of federal funding of these partnerships that predates the pandemic. Several states referenced a federal program, the 21st Century Community Learning Centers (CCLC), in their ESSER applications. This program, which has been in existence several years, provides grants to every state education agency for funding learning opportunities for students beyond the regular school hours. In Maine, ARP ESSER funds will be used along with federal CCLC funds to support the 35 local afterschool CCLC programs that focus on improving student performance in math and reading, providing students a broad array of services to improve their health and well-being and offering families opportunities for literacy and other educational development to assist their children. Massachusetts partnered with the New Teacher Project (<https://tntp.org/>) to develop a five-year road map to address learning loss. A key part of the project in Massachusetts is the creation of Acceleration Academies that focus on early literacy and math as well as family engagement. Two southern states, Tennessee and Arkansas are creating statewide tutoring programs.

Individualized Learning. Many state ESSER plans emphasize individual learning at all grade levels to address the widening diversity in student learning levels as well as learning loss resulting from the pandemic. New Hampshire noted that the learning curve within an age level has flattened, meaning that there are more students ahead and more students behind grade level. There were some interesting ideas on how to best address the increased diversity of learners. Hawaii wants to implement personalized learning plans for all students. New Hampshire is

taking the approach of multi-age, small group instruction of students needing additional support. Maryland is putting an emphasis on exposing all students to grade level material. Montana is one of several states that want to provide districts with guidance on selecting evidence-based interventions. Kansas is encouraging the use of multiple assessments of student learning. Through the Kansas Assessment Program (KAP), schools have access to mini tests and periodic interim assessments. There are district specific formative assessments. Kansas will use state summative data and KAP assessments to first assess the impact of the pandemic, then to measure the effect of learning recovery interventions. Several states, such as South Carolina, will use student assessment data to focus interventions on schools with the lowest literacy rates and math scores. Maine is one of several states that will use ESSER funds for district adoption of learning management systems to plan, execute and assess specific learning processes and provide personalized learning.

Statewide Curricula. A few states are looking at providing standardized curricula across districts. The rationale behind this is that all students should have access to high quality learning materials and instructors. Connecticut is providing a model curriculum for grades K-8, and training teacher leaders who in turn will coach other teachers. Connecticut's state department is also providing districts with guidance and resources for small scale assessments that have high quality questions. There are incentives for the districts to adopt the curriculum and the state will monitor how these resources are being used. The District of Columbia is conducting an audit of literacy curricula and making available professional development and high quality curricula. They will use ESSER funds to do the same for math. Low performing schools and districts are encouraged to adopt the state provided curriculum. Rhode Island is providing implementation supports for a specific math curriculum (Eureka), in the elementary grades. This includes professional development. Guidance to districts emphasized high-quality curriculum and implementation supports is a funding priority. Low performing districts in Rhode Island may receive additional funding to implement evidence-based measures such as curriculum adoption.

Curriculum Change to Increase Learning Opportunities

States outlined different approaches to meet ESSER's requirement to improve equity in students' educational opportunities. Some strategies included broadening the curriculum to include instruction on cultural heritage and indigenous groups and/ or language instruction, and increased online learning opportunities.

Cultural Heritage and Language Programs. Several states described the goal of changing or expanding school curricula or programs in unique ways using the federal funding. For example, Hawaii is using ESSER funds to expand their culture and language program. Hawaii's program dates back to a 1978 constitutional amendment which requires Hawaiian culture, language and history be taught in school grades K-12. There are cultural resource personnel that provide enrichment activities to students in most schools. For those students with more interest in the culture, there are Hawaiian language immersion schools as well as the opportunity for students to study the language at four levels. Hawaii's state run program that pools resources may be an idea of interest to some Maine districts that may want to expand their French language and cultural programs. Madawaska had grant funding from 1995 to 2002 that allowed them to run a French immersion school. When the grant funding ran out, they had to shut their program down. Caribou is interested in beginning a similar program and is exploring its feasibility (Catlin, 2021). MDOE is starting a multilingual education taskforce to explore development of bilingual education programs (MDOE, 2022c).

Online Learning Opportunities. To support remote and online learning during the pandemic, new instructional and curriculum resources and programs were developed or offered by states. Some states are using ESSER funding to expand virtual learning both during and beyond the pandemic. Arkansas and Tennessee were some of the states that partnered with their Public Broadcast System and plan to continue this partnership. New Hampshire was the first state to partner with Khan Academy's student tutoring offshoot, Schoolhouse world (<https://schoolhouse.world/>). Several other states are now using Schoolhouse world for students to access free 24/7 student tutoring. North Dakota is looking to blend in-person learning with adaptive computer learning at all grade levels. North Dakota contracted for adaptive learning software that also provides math, Advanced Placement preparation, SAT preparation and college application tutoring. Connecticut purchased two digital platform licenses for every district for learning acceleration and credit recovery. Connecticut also is developing a model K-8 curriculum that will be available online. MDOE developed Maine Online Opportunities for Sustained Education (MOOSE) modules that allow free access for students, families and teachers to asynchronous instructional activities, resources and learning modules aligned to grade-level standards. Mississippi will fund digital learning coaches. Both Indiana and Rhode Island

developed course networks that allow students access to free courses which include enrichment courses for K-8 students.

