

Distance Learning and Online Coordination of Service in Pennsylvania's Rural School Districts

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ABSTRACT

The COVID-19 pandemic was an exceptionally disruptive event that imposed a serious strain on the ability of Pennsylvania's rural schools to provide distance learning and deliver essential noneducational services to their students and communities during a time of extended school closure. Rural schools function not only as educational institutions, but also as local hubs of civic activity and are central to their local identities. The purpose of this research was to: 1) understand the specific problems that rural school districts encountered during the pandemic; 2) learn how these districts responded to their unique challenges, and 3) identify the policies, practices, and resources that are needed for Pennsylvania's rural schools to be better prepared for the next emergency that may close schools for an extended period. Using multiple data sources, the research of rural district superintendents and Intermediate Unit executive directors revealed many problem areas that may warrant special concern, especially when considered with historical issues, such as overall lack of funding and resources, that have long plagued Pennsylvania's rural schools. These included inadequate internet access, insufficient 1:1 computing initiatives, increased need for mental health services, need for teacher professional development, staff and teacher shortages, competition from cyber charters and changing guidelines and mandates. Communication problems at multiple levels that impeded the sharing of valuable information and damaged relationships were also revealed. Finally, policy considerations emerging from a Delphi Study centered around increasing: broadband access and computing devices, mental health supports, state level monitoring of cyber charter schools, and online support for special education students.

Keywords: broadband, distance learning, rural schools, 1:1 computing devices, teacher shortage, mental health, state and federal guidelines

EXECUTIVE SUMMARY

The COVID-19 pandemic was an exceptionally disruptive event that imposed a serious strain on the ability of Pennsylvania's rural schools to provide distance learning and deliver essential noneducational services to their students and communities during extended school closures. Rural schools function not only as educational institutions, but also as local hubs of civic activity and are central to their communities' local identities. They also have a long history of special challenges. When rural school buildings had to close their doors and in-person instruction suddenly shifted to remote learning beginning in March 2020, the ability of these schools to provide distance learning adequately and equitably, and to deliver essential services to their communities, was severely tested.

Purpose of the Study

The purpose of this research was to: 1) understand the specific problems that rural school districts encountered during the pandemic; 2) learn how these districts responded to their unique challenges; and 3) identify the policies, practices, and resources that are needed for Pennsylvania rural schools to be better prepared for the next emergency that could close schools for an extended period.

The research goals were:

- To understand the challenges rural school districts encountered during the pandemic related to distance learning and the online coordination of noneducational services, and the solutions districts used to meet those challenges.
- To determine how rural school districts made use of distance learning models and online coordination of noneducational services in their long-term planning for school closure.
- To learn what policies, practices, or resources local stakeholders in rural school districts believe are necessary to ensure equitable access to high-quality educational experiences during times of extended school closure for rural students and their families.
- To inform policymakers of the condition of rural schools regarding their ability to provide distance learning and their planning and preparedness for sudden school closures, and to provide recommendations of rural district stakeholders to help their districts and communities.

Data and Methods

To achieve the research goals, the researchers designed a series of investigations that allowed them to:

- Study the current online infrastructure and use across rural districts.
- Assess the planning and readiness of rural school districts.
- Investigate the impact of the pandemic on rural school districts and how they coped with the challenges they encountered.
- Identify the policy changes and recommendations that stakeholders believe are necessary to support rural school districts going forward.

The research investigations included the following tasks:

- **Institutional Review Board.** The researchers received approval from Penn State’s Institutional Review Board (IRB) to conduct the study (See Appendix 1).
- **Systematic review of rural district websites** and development of a database with meaningful information using existing public information on each rural district (e.g., enrollment, percent of free or reduced lunch, etc.). All 235 rural school district websites were reviewed and analyzed.
- **Systematic review and analysis of central planning documents.** The researchers gathered rural school district central planning documents — Continuity of Education Plans, Health and Safety Plans, and Flexible Instructional Day plans — and entered them into a database that was analyzed using NVivo.
- **Survey of rural school districts.** A survey was distributed to all rural school district superintendents. They were asked both closed- and open-ended questions on critical issues, problems, resources, and asked to provide their recommendations. A total of 116 completed surveys were received, for a response rate of 49.4 percent.
- **Focus group interviews:** Two separate focus group interviews, with a total of six rural district superintendents, three Intermediate Unit (IU) executive directors, and one director of curriculum were conducted.
- **Delphi study.** A three-wave Delphi study was used to assess policy initiatives identified in the survey and focus group interviews. Twenty-three individuals (who were a representative sample of parents, teachers, school board members and administrators) completed the three rounds of the survey and showed high levels of agreement about policy considerations needed to improve the readiness of their rural schools for emergencies and extended school closures.

Results (Key Findings)

The researchers identified these key findings:

- **Rural schools had inadequate internet access.** Fifty-eight percent of rural superintendent respondents reported that internet access had the greatest impact on their ability to deliver distance education. More than 80 percent of districts had to provide hotspots to students, and nearly 76 percent had to provide teachers with hotspots or devices to teach online.
- **Rural schools had insufficient 1:1 initiatives.** 1:1 initiatives provide each student in a given grade or school with a personal device (laptop, tablet, etc.). Roughly one third of rural districts initiated or expanded their 1:1 initiatives as a result of the pandemic.
- **Professional development requires increased support.** Every rural school in this study reported providing professional development for online instruction, but over three-quarters reported problems including time constraints (66 percent), collective bargaining agreements (29 percent), and internet access problems (20 percent).
- **The pandemic increased the demand for mental health services.** The respondents noted surging levels of stress during the pandemic, which strained the ability of

schools to provide mental health services to students and teachers. Districts leaders struggled to hire mental health professionals, social workers, and counselors because of the lack of a candidate pool for these positions in rural areas.

- **Rural schools face staff and teacher shortages.** Prior to the pandemic, rural school districts had staff, faculty, and substitute teacher shortages because of location and competition with businesses and other workplaces that can provide higher wages to job candidates. During the pandemic, these shortages were exacerbated.
- **Cyber charter schools affect rural school district enrollments.** In the focus group interviews, respondents expressed concern about competition from cyber charter schools, which may drain off enrollments.
- **Shifting state and federal guidelines caused real challenges.** Rural school officials were required to administer shifting policies and guidelines that were passed onto them. They faced the anger of their communities over these changing rules and mandates although they had no control over them. Initial community support for schools eroded over the course of the pandemic.

Conclusion (Policy Considerations)

The research found broad support from a variety of stakeholders for the following policy considerations:

- Increase funding for municipalities or counties to provide access to high-speed broadband internet.
- Provide tax incentives to companies that bring broadband access to rural areas.
- Create or expand funding programs for 1:1 computing initiatives in rural schools.
- Provide statewide professional development in online course design, teaching strategies, and technologies.
- Support and fund more rural school and community mental health services.
- Increase state-level monitoring of cyber charter schools to ensure they adhere to Pennsylvania Department of Education guidelines for quality of instruction.
- Change the Pennsylvania School Code to remove the 180-day requirement or the hourly requirement for students, and to prioritize education based on competency to align with effective practices in distance learning.

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INTRODUCTION

The COVID-19 pandemic was an exceptionally disruptive event that imposed a serious strain on the ability of Pennsylvania rural schools to provide distance learning and deliver essential noneducational services to their students and communities during extended school closures. Rural schools function not only as educational institutions but also as local hubs of civic activity and are central to their communities' local identities. They also have a long history of special challenges. Thus, when rural school buildings had to close their doors and in-person instruction suddenly shifted to remote learning beginning in March 2020, the ability of these schools to provide distance learning adequately and equitably and to deliver essential services to their communities was severely tested.

The purpose of this research was to: 1) understand the specific problems that rural school districts encountered during the pandemic; 2) learn how these districts responded to their unique challenges, and 3) identify the policies, practices, and resources that are needed for Pennsylvania rural schools to be better prepared for the next emergency that may close schools for an extended period.

GOALS AND OBJECTIVES

The researchers recognized the complexity of the problem that rural school districts encountered during the pandemic from the start of the research. This was a reality one of the rural school district participants would later confirm: that the needs and situations of rural districts are unique and that “there can't possibly be a one-size-fits-all policy that meets the needs of all districts.” The researchers wanted to avoid what another participant would later describe as “superficial ideas to solve very complicated problems.” With such concerns in mind, four overarching goals framed the research process:

- To understand the challenges rural school districts encountered during the pandemic related to distance learning and the online coordination of noneducational services, and the solutions districts used to meet those challenges.
- To determine how rural school districts made use of distance learning models and online coordination of noneducational services in their long-term planning for school closure.
- To learn what policies, practices, or resources local stakeholders in rural school districts believe are necessary to ensure equitable access to high-quality educational experiences during times of extended school closure for rural students and their families.
- To inform policymakers of the condition of rural schools regarding their ability to provide distance learning and their planning and preparedness for sudden school closures, and to provide recommendations of rural district stakeholders to help their districts and communities.