Postsecondary Education and Career Readiness. An emphasis in many state ESSER applications was career and postsecondary readiness. This continues to be a top federal education objective. In the 2023 proposed federal budget, \$200 million has been designated for Career-Connected high schools. This initiative would support community, higher education partnerships, and employer partnerships with local school districts to support early enrollment in postsecondary and career connected coursework and work-based learning. The partnerships would extend from students' last two years of high school through the first two years of postsecondary education (USDOE, 2022). In their 2021 ESSER applications, states described several strategies to promote postsecondary and career readiness.

Advanced Secondary Coursework. Several states used ESSER funds to support students' opportunity to learn through expanded access to general and advanced courses at the secondary or postsecondary level. This effort aligns with ESSER's requirement to address equity in educational opportunities. In states like Maine with small rural schools, schools do not offer the same breadth of courses to students. Increasing access to courses using remote or online modalities is an approach Maine and other states have used in the past and are currently expanding. In one of their ESSER activity descriptions, Indiana explained their logic toward developing access to online courses:

Develop a suite of multidisciplinary online courses that can be deployed virtually or in-person to ensure every Hoosier student has access to any course, regardless of the school they attend. Currently, too often the school a student attends dictates his or her opportunity to take advanced coursework. To develop an educational system that ensures every student has access to a rigorous pathway to postsecondary success that is aligned to his or her interests and aptitude, students cannot be limited by where they live or happen to go to school.

Indiana and Rhode Island allow ninth graders and older students to take general or Advanced Placement courses for credit and college courses for dual credit. New Hampshire is another state that is using ESSER funds for secondary students to take college classes online for credit. Using private funding, Tennessee is promoting "AP for All." Maine has an Early College program

(<https://www.maine.gov/doe/learning/highered/earlycollege>) that allows high school students to take in-person or college classes online but did not mention this program in their ESSER application.

Career Preparation. Nationwide, many states are engaging students by emphasizing career and postsecondary education readiness. Several states noted in their ESSER applications that their schools are preparing the workforce of the future. Indiana presented data showing that workers with a high school degree or less were hardest hit by pandemic job loss. Based on the data, that state set a priority to increase the number of individuals with postsecondary credentials. Indiana is also seeking to improve the rigor and relevance of career exploration in K-8 grades. At the secondary level, Indiana's plan includes competitive grants for local districts to partner with community organizations to design and implement career pathways that have meaningful out-of-school learning opportunities. They are promoting career technical education that leads to certification to under-represented minorities. Arizona is implementing programs that help students better understand how their education today will prepare them for a future career. Arizona is providing virtual and hybrid training to teachers on how to advise students on career options and pathways, to increase postsecondary success in transitioning to careers. Maine plans to use ESSER funds for extended learning programs with local employers. Although Maine is in the performance phase of this program, the MDOE has said that they are taking a statewide and county approach to strengthen the career exploration opportunities for students in grades 7-12. Other states with small rural districts, including Colorado, Alaska, Texas and Wyoming, are looking at statewide and/or rural district collaboration for programs on career preparation and work-based learning.

Community College and College Readiness. Some states are using ESSER funds for adult education. Indiana used ESSER funds to support students after high school by paying for tuition and books for students completing a community college credential or 30 college credits that transfer to other universities. The initiative also features a college readiness course offered through the community college system. South Carolina is using ESSER funds for adult GED and adult literacy programs, and to support for adults whose education was disrupted.

States are using the ARP higher education relief funds (HEERF III) to promote higher education. New Mexico announced that state residents would pay no tuition or fees at state colleges, community colleges or tribal colleges in the 2022-23 school year. The program is open

to recent high school graduates, adults wanting to attend part-time and immigrants regardless of immigration status. New Mexico hopes to continue this program in the ensuing years. Other states have offered tuition free education to specific groups with pandemic funds (Romero, 2022). This January, Maine community colleges and the MDOE announced a program for adult education students to take a free community college course. The community college system will cover the tuition and fees while the MDOE will cover the textbook and material costs (MDOE, 2022b). The Maine State Legislature recently approved Governor Mills' budget proposal to offer free community college tuition for high school students graduating between 2020 and 2023 (Mistler, 2022).

Evaluation of Opportunity to Learn Indicators. The federal ESSER fund application specified that funds could be used to track opportunity to learn measures such as chronic absenteeism, use of exclusionary student discipline and access to and participation in advanced courses. A few states included strategies for tracking secondary grade students' access to and participation in advanced courses as part of their ESSER plans. Other states were already using these measures. As part of Tennessee's opportunity to learn measures they will track secondary students' access to and participation in advanced coursework as well as access to "high quality educators." This plan would include the state's AP for All program. Rhode Island is tracking participation in their All Course network that includes Advanced Placement classes and Early College courses. Kansas and Wyoming are among the states that have been measuring access and participation in advanced courses. Nevada measures college and career readiness as part of their high school rating system. Nevada students that participate in programs such as Advanced Placement, International Baccalaureate, Dual Credit/Dual Enrollment or Career and Technical Education and also meet specific criteria can earn a College and Career Ready high school diploma. Maine did not mention tracking of advanced course access and participation in their ESSER application. Based on data collected by the federal Office of Civil Rights and accessed online through the Urban Institute (<https://educationdata.urban.org/documentation/>), 15% of secondary schools in Maine did not have any students enrolled in AP classes in 2015 and 2017. These schools were smaller and located in northern Maine. The majority of Maine public schools that included grade 12 (n=103) had at least one student enrolled in an AP class. Thirteen percent of secondary schools had more than a quarter of their total student population enrolled in AP classes (Urban Institute, 2022).

Summary of State Strategies to Support Students in the ARP ESSER Plans

States emphasized their role in preparing students for their future. Equity of opportunity and expectations was the key theme in the ARP ESSER applications. States are prioritizing those students with learning loss and those from historically underserved populations but are directing programs at all students. States are also actively advertising to promote public schools and educational opportunities to re-enroll and re-engage students and their families.

Re-engaging students in schools was an immediate priority for states, given the decline in student attendance and enrollment during the pandemic. States are using a variety of strategies to identify and re-engage students, and they are trying to attract home-schooled students and students in the private schools and virtual schools to back into the public system. States are also seeking to re-engage students and families through activities and programs that connect with students' interests, including afterschool, out of school and recreational learning opportunities. States also used ESSER funds to support new partnerships with higher education and community organizations to support student learning.

States are providing districts with resources for instructional change and reduction of learning losses. Most states are increasing the resources for individualized learning to better accommodate all learners as the pandemic produced more variability in student learning levels within grades. States and districts are increasing the use of software that adapts to an individual students' learning levels. Some of the curricular changes included new cultural heritage or language programs. Several states are providing more opportunities for secondary students to take online courses and advanced courses offered by other districts or institutions. For the students with learning losses, there is an emphasis on bringing students up to grade level and acceleration rather than remediation. Partnerships and online programs are being used to provide academic support and tutoring to students. A few states are providing optional curricula to districts with the goal of increasing students' access to high quality, grade level learning materials.

There is a strong emphasis in the state ESSER plans on opportunity to learn indicators for secondary students as well as improved awareness and preparation for postsecondary educational options and careers. States are promoting early college, dual credit courses and Advanced Placement courses for secondary students, and some states are tracking participation in more rigorous and advanced classes, or access to high quality teachers. States are also using ESSER

funds to strengthen postsecondary college and career readiness for students through career awareness and exploration at various grade levels, alternative pathways, technical education and work-based learning, often by leveraging the resources of community organizations or higher education partnerships. Several states are also increasing financial supports to students to improve access and affordability to postsecondary education by supporting students seeking a GED and/ or postsecondary education in community colleges or four year institutions.

Conclusion

Our statewide survey indicated that school districts in higher population areas in Maine typically delivered instruction using a hybrid schedule in 2020-21, while rural remote school districts were more likely to continue in-person instruction that year. In the current 2021-22 school year, all responding districts returned to in-person instruction with options for some remote learning when needed, with the exception of the virtual schools and one private school that went to a schedule of four days in-person and one day asynchronous. Increased COVID cases and on-going, severe staffing shortages forced disruptions and an intermittent return to remote learning and instruction for some schools during the late winter months. Maine districts provided new technology to students and adopted new online learning management systems or platforms to support remote and hybrid instruction. Some districts added new online learning options for students, including the MDOE's MOOSE or SEL4ME platforms, Kahn Academy's online instructional videos, online secondary or Advanced Placement courses, and computer-adapted learning. Districts addressed learning losses through tutoring and provided SEL supports in various ways that included in-person and remote support. Some districts experimented with new instructional grouping practices based on students' performance needs rather than traditional grade levels. A few districts adopted later start times during the pandemic for older students.