METHODOLOGY

Data Collection Task 1: Review of Rural District Websites

Many districts continue to use phone notifications, or even radio and television announcements, for short-term closings, but increasingly, districts use their websites to note closings. We reviewed and coded the websites of all 235 rural school districts in Pennsylvania during January 2021 through April 2021. The researchers began with a subsample of 20 schools to formalize the coding scheme. They were immediately confronted with the problem of how to deal with multiple pages, material on specific school pages, and links to social media or other platforms. For example, district websites might provide information about the Learning Management Systems (LMS) used in the district or simply link to information on a school webpage. Sometimes these links were clearly labeled as “LMS” but often appeared in another form (such as under a “parent” or “student” tab on the district homepage).

The way web pages are linked varied by district, and so would have required the team to review the web pages of all schools in all rural districts. The team attempted this with the subsample of 20 schools and found that even then, the links to or information about the LMS might appear in some other form (for example, under a “parent” or “student” tab on the school or district homepage). The researchers found the same problems when searching for a defined parental access center or references to cyber schools or district supported online academies. To view all these links, the researchers had to follow every link from the district page to a school page – a task that was beyond the scope of this investigation. Even within this small subsample, the variation in district web pages was significant, and required hours to review every link and web page for a single district.

To simplify the process and make sure the coding was uniform across all districts, the researchers restricted their focus to material directly accessible on the district main page. They did not review the content of district social media accounts such as Facebook, Instagram, or Twitter. This method gave them a better picture of districtwide communication regarding emergency closures due to COVID and the provision of online resources to parents and stakeholders in the district. They used the items deleted from the coding rubric (e.g., the use of LMS, dedicated parental or student portals, and cyber academies) to create new questions for the school district survey and were able to code all websites by the first of week of May 2021.

Data Collection Task 2: Review of Planning Documents

Many schools were caught off guard by the Pennsylvania Governor’s announcement to close schools in March 2020, and students and teachers were generally unprepared for what became extended school closures. Detailed central planning documents that address critical issues and are made available on district websites can alleviate the stress and uncertainty surrounding times of emergency. To assess the planning and readiness of rural school districts, the researchers looked to see if they had Continuity of Education Plans (CEPs), Health and Safety Plans (HSPs), and Flexible Instructional Day plans (FIDs).

During the website review for each district, the researchers noted if a district provided a link to its CEP. If such a link was present, the team downloaded a PDF of the plan. In cases where a

link was not present, the researchers used Google to find the district's CEP using search terms such as "CEP," "Continuity of Education Plan," or "Continuity of Learning Plan." Through these methods the team located and downloaded the majority of the CEPs for the rural school districts. In cases where neither method located a district's CEP, a staff assistant called or emailed the districts directly to ask for a copy. A graduate assistant then reviewed the websites for links HSPs and FIDs. When links were absent for HSPs, the researchers followed the same procedure for obtaining CEPs to obtain HSPs. When links were absent for FIDs, they relied upon a list from the Pennsylvania Department of Education (PDE) showing the districts that had submitted FIDs. Only a small number of districts had submitted FIDs at that time.

All of the available planning documents were then formatted as text-readable files and incorporated into an NVivo database. The researchers chose 30 districts at random and used their CEPs to develop a preliminary coding schema. The initial *in vivo* coding of the 30 test cases revealed vast differences in the level of description in the planning documents regarding various duties or responsibilities for school staff. For example, one school district specifically recommended weekly contact between teachers and administrators regarding online courses, while another did not. Some districts specifically detailed teacher responsibilities for contacting parents during extended periods of closure, while others did not.

The researchers determined it would not be possible to use *in vivo* and axial coding for all 235 districts, so they created a search for keywords that allowed them to identify whether a specific topic was mentioned in the planning documents (see Appendix 2). By agglomerating text searches into basic codes like "device hardware" or "online communication," they could assess how often such topics occurred in different planning documents.

Data Collection Task 3: Survey of Rural School Districts

The researchers developed and piloted the rural district survey in *Qualtrics*. The survey was disseminated via electronic means to all 235 rural school district superintendents with the assistance of the Pennsylvania Association of Rural and Small Schools (PARSS). The survey questions were intended to address these research goals. The survey questions are provided in Appendix 3. The response rate was 49 percent.

Data Collection Task 4: Focus Group Interviews

The researchers conducted two focus group interviews with rural district administrators. The first focus group was held on October 5, 2021, and included five individuals who were either superintendents or IU executive directors. The second focus group was conducted on November 1, 2021, and included four superintendents and one director of curriculum. Major themes were documented in Analysis of Focus Group Interviews. Each focus group lasted approximately 90 minutes, providing highly in-depth responses.

The survey and focus group interviews provided initial data on specific policy recommendations and how stakeholders experienced the pandemic. These data were used to create the initial set of questions for the Delphi study.

Five questions were posed to all participants, and both sets of interviews were approximately 90 minutes in length. The questions were:

- Question 1: What were their school districts' initial responses to the pandemic emergency that resulted in schools closing.
- Question 2: What were their school districts' greatest challenges during the pandemic.
- Question 3: What were their school districts' funding priorities.
- Question 4: Asked participants to compare the start of the 2021–2022 school year with their experiences the prior school year.
- Question 5: Asked participants for recommendations they believe would help rural school districts more effectively use distance education.

The researchers began by reviewing the consent form with the participants. Only the verbal portion of the focus group was recorded using *Audacity* and the names of all individuals were changed or redacted from the transcript. Rev.com was used to provide the audio transcript for the researchers.

Data Collection Task 5: Delphi Study

We designed a three-wave Delphi study to identify the policies rural school leaders and stakeholders believe are necessary to effectively use distance learning and online coordination of noneducational services during times of extended school closure. The Delphi method was developed by the RAND Corporation as a way for a panel of experts or stakeholders to reach a consensus on well-defined problems. This research method has proven useful to identify “bottom up” ideas for best practices in education¹ and can inform government agencies like the Pennsylvania Department of Education (PDE) on education policy issues.² This research method relies upon having a well-informed selection of participants to answer several rounds (called waves) of questions until a consensus is obtained.

To obtain a representative sample of stakeholders, we reached out to various state organizations, including the Pennsylvania Association of Rural and Small Schools (PARSS), Pennsylvania State Education Association (PSEA), Pennsylvania School Boards Association (PASBA), the Pennsylvania Principal’s Association, the Pennsylvania PTA, and Pennsylvania Association for Educational Communications and Technology (PAECT) to obtain the names of potential respondents who were representatives of their organization or who were recommended by rural superintendents as active in school-related activities. Thus, the stakeholder population selected for the research is likely to be more informed about policies that affect the school than the population in general. From there, the researchers contacted 35 individuals who were representative of parents, teachers, school board members and administrators. Of them, 28 individuals (composed of nine rural school board members, five administrators, eight teachers, and six parents) completed the first two rounds of the survey and showed high levels of agreement about basic policy proposals. Twenty-three individuals completed all three rounds of the Delphi surveys.

¹ Kloser, M. (2014). Identifying a Core Set of Science Teaching Practices: A Delphi Expert Panel Approach. *Journal of Research in Science Teaching*, 51(99), 1185-1217.

² Maxey, D., & Kezar, A. (2016). Leveraging the Delphi Technique to Enrich Knowledge and Engage Educational Policy Problems. *Educational Policy*, 30(7), 1042-1070.

The inclusion of teachers, parents, and school board members allowed the researchers to capture the multiple perspectives of a broader community, beyond merely administrator concerns. The recommendations that were developed through this study reflect a process of consensus making and choosing between alternatives. They reflect the concerns and needs of whole rural communities related to distance learning and the delivery of essential noneducational services during times of emergency and extended school closure.

The primary goal in conducting this Delphi study was to identify the policy considerations rural district school leaders and other stakeholders strongly agree are necessary to effectively use distance learning and coordinate the delivery of noneducational services. In the process, the researchers also hoped to better understand the degree to which different challenges (such as lack of internet access and lack of funding) affected the ability of Pennsylvania rural schools to respond to the pandemic, as well as to discover which facets of schooling (such as online instruction and special education/IEP) were most affected.

RESULTS

Analysis of Rural School District Websites

Websites are among the primary places people go to find up-to-date information, and parents and students commonly access their district websites to learn what is happening at their schools. In the case of extended closings, websites are a more effective means of communication than phone trees or radio/television announcements as districts can post pages, attach files, or even set up FAQs that provide extensive information to local residents.