The survey, literature and review of state ESSER applications provide evidence that schools have more broadly adopted practices that had already been used successfully in education in a few places prior to the pandemic, and that schools adopted a wide range of different practices within a short period of time. Some of these practices included: widespread adoption of online, remote and hybrid instructional modalities; online platforms for synchronous and asynchronous communication, instruction and supports; smaller instructional groups, individualized and student-directed learning; project-based learning and outdoor learning; and

the use of a variety of online platforms, apps and other tech tools for instruction and communication with families. However, there is also evidence from the research literature that students in smaller school systems and higher poverty communities in Maine and elsewhere have been less likely to communicate with schools, to fully engage in remote or online instruction and to receive supports for student learning during the pandemic. The pandemic allowed for some headway in reducing the digital divide, but there is more work to do.

The collective findings from this study also indicate that states, school districts and educators consistently prioritized the need to increase student attendance and re-engage students in school after they saw an alarming decline in student attendance and engagement early on in the pandemic. School districts and educators placed a high priority on supporting students' social-emotional and mental health needs during the pandemic through a variety of strategies. Using a variety of existing and new technology tools, educators intentionally addressed students learning and mental health needs throughout the school day when teaching remotely or in hybrid formats. Educators adapted curricula and online learning modules or activities to fit the changing instructional modalities and students' learning needs, and they provided more options for student choice and ways to access learning materials and to share their work with peers. It remains to be seen if school districts will continue some of the practices they found to be effective even as students return to in-person learning in schools and beyond the pandemic.

States and school districts across the US initially used new federal relief funding during the pandemic to tackle the existing digital divide, by obtaining additional technology hardware and improving internet access to support students' remote and online learning. Later on, they also used federal funding opportunities to address the challenges of declining student enrollment, attendance and engagement in school through a variety of strategies that included new partnerships as well as staff positions and media campaigns directed at the state level. In this effort, states are seeing increased competition from private, for profit businesses that seek to grow the home school market. Federal funding has also been used to address student learning losses, often through new partnerships, through strategies that include promoting family and student participation in various educational activities, after school programs, academic tutoring and more personalized learning approaches. Some states are trying to standardize curricula across their school districts to reduced inequities in opportunities to learn. Schools and districts are also using federal funding to expand and strengthen their curricula to include instruction on

cultural heritage and indigenous groups, language programs, increased online learning options, advanced coursework at the secondary level, supports for college and career awareness and readiness, and tracking different opportunity to learn indicators.

Implications for Policy and Practice

While Maine has implemented many of the strategies described in this report to support students' learning needs during the pandemic, there are additional strategies used in other states that could be helpful and worth consideration. Maine could draw on some of those models and adapt them to fit the state and local needs. Some general approaches that could be strengthened or expanded in Maine include:

- Student attendance has been a recurring concern and challenge for many districts in Maine and elsewhere, even prior to the pandemic. Some states are putting more resources into building capacity at the state level to provide more support and guidance to school districts and also increasing capacity at the local level to improve attendance and engagement of families to get students back into school as well as back into the public school systems. Other strategies included increased public informational efforts using a wider variety of communications tools. Policy implications for Maine include both staffing at the state level and public communications efforts.
- Some districts in Maine would like to continue having one day per week designated for asynchronous time for student learning. The asynchronous day could allow more time for individualized learning supports, online learning options, career and postsecondary learning explorations. State legislation may be needed to allow public school districts to adopt or sustain new scheduling models to meet the learning needs of students.
- Online, remote tutoring as additional academic support beyond the regular instructional day is an option some states are using to address learning losses that occurred during the pandemic. Partnerships might also be developed at the state or regional level to provide academic support to students through remote modalities.
- Student access to advanced coursework at the secondary level (including in-school courses, online courses, and postsecondary courses for credit), varies across school districts. Technology provides opportunities for improving equity in students' opportunity to learn, overcoming barriers of geographic isolation, school size or local

resources. State and local leadership can facilitate improvements in this area, using regional partnerships among districts as well as partnerships with higher education.

- Some states are using ESSER funding to expand and strengthen their curricula in cultural heritage and languages. In Maine, legislation (LD 291) adopted in 2001 requires that all schools provide students with instruction on Maine Native American history and culture. The state education agency and/ or school districts could use ESSER funds to develop or implement curricula and partnerships with community organizations or universities in this area.
- Maine is using ESSER funding to develop extended learning opportunities with employers. Efforts in other states provide ideas for additional strategies to strengthen students' awareness and preparation for career and postsecondary education and training opportunities. Maine could more strategically link efforts to increase career awareness and preparation pathways with areas of high need in workforce development statewide, such as in education, mental health services, technical skills and computer security.
- Later school start times for older students have been pursued in other states through legislation, supported by research linking sleep to academic performance and other outcomes. Some Maine districts are experimenting with this scheduling change, but legislation could encourage more widespread adoption of this change.
- Increasing competition from for-profit private companies has also motivated some states to invest in public media campaigns to inform families of the benefits of participating in public education. Districts that were unprepared for this trend were in a reactive rather than proactive mode, and may benefit from stronger collaboration with their state education agencies.
- While this report focused primarily on strategies to support PK-12 students, our review of state ESSER applications also revealed a focus on providing additional financial and other supports to improve student access and retention in higher education programs. Maine's efforts to support tuition costs for community college students and educators is one important strategy to encourage more students to seek postsecondary education. Additional strategies may also be needed to improve retention and degree completion for students and to prepare them for work in their selected fields.