These websites, therefore, are an important communication channel, especially in times of national and local emergency like the COVID-19 pandemic. To study the current online infrastructure of Pennsylvania's rural school districts and assess their planning and readiness, we reviewed and coded the websites of all 235 rural school districts.) and gathered information to build a database that we could then examine more closely. During the website review for each district, we noted if districts provided links to their central planning documents, particularly to their Continuity of Education Plans (CEPs), Health and Safety Plans (HSPs), and Flexible Instructional Day plans (FIDs). The purpose was to survey districts' online infrastructure and usage and to assess their state of planning and readiness.

The variables in the analysis included website features such as:

- On the main page of the district website, is there an alert banner (or links, buttons, apps, etc.) directing community members to where they can find information and updates related to school closures (such as on social media, alert systems, public television, radio etc.)?
- If yes, what types of applications are used to distribute information?
- Is there a distinct button or announcement about COVID-related closures or COVID impact?
- Is there an identifiable reopening plan (e.g., Phased School Reopening Health and Safety Plan)?
- Is a link to the CEP provided?

- Is there a button or link regarding the Americans with Disability Act (ADA) compliance of district websites?
- Is there a link or evidence of programs providing internet access (or hotspots) for students?

Overall, the research found wide disparities among rural school district websites. While the majority of districts used their websites to keep their communities informed about COVID developments, there were no uniform formats or procedures followed in the websites. For example, some school districts had well-organized websites that included clear links to district planning documents, and others did not. There were general inconsistencies in:

- Placement of announcements (e.g., use of pop-ups, position on the page) regarding COVID varied by district.
- Sometimes COVID information was absent from the district homepage but could be found on individual school websites.
- 172 districts (out of 235) had separate webpages linked to their district websites that were dedicated to COVID-related announcements. There was little consistency among these pages in terms of the levels of detail and the topics covered.
- Only 23 district websites had readily identifiable links that directed parents and students to help in obtaining internet access.
- 108 district websites had banners or links that identified the primary communication channel for district news and updates during the pandemic. (The most common channel identified was the website itself; although some districts identified automated phone messages, Twitter, Facebook, or local news stations as their primary channel for messages to the community.)
- 204 district websites had links to their school reopening plans.
- 139 district websites had links to their CEPs.
- Only 21 district websites had links pertaining to the ADA compliance of their websites.

The variations did not seem to arise simply from differences in local conditions – there appeared to be significant differences in rural district capacity to populate and update local websites. In some cases, (e.g., re-opening plans), it is unclear why some districts failed to create links to these important documents.

Analysis of District Planning Documents

To assess the planning and readiness of rural school districts, the researchers looked to see if districts had Continuity of Education Plans (CEPs), Health and Safety Plans (HSPs), and Flexible Instructional Day plans (FIDs).

All available planning documents were formatted as text readable files and incorporated into an NVivo database consisting of 235 school districts and 3 Intermediate Units. During the analysis, the researchers found that:

- 195 rural school districts had CEPs available.
- 77 rural school districts had HSPs available.
- 15 rural school districts had FIDs.

Only three rural school districts had all three planning documents available on their district websites; 74 districts had two of the three documents available; 130 districts had one of the three documents available; and 33 districts had none of the documents available. The rural districts without any planning documents were still included in the analysis so that the database would be complete and that statistical analyses could be run against the quantitative database which included 235 school districts.

Many of the CEPs appeared to have been created in March 2020 in response to sudden school closures. The prevailing opinion at that time was that school closures would not be long-term. The focus in most of the CEPs was on the health and safety of students and the community at large. Most of the HSPs were developed in Summer 2021 in preparation for the return to full in-person learning at the start of the 2021–2022 school year. These plans focused on sanitation, disinfection, and overall virus mitigation efforts at schools. The prevailing expectation at that time was that schools would be fully reopening to in-person learning, because of the availability of vaccines, lower case numbers, and the general hope that the worst of the pandemic was over. Information about HSPs and their intended use can be accessed on the Pennsylvania Department of Education website.³ The research found that some of the Health and Safety Plans were image-only, so they could not be converted to text searchable files. Few rural school districts had an FID, and they do not appear to have been widely used during the pandemic. A Flexible Instructional Day is a program available to public schools when circumstances arise that prevent instruction in the customary manner. The most recent application for FIDs was open in April 2021, with a due date of June 2021. Thus, these documents appeared to play a very small role in district planning during the pandemic.

Once the database was complete, the researchers performed 81 total text (keyword) searches on the planning documents (CEPs, HSPs, and FIDs) to gauge the thoroughness of the documents. They then categorized these keyword searches into the following 14 topical categories:

- device hardware
- online communication
- online learning platforms
- online learning technologies
- internet access
- approaches to learning
- disability and ADA
- gifted education
- grades/grading
- IEP and 504
- mental health
- coordination and distribution of meals
- support for non-identified students

³ <https://www.education.pa.gov/Schools/safeschools/emergencyplanning/COVID-19/SchoolReopeningGuidance/ReopeningPreKto12/HealthSafetyPlans/Pages/HealthSafetyPlansSubmitted.aspx>

- support for language learners

The research assumption was that the mention of certain keywords would be necessary to adequately address a category topic in a planning document. For example, in the “Support for language learners” category, the text search terms include EL, ELL, “English language learners,” “English as a Second Language,” and ESL. The category “online communication” had the largest number of search terms (15). The category “gifted education” had the smallest number of search terms (2).

The most popular keywords used in the central planning documents were:

- “cell phone” (mentioned 174 times in 41 documents).
- “social media” (mentioned 144 times in 65 documents).
- “disability” (mentioned 105 times in 40 documents).
- “hotspot” (mentioned 95 times in 44 documents).

The most and least popular topical categories were:

- “device hardware” (keywords from this category were mentioned 186 times in 73 planning documents).
- “IEP and 504” (keywords from this category were mentioned only 11 times in seven planning documents).

After trial and error with running statistical analyses on text searches, the research team decided to analyze the database using topical categories instead of individual search terms. For example, the category “Support for language learners” offers a richer baseline for analyzing how schools were planning to support language learners during the pandemic than individual text searches, which may provide insight into the different terminology used across the planning documents.

Overall, the statistical analyses showed little to no correlations between any of the quantitative variables. In other words, the documents were highly idiosyncratic, and the main finding is that only a small percentage of the rural school districts or IUs mentioned the search terms under each topical category in their planning documents. For example:

- 29 percent of districts mentioned device hardware.
- 17 percent of districts mentioned online learning platforms.
- 17 percent of districts mentioned online communication.
- 12 percent of districts mentioned approaches to learning.
- 12 percent of districts mentioned support for language learners.
- 9 percent of districts mentioned grades/grading.
- 8 percent of districts mentioned internet access.
- 8 percent of districts mentioned online learning technologies.
- 7 percent of districts mentioned coordination and distribution of meals.
- 6 percent of districts mentioned mental health.
- 6 percent of districts mentioned support for non-identified students.
- 3 percent of districts mentioned disability and ADA.
- 3 percent of districts mentioned IEP and 504.
- 3 percent of districts mentioned gifted and talented.

Next, the researchers assessed whether there were correlations or patterns to be found between certain rural district factors and references to the categories in the planning documents. They used crosstab queries in NVivo and found few statistically significant findings.

- District child poverty rates: There were no statistically significant findings.
- District percentages of minority students: There were no statistically significant findings.
- District percentages of free and reduced lunch: There was little to no correlation with some exception.
- A small positive correlation with category references to disability and ADA, gifted and talented, online communication, and support for language learners.
- A small negative correlation with category references to device hardware, internet access, and mental health.

While the statistical analysis mainly found no common themes across the planning documents, the researchers ran an analysis to find rural school districts or IUs that had the most comprehensive documents. In other words, an analysis was performed to see which rural school districts had planning documents that mentioned most of the topical categories.

To do this, the researchers created a list of school districts with the highest percentage of coverage for each category. Then the top districts were collated in Microsoft Excel where a pivot table was created to count the mentions of each school district. The top districts were X Area (their planning documents contained keywords from 10 of the categories) and Y Area (their planning documents contained keywords from 5 of the categories) (Note: districts were deidentified to ensure confidentiality). Six rural school districts came next; their planning documents mentioned keywords from four of the categories.

X Area School District's CEP was found to be the most thorough. It contained keywords belonging to 10 of the 14 topical categories. The following are examples from this CEP, which can serve as a template for other rural school districts in creating their own central planning documents.

Device hardware. *Students will have the opportunity to use a device provided by the school district to complete planned instruction/enrichment and review assignments during the school closure. Students in grades K–1 will be provided with iPads, students in grades 2–8 will be provided with Chromebooks, and students in grades 9–12 will be provided with laptops.*

Online communication. *The X Area School District will communicate with parents and students through multiple media sources. Information pertaining to the COVID-19 closure and educational programming will be provided through the district website, the district app, the district and individual school building Facebook pages, and parent link phone calls. When necessary, information will also be shared with families through written letters by the superintendent.*

Online learning platforms. *Teachers will communicate with students and families on a regular basis through phone calls, email, Google Classroom, Schoology, and the Odysseyware/Edgenuity platforms.*

Online learning technologies. *Grades 9–12: Students in grades 9–12 will receive planned instruction in all courses through Schoology, Edgenuity, and Google Classroom. Instructional units*

have been planned and adjusted to meet the needs of a remote learning situation for the 4th marking period. Student progress on assignments, quizzes, and tests will be monitored and supported by classroom and learning support teachers. Instructional support and feedback will be provided to students as deemed necessary through district email, the online platforms, Zoom sessions, and phone calls.

Internet access. For students without internet access attendance will be based on completion of tasks upon receipt of completed work. If student work is not completed and returned by established due dates an absence will be recorded for the student.

Approaches to learning. The X Area School District is committed to making a good faith effort in providing continuity of education to all students through a hybrid model of planned instruction and enrichment and review. Our plan supports the district's mission as we work together with families and the community to continue to provide the best education possible during the unfortunate situation presented by the COVID-19 pandemic.

Gifted education. Gifted Education programming and services will be determined on an individual basis. Communication from the Gifted Education teacher to parents/ guardians of students with GIEPs will be ongoing throughout this time period.

Grading. Faculty members are expected to monitor student progress and provide feedback to students daily within the online instructional platforms. Feedback will be provided to students receiving printed materials on an intermittent basis as assignments are returned to the teacher for grading. Teachers will be asked to check in with these students to provide instructional support through phone calls. Grades from assignments within the online platforms will be recorded for the 4th marking period in PowerSchool.

IEP and 504. X Area School District will continue to implement the student's Individualized Education Plan (IEP). Students will receive accommodations and modifications in the general education curriculum as outlined in their IEP to the maximum extent possible while participating in the remote learning environment, which is available to all students.

Mental health. Support is being provided to families via phone calls, Zoom sessions, Google Hangouts, etc. Resources addressing social emotional needs are being provided for students and families by the district's guidance department. Guidance counselors and the school district social worker are checking in with students and families on a regular basis.

Support for language learners. Students who are identified as English Learners (ELs) will receive instruction in language acquisition. EL teachers will be contacting EL parents/guardians and current EL students will be enrolled in a remote learning platform, along with their peers where instruction will be provided by a regular education teacher supported by the student's EL teacher. Independent EL instruction will be provided on an individual and/or group basis depending on the discretion of the EL teacher.

The research identified other districts with planning documents that provided greater detail than most of the plans reviewed. For example, the following excerpts are from the planning documents of three different rural school districts. Area 1 School District's HSP included the following details:

Social/Emotional and Mental Health Needs. Area 1 School District is developing a systemic plan to address social-emotional needs of our students. The district's counseling and wellness

departments have teamed up to identify students who are most at risk and will develop individual SEL plans to address those unique needs. Furthermore, our continued affiliation with Healthy Community's Partnership will provide ongoing truancy prevention/intervention and act as a liaison between parents, students, and school personnel.

Area 2 School District's HSP included the following detailed points around socio-emotional needs:

Availability of counseling services on site for staff experiencing trauma/anxiety.

Counselor led class discussion pertaining to mental health and well-being.

Weekly Class discussions during the first month of school to develop connectedness, classroom routines, stamina, and attention.

Counselors will meet individually with the students who exhibit social emotional needs and communicate with parents as needed.

Students in need of support may seek out a counselor and/or be referred for counseling services.

Area 3 School District's CEP included the following action-oriented statements on mental health:

Mental Health. Students are also expected to tend to their mental health. Anxiety, depression, stress can increase during times of crisis. Despite the closure, counseling services are available. School-based counseling continues with clients via teletherapy. Contact the Director of Pupil Services if a student is struggling so school-based counseling can be set up.

Overall, the statistical analysis of the rural school districts' planning documents revealed low coverage of important topics, as can be seen by the low percentages of districts that mentioned each topical category. Additionally, most of the documents were not detailed. For example, only three HSPs and 12 CEPs mentioned keywords from the mental health category. Rural districts would benefit from support that helps them prepare central planning documents that detail how their districts will address major issues during times of extended school closure.

Analysis of Rural School District Survey

The researchers sent a survey to all 235 rural Pennsylvania superintendents (see Appendix 3), and achieved a response rate of 49 percent, resulting in 116 completed surveys that were used in the study. All superintendent responses and information about their schools are anonymous. The researchers compared responder and non-responder school demographics on a series of major variables and found no substantial differences (see Appendix 4). These comparisons indicate that the survey sample was representative of Pennsylvania's rural school districts overall. For example:

- On average, responding districts were slightly more populous (14,067) compared to non-responding districts (12,641).
- Both responding and non-responding districts were about 95 percent white.
- The poverty rate for children was 17 percent for both responding districts and non-responding districts.
- The mean enrollment for responding districts was 2,067 versus 1,904 for non-responding districts.

- Total mean expenditures per student were \$17,230 for responding districts versus \$17,778 for non-responding districts.

Superintendents were asked both closed and open-ended questions on the critical issues, problems, and resources utilized during the pandemic related to online education and noneducational service coordination. The survey included the following questions:

- Yes/No questions (18) relating to the characteristics of their schools and their districts' strategies employed both prior to and immediately after the beginning of the pandemic.
- Likert scale ratings (7) in which respondents ranked the various potential barriers their districts encountered.
- Selected response questions regarding Learning Management Systems, Student Information Systems, and strategies employed to communicate with parents and communities.
- Estimations of student flight from their districts.
- To self-report three of their greatest challenges.
- To estimate number and/or percentage of students without reliable internet in their districts.
- To discuss limitations to providing professional development to staff.
- To provide recommendations for the next steps for the advancement of distance education, and overall recommendations for policymakers to consider.

Surveying superintendents was necessary to help triangulate data from the focus groups and Delphi study, and to allow for interpretation and comparison across a larger sample to identify patterns that may emerge from the data. The administration of the survey was intended to capture realities for superintendents reflecting on past experiences, but the COVID-19 epidemic became a constantly evolving force that continued to require new strategies and adaptations well past the time data was collected. Thus, this survey is best viewed as a single snapshot in time within the larger story of the pandemic.

After collecting responses, data were organized by survey question type. All selected responses were counted for frequency and are presented as an overall percentage. Any response of "Other" asked respondents to self-report in their own words and is included as a separate category in the summary tables. These self-reported text responses were placed into categories that emerged from the data and each written response was recorded so that it logically fit into at least one category; there were some self-reported responses that fit into as many as four category matches.

The self-reporting of the number of students without reliable Internet was transformed into both a total number of students and a percentage using 2018 enrollment numbers reported by the Center for Rural Pennsylvania. This allowed for means and standard deviations to be reported, but they are to be interpreted as estimates based on self-reports by superintendents. Two superintendents who reported these numbers in terms of the number of families and two superintendents who reported in terms of estimated hotspots administered were not included in these figures. No statistical tests were used other than measurements of central tendency.

Student flight numbers were reported in a series of ranges that were selected by the superintendents. The advantage of this strategy is that it allowed for flexible responses given the highly volatile nature of student enrollment changes throughout the course of the 2021–22 school year, but it fails to encapsulate ratio intervals that can be used for statistical modeling.

The survey of rural school district superintendents revealed many problem areas that may warrant special concern, especially when considered with the historical problems (e.g., overall lack of funding and resources) that have long plagued Pennsylvania's rural schools. The following major issues were identified:

Internet access

- An estimated 15 percent or approximately 230 students per rural Pennsylvania district in the survey did not have adequate access to the internet. One district estimated that 67 percent of its student body did not having adequate access to the internet.
- 58 percent of superintendents reported that internet access had the greatest impact on their ability to deliver distance education. Approximately 80 percent of schools provided hotspots to students and 75 percent provided either hotspots or other devices to teachers to maintain distance education.
- The greatest challenge posed to their districts during the pandemic was the lack of adequate resources including funds and internet access (50 percent). Less than 3 percent reported that internet access was not a barrier to delivering remote learning.
- Sixty-three percent of schools reported that internet access for teachers was at least somewhat of a barrier during the pandemic. Twenty-one percent of all schools reported that internet access for teachers was either a moderate or extreme barrier.