While Maine had the advantage of a well-established 1:1 laptop program for middle grades and some secondary grade students, the pandemic highlighted disparities and gaps in the state's and local districts' readiness to shift to remote or online learning when needed. Even as the pandemic may subside, policy, planning and investment efforts should continue to ensure that students don't experience prolonged disruptions in their education. Areas needing attention include the state's infrastructure for high-speed internet access, disparity in equitable access to both the internet and computer devices for students and teachers, planning for how course delivery remotely or online, policies to allow for reassignment of staff during periods of remote/online instruction, and more attention in preservice and inservice training to provide all educators with the technology skills and effective instructional strategies they need to teach and support students through different modalities when needed.

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Appendices

Appendix A. Survey Instrument

Appendix B. Additional Tables of Survey Results

Appendix C. Online Tools for Teaching and Learning

Appendix A. Survey Instrument

MEPRI Study of School District Practices During the COVID-19 Pandemic

The Maine Education Policy Research Institute (MEPRI) has been asked by the state legislature to conduct a research study to identify new district practices that emerged during the COVID-19 pandemic to support student learning and instruction through remote, hybrid, and online modalities. To this end, MEPRI is conducting a statewide survey of curriculum directors. As a designated school district curriculum director, you are invited to share your views by participating in this survey study conducted by Dr. Janet Fairman and Dr. Patricia Lech of the University of Maine. This survey is confidential and no individuals nor school districts will be identified in any reports. The estimated time to complete the survey is approximately 15 minutes. You may stop and start this survey at any time. For questions about the study, please contact: janet.fairman@maine.edu. For problems with completing survey, please contact: patricia.lech@maine.edu.

Did your school or district make changes in any of these areas in response to the pandemic (either last year or this year)? (Check all that apply)

- Adjusted school schedules to allow teachers more time during the contracted day for professional learning or instructional planning
- Adjusted professional development formats (asynchronous, virtual, etc.)
- Adjusted professional development content
- Adjusted school schedules for student learning
- Adjusted student support (tutoring, mentoring, home visits, outreach to families, counseling)
- Adjusted grouping formats or modes for students (asynchronous, multi-age, etc.)
- Adopted online learning options for students
- None of the above

Scheduling Changes for Teacher Learning or Planning Time

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Four-day in-person teaching schedule with one day for asynchronous learning (time for teachers to do professional development, one-on-one tutoring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Occasional asynchronous learning days (time for teachers to do professional development, one-on-one tutoring)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regularly designated professional development time during school hours (Late start/Early release days)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling time for teachers to interact with each other (visiting other classrooms, meeting)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Setting up co-teaching times (e.g. one virtual, one in-person)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Four-day in-person teaching schedule with longer school days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decrease in mandatory meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Scheduling Changes for Student Learning Time

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Remote learning on snow days	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduled time for individualized learning (Tutor time, accelerated learning time)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduled time for individual interactions, clubs, SEL, (Home room)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling longer class sessions (A/B blocks, fewer classes in a semester)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adopted later start time for middle/ high school students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Supports for Educators' Practices

Please describe any noteworthy strategies that emerged in your district during the pandemic to **support teachers** in providing **high quality hybrid, remote or online instruction**. Please be specific and note the grade range where the practices were used and if they are continuing this year.

Staffing Changes During the Pandemic

Does your district have designated teachers for remote students this **current** school year, 2021-22?

Yes, using teachers within the district

Yes, by using teachers from outside of the district

Yes, by using private contractors/ vendors

No, district wanted to do this but did not have staffing to do so

No

Other _____

(Optional) What strategies has your district found helpful during the COVID19 pandemic to assign or recruit staff for instruction or student support?

Changes in Delivery of Professional Development

Indicate which changes in the delivery of teacher professional development, if any, your district **adopted during the pandemic**, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Synchronous remote option for teachers to attend school or district professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asynchronous professional development- district selected topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asynchronous professional development- teacher selected topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Content of Professional Development

Indicate which changes in professional development content your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Additional training on district's learning management system	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on practices that increase student engagement with asynchronous learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Training on synchronous virtual learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on lesson structure for clarity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training for self-care/educator well-being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on coaching family to support student learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on personalized learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Additional training on incorporating technology for instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Instructional and Student Support Practices

Please describe any noteworthy strategies that emerged in your district during the pandemic to support **students' learning needs**. Please be specific and note the grade range where the practices were used and if they are continuing this year.