1:1 initiatives

- Prior to the pandemic, 48 percent of schools had some level of 1:1 initiative using devices such as Chromebooks or laptops. Of those schools, only 23 schools (20 percent of total sample) implemented 1:1 initiatives in all grade levels.
- Thirty-four percent of schools surveyed either expanded or first implemented 1:1 initiatives as a result of the pandemic. Only one school in the survey did not report issuing devices to students during the pandemic. Ninety percent of schools distributed physical packets of learning materials during the pandemic.
- Ninety-seven percent of schools provided online materials for students during the pandemic and 84 percent provided an online parental access center; however, no data were collected on the quality, relevancy, and/or use of these materials.

Online infrastructure

- Eighty-six percent of schools employed a full-time technology director.
- The most common methods for communicating emergency announcements during the pandemic were the use of district websites (98 percent), automated phone systems (94 percent), and social media (86 percent).
- Every school surveyed used a learning management system (LMS), with Google Classroom the clear leader (44 percent of districts reported using it). Thirty-one percent of schools reported using multiple learning management systems.

- Prior to the pandemic, 77 percent of schools operated their own cyber school and 38 percent of schools reported the use of some form of distance learning.
- PowerSchool was the most common Student Information System (SIS) used by schools surveyed (31 percent reported its implementation). Fifteen different systems were used across the schools surveyed.

Online coordination and delivery of noneducational services

- Almost all schools provided food services (98 percent) and technology support (92 percent) during the pandemic. Fifty-seven percent of superintendents reported receiving funds outside of the district to support community provisions during the pandemic.
- Less than half of schools reported the provision of transportation (47 percent), home visits (44 percent), health and wellness checks (26 percent), library access (15.5 percent), and clothing (0.9 percent).
- Seventy-five percent of superintendents reported the provision of counseling and mental health services during the pandemic. Forty-four percent reported the use of home visits while almost 26 percent reported the use of health and/or wellness checks.

Professional development

- Every school in the survey provided professional development on either online teaching or use of online instructional materials in some form, although the extent or intensity of the training is unknown.
- Only 22.4 percent reported having no issues administering professional development, with schools citing time constraints (65.5 percent), collective bargaining agreements (29.3 percent), and internet access (19.9 percent) as serious limitations to the delivery of professional development.

School closures and disruptions

- About 92 percent of schools reported ending face-to-face instruction as a result of school closures for at least one day during the pandemic. Those districts lost an average of 34.8 days (19.3 percent of school year) of face-to-face instruction.
- Every school surveyed suspended events and activities because of the pandemic. Community use of facilities were suspended by 96.6% of districts surveyed with student clubs (89.7 percent), athletic events (88.8 percent), and music events (87.9 percent) being the next most canceled programs.
- Thirty-seven percent of rural districts surveyed reported that the greatest challenge to their districts was allocation of personnel due to increased workload caused by the pandemic. This figure included superintendents who reported staff turnover as a significant obstacle.

Survey respondents were given the option to express what next steps should be implemented by policymakers to help rural schools deliver more effective distance education. Ninety-nine respondents answered this open-ended question and responses were categorized by similar themes so that each response fits at least one category that emerged from the data.

Table 1: Survey Responses — Policy recommendations of rural school district supervisors

Please share any ideas about what next steps need to be in place to help rural districts more effectively use distance education? (e.g., lack of broadband access, lack of trained technical support, family access to technology)		
Policy Recommendation	Number of Participants Mentioning Recommendation	Percentage of Participants Mentioning Recommendation
Increase Broadband/Internet Access	76	65.50%
Better Professional Training for Effective Pedagogy and Student Management in Digital Spaces	17	14.70%
Clear Guidelines for Face-to-Face Instructional Policies	5	4.31%
Increase Attendance and Learning Accountability for Online Schools	3	2.60%
Make Changes that will Reduce Teacher Burnout and/or Increase New Teacher Quality	2	1.70%
Increase Accountability for Cyber Charters	2	1.70%
Allow for More Flexibility in Maintaining Day-to-Day Schedules of Schools	2	1.70%
Increase Power of Local Decisions/Reduce State Influence in Local Decisions	1	0.86%
Add Mental Health Supports	1	0.86%
n=99		

Survey respondents identified these areas as their districts' greatest challenges during the pandemic:

- Student engagement/motivation.
- Changing state and federal guidelines.
- Lack of internet.
- Competition with cyber charter schools.
- Student attendance.
- Student safety.
- Community conflict and polarization.
- Contacting students.
- Meeting the needs of families.

Analysis of Focus Group Interviews

These interviews were intended to address similar research goals as the *Rural School District Survey*. They provided rich discussions and insights into the challenges, strengths, and needs of Pennsylvania’s rural schools in the areas of distance learning and online coordination of services during times of extended school closures. The interviews revealed the following:

- Many rural school districts struggled with lack of access to affordable highspeed internet.
- Constantly changing state guidelines created problems in school-community relationships. Local school officials were put in a stressful position in their communities, especially in regard to divisive issues. Pandemic-related closures and uncertainties also caused frustrations for students and their families.
- More and permanent sources of funding for mental health services and social emotional learning are required for rural school districts.
- The lack of professional development resources and preparation related to online learning environments created stress for teachers who were learning new technologies and strategies while attempting to meet the needs of each of their students.

Question 1 asked: Can you think back to March 2020 and reflect on how your school district initially responded to the school closing?

“Superintendents in our IU were relieved when the governor made the call to close schools.”

On the day that the Governor ordered that all K–12 Pennsylvania schools would close due to the COVID pandemic, participants characterized the initial communications from the Department of Education as evolving throughout the day. Superintendents had anticipated receiving information from the Secretary of Education earlier that morning during a statewide meeting, but there was no mention of school closings during that meeting.

Some superintendents in various IUs began seeking advice from fellow colleagues within their IUs, while they monitored what was unfolding in other states, and attempting to make decisions in a sea of uncertainty. Schools began to close across the state, yet there was an absence of clear guidance. Superintendents found it difficult to gain consensus on the decision to close their schools in the midst of rapidly changing and unclear circumstances. Some superintendents wanted to close by county, while others wanted to stay open. One executive director recalled arguing with the superintendents in their region about which districts would close and which would remain open. “It was really left up to individual districts to decide at that point. This was solved however, when the Governor made the decision to close schools.”

Another executive director noted, “Superintendents in our IU were relieved when the governor made the call to close schools.”

“No one thought initially about long-term closures.”

Because of the timing of the school closure announcement, schools had either just dismissed or were in the midst of dismissal. Few had time to prepare students for any type of extended closures and were “caught off guard.” Lockers remained filled with student belongings. In most cases, districts dismissed students without knowing when students would return to schools.

Students and teachers were generally unprepared for what would become extended school closures. As one executive director of an IU stated: "It was really a tremendous feeling of uncertainty because there was no timetable at that point given, and we weren't sure if schools would be closed for a week or for two weeks. No one thought initially about long term closures."

Within the first day of closing, superintendents organized their leadership teams and began to pivot toward meeting the most immediate and basic needs of their students and families. One superintendent stated: "We had someone who worked in incidence command (search and rescue), so we set up our systems mirroring this. School districts became the hub of the community."

Initial efforts were directed toward distributing food to families by harnessing existing school resources (such as vans and buses), redirecting custodians and cafeteria workers to produce, pack, and deliver meals. School and district administrators also lent a helping hand. Districts also worked with community agencies such as churches, bus contractors, other social services, non-public schools, and individuals wanting to volunteer. Drivers delivered meals to bus stops for "grab and go" meals. One participant recounted: "A church group took over breakfast and lunch, but they didn't have the human capacity to keep it going, so we took it over. We utilized our social workers and counselors to help connect families to services."

A superintendent expressed the importance of community relationships at this urgent time: "I was personally responding to 100 emails a day from parents concerned about losing their jobs, feeding their children, finding day care." Another superintendent shared that "in a matter of two days, they managed to provide breakfast and lunch to over 1000 families." A participant summarized: "I think it showed the community, the power of the educational industry, the fact that, I think, we were the one stable thing that everybody could turn to in keeping families together, in keeping children fed." It was a time when rural schools demonstrated their flexibility and their importance within the community.

"It wasn't that long until we really began creating our continuity of education plans, which were very loose and without accountability at first."

As the first days of school closure passed, rural districts began to think about how to continue efforts to care for the well-being and safety of students and their families and still educate the children in their districts. One executive director noted: "From a regional perspective, I could almost see districts moving through a Maslow's hierarchy of need. Their first response was: Are our children okay? And how do we feed our families? And how do we ensure that the most vulnerable are getting what they need?"

Then superintendents deployed their social workers or guidance counselors, their teachers, bus drivers, and anyone who could lend a hand. They did what was necessary to meet the basic needs of families and students.

"We were just driving by waving to kids. The effort to maintain contact, check in with districts and assure the safety of families was intensive and focused. So anywhere from phone calls, drive by, to emails, to text messages, to Zoom sessions, to Google Meets, whatever it was, the teachers and staff were reconnecting with their students. It wasn't that long until we really began creating our continuity of education plans, which were very loose and without accountability at first."

“The desire to have a 1:1 initiative prior to the pandemic was not a board priority.”

At the most basic level, districts established processes for distributing student learning packets via school pickup and distribution of materials at bus stops. Other districts centered their efforts on expanding access to Learning Management Systems (LMS) such as Google Classrooms, taking inventory of the personal technology devices available within the school and in the homes, establishing processes for delivering devices to children and their families, and retooling teachers with professional development. One superintendent noted: “We started talking about our platforms that we used and had for educating our students. At the time we were not one-to-one, so that was not possible to do, but we did, and could loan out devices as we’ve done in the past for various activities. So when we found out we were going to be closed further on, we planned for some professional learning with our staff. Fortunately for us, the staff had several years of technology integration learning. We were using our own staff to train the rest of the folks in the different platforms that we used, and different ways of connecting with families.”

However, experiences were not uniform. Another district had in place a 1:1 initiative “for the last decade” but had to deal with internet access issues for families. This illustrated the differences in rural schools within Pennsylvania in terms of resources and political will. One superintendent noted, “The desire to have 1:1 initiatives prior to the pandemic was not a board priority.”

During the first week, access to broadband and highspeed internet became the next issue to tackle as teachers, school and district leaders, families and students did not always have access or they had spotty access at best. Some families could not afford access even when it was available.

As they again collected data on internet status, rural districts simultaneously crafted strategies to increase access the best they could. Buses were driven to central locations in the community with hotspots. Some teachers worked in the parking lots of the local Sheetz, or fire stations, and Wi-Fi was established in the parking lot of schools. Teachers and staff also went to each other’s homes where broadband was accessible.

Simultaneously, districts established electronic means of communicating with their students and families (where possible) through Teams, Google Classrooms, and student portals. Information continued to be sent home in paper packets.

“We also began having much more frequent meetings, with the priority of attempting to get on the same page or understand the events that were happening in the other districts around us, so that we could at least mirror each other and understand how to present it to our communities.”

The pandemic also created opportunities for greater collaboration among superintendents. IUs became regional control centers supporting the districts, disseminating communication from the Pennsylvania Department of Education to the districts. At the same time, superintendents began meeting more frequently within their IUs to problem solve the ongoing issues emerging around viral spread, contact tracing, and continuity of education. One IU Executive Director reflected: “To start, I guess, we put a lot of time and energy trying to support the districts with what they were going through. There were countless meetings, in terms of brainstorming and

trying to deal with the different things that were sent our way from the state. I really think that there was a lot of coming to terms with what school was all about in that first three months or four months.”

Another executive director stated: “We also began having much more frequent meetings, with the priority of attempting to get on the same page or understand the events that were happening in the other districts around us, so that we could at least mirror each other and understand how to present it to our communities.”

This rhythm of meetings continued throughout the 2020–2021 and 2021–2022 school years. These meetings were highly valued and “sparked a lot of creative thinking” and reinforced the importance of “connecting with students, checking on their mental health, and their academic progress.”

By the third week of the pandemic, most rural districts with personal devices and learning management systems began emergency remote instruction. A small rural school district was the exception and did not close school from March 2020 to the end of the school year. Another superintendent reached out to Penn State University College of Education for assistance in establishing a system of distance education for their district. Overall, “It was unbelievably stressful, but also really heartwarming to see the extent that local educators went to, to try and meet the needs of their students.”

As the pandemic went beyond the first several weeks into April and May, priorities shifted to thinking about finishing the school year and re-establishing important rites of passage such as field trips, prom, and graduation. Parents applied pressure to restart spring sports. As one superintendent expressed: “Athletic activity is central in rural communities.” Another superintendent suggested that parents would do whatever you wanted as long as their kids could play sports. “Field trips were hosted virtually, graduations moved outdoors, diplomas were delivered to homes and even a parade was held for graduates.” One superintendent proudly acknowledged: “We figured it out, and I really think by the end of that year we felt a sense of victory, that we pulled off a lot of things that made kids feel special and assured families that the educators in the community cared and were taking great care to educate the whole child. We reimagined all of our traditions.”

“How do you provide remote services to students with autism or to students in early intervention?”

As the days and weeks unfolded, the challenges that rural districts faced continued to surface. These included internet access, changing state guidelines, and engagement/motivation of students, supply chain issues for goods and devices, and the delivery of special education services for students with IEPs. Questions such as, “How do you provide remote services to students with autism or to students in early intervention?” shed light on the disparities and inequities facing marginalized students, particularly students living in poverty and those with special education needs. Interestingly, one superintendent indicated that there was resistance to technology in the district: “Even if it were available and affordable to them, there’s a tremendous uprising in my community about people who just don’t want the technology. They don’t want to rely on it. They don’t want to have it in their homes, and so that creates a new set of problems for us as well.”

Moving to video conferencing and learning management systems created additional challenges for keeping attendance, uploading, and accessing work, and how to engage students. Debates about cameras on/off, student participation versus engagement, meeting the needs of students with disabilities, instructional hours versus competencies to meet standards and grading brought both opportunity for innovation and challenges. Teachers were learning new platforms, new technologies, and new strategies for online learning while they were attempting to meet the needs of each of their students. As one superintendent noted, “we had dabbled in online learning but did not have it fully implemented.”

Teachers were stressed and one leader acknowledged, “My teachers were working night and day to support their kids.” Professional development was often informal and at the point of need. Parents were also new to these platforms and experienced frustration and their own learning curve as the responsibility for teaching and learning shifted to parents.

Question 2 asked: In a survey of rural school districts that the researchers conducted, these were the top three topics that respondents identified as their greatest challenge during the pandemic: student engagement/motivation; changing state guidelines; lack of internet and broadband. How do these align with your experience?

“There’s been no infrastructure investment in broadband out here.”

Lack of broadband and high-speed internet were significant concerns for all of the rural school districts in the focus groups. Districts quickly attempted to assess these conditions and provide emergency support. The Pennsylvania Department of Education promoted digital resources and online learning platforms for schools to use, but as one IU executive director expressed: “These things are not helping us. I remember one of the Governor’s statements later on [saying], ‘We’re sending roving internet vans or buses into rural PA.’ No such thing occurred nor was it a viable solution.”

The other rural superintendents agreed. One participant indicated that access to broadband was not possible because his district “covers 342 square miles with a large portion that doesn’t get cell phone coverage.” Another superintendent stated, “There’s been no infrastructure investment in broadband out here.”

To get by, superintendents had to get creative. One used E-rate to boost their wireless to blanket their school parking lots as a stop gap measure so that teachers and families could access the internet. At the very least, students with devices “could drive them by the school to connect, upload their work, download new material and work from home.” Other superintendents used this same strategy. During some of the closure time (when it was safe to do and within the guidelines at the time), some districts even opened their cafeterias or put up a tent in the parking lot so that students who needed internet access for their schoolwork could have access.

This problem of reliable access to broadband and high-speed internet has been a long-standing concern of rural superintendents. They expressed frustration with their ongoing, unproductive discussions with their legislators about the need to direct resources to rural areas that are sparsely populated and geographically challenging. Political will, resolving the geographical issues of rural areas, and how to use existing funds effectively were all raised as issues. One superintendent summarized: “If you don’t have towers, no roving bus in the world is

going to change anything. And then there's the laying of fiber, which to get the most reliable internet, you really need to lay fiber. This is a multi-year and costly investment to do this."

Even with access to the internet, several district and system leaders expressed concerns regarding affordability in high poverty regions of their districts. Superintendents recognize that reliable, highspeed broadband internet access would be expensive in rural areas, which ultimately would impact families "having the financial ability to pay for internet."

"Don't blame your School Board. Don't blame your superintendent. You needed to talk to your elected officials to get things changed."

Superintendents perceived that decision makers at the state level were "not considering the unique concerns of rural school districts." An IU executive director stated that the pandemic "amplified the long-standing rural divide and what it means to actually be a school leader in rural America today." Therefore, the issues of local control were very much at the center of an everchanging context of new guidance perceived as recommendations and not mandates.

The pandemic illuminated the existing tensions between local, state, and federal government. One IU executive director opined: "Regardless of mandates, each level of government (school board, local legislator, the governor) believes they are absolutely doing what they think are right for their constituents. And there's no quick answer to that built-in tension but as another superintendent noted, there's not a really good understanding on the part of the legislature to understand what it means to be a school or district leader in a rural area. There was also no playbook to go by and as a group of rural superintendents we were not consulted, which was very frustrating."