Other Changes in Instructional Practices

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Project-based learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Incorporation of allied arts into educational projects (STEAM)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students are in-person doing asynchronous virtual learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Synchronous virtual learning with all students in-person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Synchronous virtual learning with some students in-person while others are remote	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of online platform to support collaborative learning (e.g. Google Doc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of online platform (Google, Seesaw) in elementary grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outdoor learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Instructional Grouping Practices

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Individualized learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual education plans for all students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Individual education plans for some students without IEP needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One-on-one academic time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frequent use of small learning groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer adapted learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer adapted assessment to guide lesson	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multilevel grades	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic grouping of students by performance level within a grade for some subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic grouping of students by performance level across grade levels for some subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student designed courses for credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Student Supports

Indicate which practices your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the practice prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
Tutoring during scheduled academic time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring before or after school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tutoring outside traditional education time (evenings or weekends)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extended school year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Regular one-on-one meetings for every student with a designated staff person (Social support)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career mentoring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work internship programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Changes in Online Learning Options

Indicate which online learning options your district **adopted during the pandemic**, if any, and plans for continuation. If your district was using the option prior to the pandemic, please leave the item **blank**.

	Did not adopt during the pandemic	We plan to continue this practice	We want to continue this but are unable to do so	We want to discontinue this
MOOSE modules	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SEL4ME	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Early College online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced Placement Classes online	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Remote high school classes (e.g. BYU courses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online educational videos such as Khan Academy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online individual tutoring arranged through the district/schools	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online individual tutoring arranged by students/families	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Online Learning Options

Indicate which online learning options, if any, your district students are using this year. (Check all that apply)

MOOSE modules

SEL4ME

Early College online

Advanced Placement Classes online

Remote high school classes (e.g. BYU courses)

Online educational videos such as Khan Academy

Online individual tutoring arranged through the district/schools

Online individual tutoring arranged by students/families

Other _____

Other _____

What are some of the reasons your students did not use these **online options** listed in the previous question? (Check all that apply)

District and schools not aware of some of these options

District and schools chose not to promote some of these options

Teachers, students and families were aware of some of these options but chose not to use them

Some teachers, students and families did not have internet to easily access and/or devices to access these options

Other _____

Other _____

Adoption of new instructional practices

What were the **primary** factors in your district's adoption decision around new instructional practices during the pandemic? (Select up to three)

Change was planned prior to the pandemic

Change was based on district's experience during pandemic

Change occurred due to change in school community attitudes toward new instructional practices during pandemic

Change was made possible due to new resources made available since March 2020

Change was made possible due to increased funding since March 2020

Change was made due to shortages (staff, supplies)

Change was delayed due to the pandemic (lack of resources or staff)

Change was delayed due to a desire to return to normal before instituting change

Other _____

No significant changes were considered this school year

What other new or innovative instructional practices is your district thinking about adopting?

What challenges has your district faced in implementing desired instructional changes this year?

(Optional) Please describe any new or innovative practices that your district adopted last year but did not continue this year. Explain that decision.

Mode of Instruction

During **most** of last school year, 2020-21, how did your district provide instruction for **most students**?

(Please select one best response)

In-person, 5 days per week

In-person, 4 days per week

In-person for younger students, hybrid for older students

In-person for younger students, fully remote for older students

Hybrid (For example, each student scheduled 1 to 3 days per week in person, remaining days remote)

Hybrid for younger students, fully remote for older students

Fully remote

Other _____

During this **current** school year, how has your district provided instruction? (Check all that apply)

In-person, 5 days per week for most students

Entire school temporarily remote with online instruction

Entire school temporarily remote without online instruction

Some isolated/quarantined students temporarily remote with online instruction

Some isolated/quarantined students temporarily remote without online instruction

Long-term remote education for some students

Other _____

Demographics

Please indicate for which grade levels you serve as a curriculum coordinator.

PK-8 or K-8

PK-12 or K-12

9-12

Other _____

Are you a curriculum director for more than one district?

Yes

No

What category best describes your district?

- Public
- Public/ Private
- Private

What is the total student enrollment in your district?

- less than 100 students
- 101 to 500 students
- 501-999 students
- 1000 or more students

In what county are your district's schools primarily located?

- Androscoggin
- Aroostook
- Cumberland
- Franklin
- Hancock
- Kennebec
- Knox
- Lincoln
- Penobscot
- Piscataquis
- Oxford
- Sagadahoc
- Somerset
- Waldo
- Washington
- York

What best describes your school(s) setting?