Local differences in case counts and associated mitigation measures and the local capacity to enact these guidelines were also points of confusion and contention for school and system leaders. Discontent in rural communities grew and was evidenced by unprecedented numbers of parents and community members attending school board meetings. Different opinions about masks, school closures, day care, and vaccinations became heated and political. Following a particularly challenging week, one superintendent communicated to his community: "...with the changes in guidance so frequent, and in some cases drastic from one week to the next, it leaves people in general very disrupted, with an inability to create habits and expectations for the day, the week, the month. And with the increase in confusion among parents and community members, it certainly gets passed on to kids."

At the start of Summer 2020, in this charged environment, districts had to begin planning for the next school year. They either initiated or accelerated their 1:1 initiatives, prioritizing certain grade levels as their budgets permitted. They also considered facility and physical plant modifications to enhance safety and health such as HVAC and air filtration systems.

While district and system leaders were planning for the continuity of education for their students and the well-being of their families, the changing and unclear nature of guidance consumed great amounts of their time and energy. The stress of constantly changing guidelines and the resulting tensions created in rural communities had a significant impact on the morale of leaders, teachers, students, and families. One rural school district superintendent stated: "Sure, with the changes in guidance so frequent, and in some cases drastic from one week to the next, it leaves people in general, very disrupted with an inability to create habits and expectations for

the day, the week, the month. And with the increase in confusion among parents and community members, it certainly gets passed on to kids.”

Another superintendent added: “When choice is taken away, then people’s motivations tend to turn a little bit hostile. And so, what we’re seeing in our student population, we’ve got more and more kids that are just looking for alternative learning environments. So that if they’ve got to come to school and face the orders of the day, they’re looking for a way out.”

Rethinking what it means for students to be engaged in online environments was another hurdle to overcome. Decisions such as whether student cameras should be on or off surfaced numerous issues surrounding access to student home life, broadband, and devices. For example, very young elementary school students required considerable support and involvement from their parents to ensure engagement. However, not all parents were prepared or had the necessary skills or resources to be supportive in the ways necessary for online learning. Another example was addressing the needs of students with particular disabilities (such as speech or autism). Special education also needed to be reconceptualized.

Question 3 asked: Given the influx of additional funding to support districts (CARES Act, CRISA Act, ARP Act and ESSER Funds), what are your funding priorities?

All of the superintendents and the executive directors of IUs in both focus groups agreed that the mental health of students and social/emotional learning were major funding priorities. While districts sought to hire mental health professionals, social workers, and counselors one superintendent expressed that “there is a lack of a candidate pool for these positions.” However, several superintendents expressed concern regarding the use of funds to hire teachers and staff because they would not likely be able to sustain this once the money ran out.

Other districts were looking to use funding to reduce class size, expand their 1:1 initiatives into grade spans not previously supported, or to use funds to support technology replacement cycles. Superintendents sought to expand summer programs but found they had either poor participation from parents or they could not staff the programs.

Several districts made investments in infrastructure such as updating HVAC, cleaning, and sanitizing systems and/or hiring part-time contact tracers to relieve administrators and current staff.

Question 4 asked: How would you compare the start of the 2021–2022 school year with last year? Do you see improvements that have been made, conditions surrounding vaccinations/mask polarization, increased funding, etc.?

“Last year we were all in the same boat, rowing in the same boat, now people are paddling all over the place. That’s what makes this year more challenging.”

Rural school districts spent the summer carefully preparing to return to face-to-face learning. There were considerable changes that had to be put in place regarding health and safety measures and plans for switching to remote and hybrid learning. However, in the fall, some rural districts had to quickly return to hybrid learning due to climbing COVID case numbers and the recommendations at that time. The last-minute nature of these developments stressed superintendents and caused tremendous problems for working families that had to quickly find childcare arrangements. One superintendent lamented: “We went from heroes to villains.”

Disgruntled and angry parents began making demands at school board meetings. These discussions centered around mask mandates, contact tracing, and vaccination requirements, then shifted to issues surrounding Critical Race Theory and LGBTQ concerns. Districts also saw a resurgence in requests to ban books. One superintendent summarized: “Last year we were all in the same boat, rowing in the same boat, now people are paddling all over the place. That’s what makes this year more challenging.”

Prior to the pandemic, rural schools had always dealt with staff, faculty, and substitute teacher shortages. During the pandemic, these shortages were exacerbated. Finding special education teachers and certain secondary teaching positions, which were always difficult to find, became extremely difficult during the pandemic. Staff positions such as bus drivers, custodians, and cafeteria workers were also difficult to fill. Rural schools have always had to compete with businesses and other places that can provide higher wages to job candidates. The pandemic also made people fearful about their workplaces generally.

Several superintendents discussed ways to strengthen the paraprofessional pathway to build a teaching pipeline. Another considered increasing the hourly wage for staff and providing housing for teachers as an additional benefit to moving into a rural school position.

“Teaching simultaneously face-to-face and synchronously online was challenging.”

As the pandemic continued, superintendents worried about staff, teacher, and school leader burnout and fatigue. Existing slim staffing margins with “no extra staff to move around” increased union grievances around teacher contracts and created less than optimal working conditions in an already very stressful environment. Teacher absenteeism was high as teachers either “became sick or needed time off to recoup.” One participant explained: “Teaching simultaneously face-to-face and synchronously online was challenging.” Parents also experienced difficulty understanding when students should be in school or working from home, which increased their frustration toward teachers.

Educators were stressed in coping with changing schedules, dealing with difficult parents, and navigating between face-to-face and online learning. The mental health concerns of faculty, staff and students increased in this stressful situation. Superintendents hardly had any time to rest as they stepped in to alleviate the problem of vacant positions by volunteering in the cafeteria, taking on teaching assignments, and even driving the school bus, while dealing with community and political unrest daily.

“While expanded choice (hybrid, face-to-face and virtual) has brought us some nightmares, I don’t see a way out now that we’re into it. This may likely be the new normal.”

Some superintendents have seen some positive benefits to distance learning. One superintendent noted: “Brick and mortar schools are not for everyone. We had 70 students in our cyber campus and created a space where they could come to meet with their teacher and interact with their peers.”

Another suggested that it’s time to “consider the needs of each student” and design learning environments to meet their specific needs. Another leader suggested, “I think we can do it better (distance learning) than the charter schools and we need to get those students back into our district.” Another stated: “While expanded choice (hybrid, face-to-face and virtual) has brought

us some nightmares, I don't see a way out now that we're into it. This may likely be the new normal."

Question 5 asked: Would you please share any ideas about what next steps need to be in place to help rural districts more effectively use distance education?

The rural school district superintendents and the IU executive directors who participated in the focus group interviews shared these recommendations after their candid and lively discussions:

- A commitment from state legislators and policymakers to ensure that families in rural school districts have access to affordable, high-speed broadband internet and access to personal computing devices. Without this access, rural schools will continue to have difficulty preparing students for the future.
- Changes to the Pennsylvania School Code provisions regarding instructional time and hours to better align with effective practices in distance learning. For example, rural district leaders wanted the removal of the 180-day requirement or the hourly requirement for students, and to prioritize education based on competency, in which achievement of the standards is the primary goal.
- Increased support and funding for more school and community mental health services.
- Address ZIP Code-related inequities in educational opportunities by having the state offer statewide networks so that rural students can take any course regardless of the school district they attend.
- Stronger mandates and orders during emergencies, instead of constantly changing guidelines that place superintendents in the middle of (or at odds with) their school boards and their communities.
- More FID days, recognizing that school districts are now able to move from face-to-face to online learning formats more flexibly than ever before.
- Statewide professional development on course design and teaching strategies for an online environment.

Analysis of Delphi Study

Twenty-three individuals completed all three rounds of the survey. Other Delphi studies suggest that little new information is gained from Delphi panels that have more than 30 participants.⁴ The inclusion of teachers, parents, and school board members in the study allowed the researchers to capture multiple perspectives of the broader community, beyond merely administrator concerns.

The researchers drafted and piloted the initial wave (i.e., the first round of online survey questions), which is attached in Appendix 6. They used data gathered from the rural school district survey and the focus group interviews to create initial questions pertaining to the problems that rural school districts had identified, the innovative solutions districts had used to overcome their problems, and how different factors (such as lack of internet access, changing

⁴ Kloser, M. (2014). Identifying a Core Set of Science Teaching Practices: A Delphi Expert Panel Approach. *Journal of Research in Science Teaching*, 51(99), 1185-1217.

guidelines, etc.) affected school districts during the pandemic. Initial policy proposals were also derived from the survey and focus group results. Then through a repeating process of asking and answering questions — where the resulting answers from the first round provided the basis for the second round of questions — the goal was to arrive at consensus. After the first two rounds of online surveys, the heterogeneous group of participants showed high levels of agreement about basic policy proposals.