- City or Urban
- Suburban
- Small town
- Remote rural

This is the end of the survey. You may go back to previous questions.

When you are ready to submit the survey, please hit the forward arrow.

Appendix B. Additional Tables of Survey Results

Table B1. *Use of Designated Remote Teachers This school Year, 2021-22.*

No	67%	38
Yes, using teachers within the district	18%	10
No, district wanted to do this but did not have staffing to do so	11%	6
Yes, by using teachers from outside of the district	4%	2
Yes, by using private contractors/ vendors	2%	1
		57

Table B2. *Curriculum Directors that Work in More than One District.*

No	92%	48
Yes	8%	4
		52

Table B3. *Response Rate by Geographic Area*

	Responses		Sent		Response rate
Public	89%	59	76%	193	31%
Private - 60% Publicly Funded	3%	2	4%	11	18%
Other Public	3%	2	6%	16	13%
Private	5%	3	13%	34	9%
Total	100%	66	100%	254	26%

Table B4. *Response Rate by Locale*

	Responses		Sent		Response rate
City or Suburb	21%	14	18%	46	30%
Town	58%	38	51%	129	29%
Rural remote	14%	9	12%	31	29%
Missing NCES data	8%	5	19%	48	10%
Total	100%	66	100%	254	26%

Appendix C. Online Tools for Teaching and Learning

In this report, we described some of the online platforms and applications (apps) that teachers have used to support instruction and communication with and among students. These technology tools became even more useful during periods of remote or online learning during the pandemic. The list below was compiled by Anne Jordan, Literacy Intervention Specialist and ESEA Federal Grant Coordinator in Maine School Administrative District #46, and Instructor in the University Training Center for Reading Recovery and Comprehensive Literacy at the University of Maine, where she is a candidate in the doctoral program in Prevention and Intervention. We share this list of technology tools that many teachers in Maine have used with success as a resource for other teachers and schools.

Some Online Platforms:

Google has a suite of applications combined to be called Google Suite (G Suite) for Education. For schools who qualify it is free, making it an attractive choice for educators. All individual Google applications and Gmail are provided for educators at the qualifying schools, with a G Suite for Education Plus available for more premium features. Additionally, all Google applications are available to individuals (who may not be part of a G Suite license) with a free Gmail account individually for no cost. All Google applications can be used in a web format on laptops or other devices and as applications on Apple products such as I pads and I phones. The ability to access the Google applications in a variety of ways makes it convenient for use in education.

Google Classroom is an online platform or learning management system (LMS) that provides a variety of functions to support a particular course or group of students. The platform is available for free and is also included in the Google Suite (G suite) for Education. Additional enhancements are available for purchase with the G Suite for Education Plus. Teachers set up their virtual classroom on this platform and then invite students/ families to join. Teachers can use the system to create and post assignments for students, share readings or instructional videos, to communicate messages with students, and to collect students' work that they upload into the system. Teachers can also keep their gradebook electronically within the system, and students can see their grades and feedback from teachers on their work.

See Saw <https://web.seesaw.me/>

This free platform can be used as an LMS system to support or deliver a particular class. A school license is needed to access additional features. Teachers set up their virtual classroom on this platform and then invite students/ families to join. There is a common page for everyone in the class and students have their own individual page. Teachers can send whole class notifications, email a particular parent, upload student work and assignments. There is a built in bank of assignments a teacher can choose from that might be academic or social emotional

learning. Teachers can assign work individually, to small groups or the whole group. Teachers can upload video for students to view as an assignment, or as a way for the teacher to communicate directly with students or to provide instruction through a recorded video. Teachers can track students' progress on assignments. Some teachers found See Saw to be more appropriate and user friendly for the pre-K -2 grade levels than Google Classroom, and these students can use this system independently.

Near Pod <https://nearpod.com/> This platform can be used as a learning management system for a particular course. It is available for free but a purchased school license is needed for enhanced features. This system is appropriate for middle and high school students and is more visually appealing to older students than Google Classroom or See Saw. The system has a library of K-12 activities teachers can choose from. Teachers can also create their own activities and build their courses, while embedding assignments and assessments in a variety of modalities. It links to other platforms as well, so it can be used alone or in combination with grading systems within Google Classroom or Unified Classroom, Schoology or Canvas.

Some Video-Conferencing Tools:

Google Meet is an online platform that allows teachers to video-conference with individual students or families or with groups of students. It is available for free to anyone with a Gmail account for up to 60 minutes and 100 people. As part of a Google Suite for Education (G Suite) it is free and unlimited. It has encryption security features for users which are considered safe and desirable for use in education and working with students. As part of the offerings from Google, it interfaces well with Google Classroom.

Zoom is an online platform that is available for free for a limited session of 40 minutes or with enhancements with a purchased license. It allows teachers to video-conference with individual students or families or with groups of students. Teachers can also use this platform to record instructional video for students, or students can record their own work to upload and share with the class. More security features need to be taken to prevent "zoom bombing," where a user might join a group uninvited. Some schools prefer to use Zoom for remote meetings of adults (e.g., parents, board members, teacher meetings) or for individual meetings with students, rather than for whole class remote instruction with students.

Tech Tools to Support Social-Emotional Learning and Health:

Emotional ABC's <https://www.emotionalabcs.com/>

This is a free online tool. Teachers can upload segments as assignments within their course management platforms such as See Saw.

Class Dojo <https://www.classdojo.com/>

This free platform is similar to See Saw. For some additional features, a school license is needed. It has a messaging component and also a behavioral system where students earn Dojo points. Students can upload work on this system. <https://www.classdojo.com/remoteteaching/>

A variety of tools listed in this Appendix can be used for teachers to post hyperlinks that take students to videos, activities, yoga or exercise for calming activities or social-emotional learning and behavioral supports.

Tools to Access Digital Books

Pioneer Valley Digital Reader www.pioneervalleybooks.com

This is an online library of digital books for all reading levels. Teachers can assign books to groups of students and most books come with loaded lessons on phonics, writing and book introductions, if the teacher wishes to use these. Assessments are built into the program, along with lesson plans. This digital library is available through a paid individual teacher license or through a school license. It is available for free to schools that have purchased Pioneer Valley guided reading kits. Teachers and students can annotate books by using the share screen option in a virtual meeting platform.

Tools Supporting Interactive Engagement and Collaboration:

Google Slides This presentation tool is available to schools with features similar to PowerPoint and Keynote. It can be accessed and shared through Google Drive using Gmail allowing for collaboration and editing for both adults and students. The Make a Copy feature allows the Google Slide deck to be shared with permission to edit freely for individual use. It is a popular choice for organizing assignments, handouts and interactive activities for both educators and students.

Google Jam board This tool is available to schools with an interactive white board feeling. It can be accessed and shared through Google Drive using Gmail allowing for collaboration and editing for both adults and students. The Make a Copy feature allows the Jam board to be shared with permission to edit freely for individual use. The ability to use writing and drawing tools as a whiteboard and adding more boards make it different from Google Slides.

Google Slides and Google Jam board tools allow users to create units of study, a virtual “chalkboard” or classroom, or virtual slideshow presentations that can be shared. Some teachers used Google Slides to create an online virtual classroom scene that shows an avatar resembling the teacher, the chalkboard with messages, emojis and hyperlinks that direct students to activities, readings or other materials. The “classroom” scene can be decorated for themes or holidays. Teachers can use the **Bitmoji** app to create a virtual image of themselves for texting encouraging messages to students or to communicate within other online platforms.

To see a video demonstrating how to customize a virtual classroom scene:

Maine Dept. of Education. (2020). *Building Your Bitmoji Classroom*. Seminar recorded on YouTube. <https://www.youtube.com/watch?v=Ji4r5HhU40w>.

Pear Deck www.peardeck.com

Pear Deck is a free add on with Google Slides, but can also be used separately on the Pear Deck site with limited free options or more features with a license. Teachers can use this tool to create interactive questions, games and competitions and then invite students or families to join with a code.

Kahoot www.kahoot.com

Teachers can use this free game-based tool to create quizzes, games or competitions. Students access it through a code and groups of students can collaborate together on an activity

Padlet www.padlet.com

Teachers can use this free tool for creating up to 10 Padlets or purchase a license for additional features and unlimited Padlets to create virtual "boards" with sticky notes that share messages, hyperlinks or other information to direct students to assignments, activities and other platforms. Students access the Padlet using a code and can collaborate with other students. A Padlet can be hyperlinked within other platforms.

Concept Map Tools: The following tools can be used for teachers or students to create virtual, diagrams and concept maps to illustrate their thinking. Pictures and video can sometimes be included and shared using these tools.

Google Slides, Google Jam board, PowerPoint, Keynote

Popplet <https://www.popplet.com/>

Bubbl.us <https://bubble.us/>

Canva <https://www.canva.com/>

Mindomo <https://www.mindomo.com/>

MindNode <https://www.mindnode.com/>

Lucidchart <https://www.lucidchart.com/pages/>

MindMeister www.mindmeister.com/

Inspiration <https://www.inspiration-at.com/>

More tools are described in this article: <https://www.educatorstechnology.com/2021/11/some-great-free-graphic-organizer.html>

And from the National Geographic:

https://www.nationalgeographic.org/topics/graphic-organizer/?q=&page=1&per_page=25