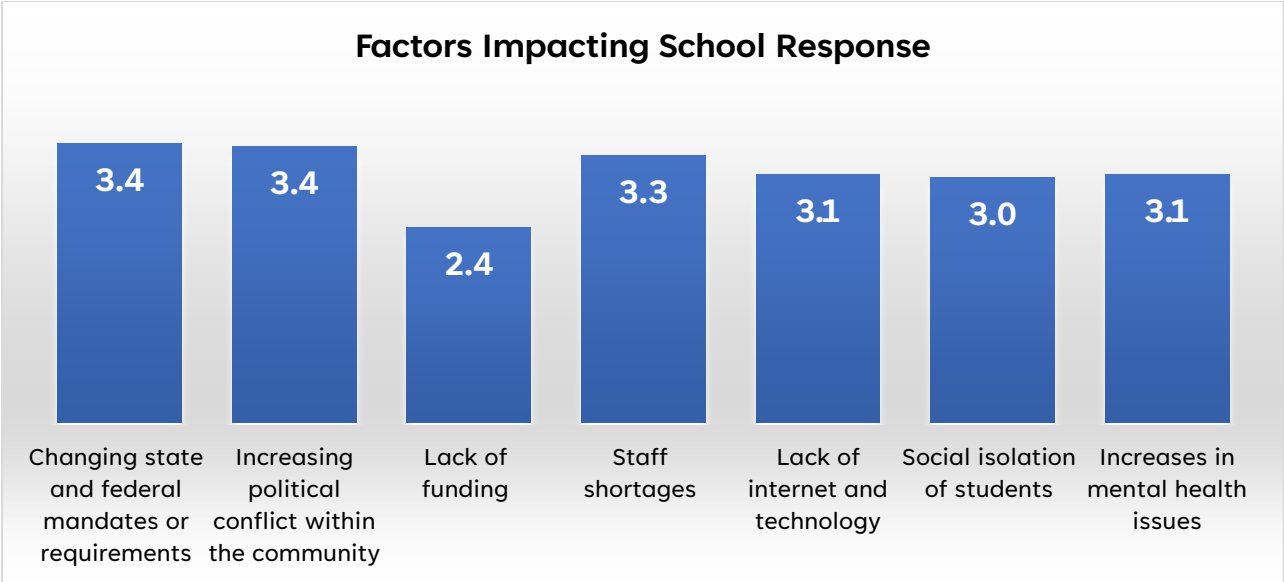
Specific policy proposals were derived from the rural school district survey and focus group interviews. In the first wave, any policy proposal with less than an average of 3.0 (Moderate Priority) was deleted from inclusion in the second wave. Respondents in the first wave were allowed to enter open-ended suggestions for additional policy recommendations. Taking these responses into account, the researchers created a new list that included additional recommendations, while making sure the new suggestions did not overlap with prior ones. They also created subtopics to organize the proposed policy recommendations and revised the language to invite more standard responses. For example, instead of stating “Funding for rural districts,” the researchers revised to state “Provide funding for rural districts.” Then, in the second wave, with the new set of policy proposals, respondents again were allowed to enter new policy proposals. This time, however, because respondents only entered a few new proposals and none were suggested by more than a single respondent, the researchers concluded that the group had reached consensus regarding the proposed solutions.

Several study participants noted that the needs and situations of rural school districts are unique, and that “there can’t possibly be a one size fits all policy that meets the needs of all districts.” Many stakeholders highlighted the complex problems that rural districts faced and some questioned whether simple policy solutions could adequately address the difficult realities of their districts. One stakeholder commented: “Superficial ideas seeking to solve very complicated problems.” Stakeholders also emphasized the need to give more power to the school districts to solve these complex problems. Some called for giving schools more power to make decisions in times of closure.

For example, while the pandemic is often portrayed as a single event in news media, most of the Delphi respondents saw the pandemic as proceeding phases. They estimated the number of phases as ranging from 3 to 9. The first phase was categorized by words like “lockdown,” “closure,” and “shutdown” which focus on the stopping of normal school activity. Strong emotion words also appeared – “fear,” “panic,” and “freakout.” This indicates that in many areas, the closing of PA schools was synonymous with the perceived onset of the pandemic and the disruption of the routines of daily life. While this was not a universal experience - one respondent labeled the first phase as “mild” – most of the responses emphasized this abrupt rupture of normal school routines.

This suggests that different aspects of schooling may have been more or less heavily impacted at different times. One respondent described “Phase 1” as “*Total shutdown- lack of understanding and knowledge, panic, and chaos. Unclear educational expectations for districts- close the school entirely, try to complete online/virtual learning/learn as you go Zoom/Google Meet.*” This indicates that that initial impacts on instruction were hardest at the start of the pandemic.

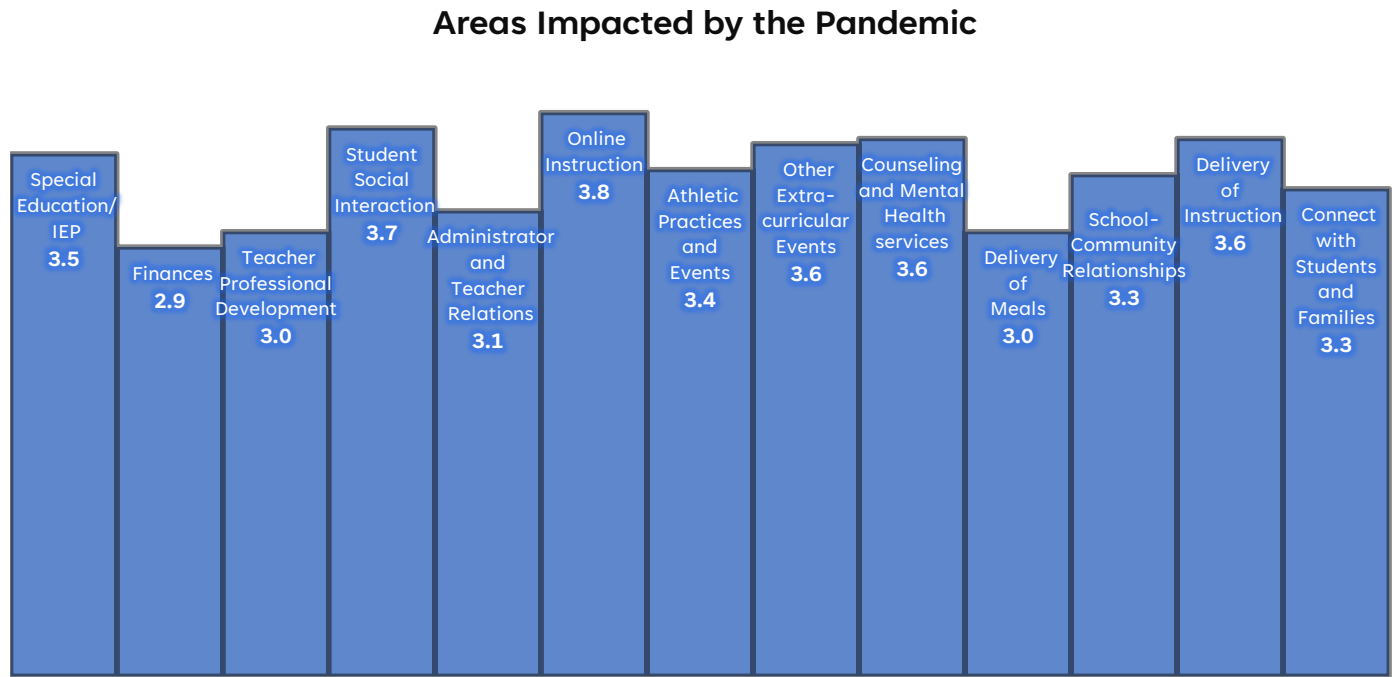
Figure 1: Factors that Affected the School’s Ability to Respond to the Pandemic: Average (mean) Stakeholders’ Rating for Each Factor



N = 30. 1 = no effect, 2 = some effect, 3 = moderate effect, 4 = major effect.

Study participants perceived that changing state and federal mandates and increasing political conflict had the greatest effect on the ability of rural schools to effectively respond to the pandemic. Although study participants thought that all facets of rural schools were affected by the pandemic, certain areas (such as online instruction and student social interaction) were severely affected. It is important to note that in the focus group interviews and in the Delphi study, respondents characterized the pandemic as unfolding in stages. Thus, some factors – such as the social isolation of students and increases in mental health issues – were likely to be more pronounced as the pandemic continued.

Figure 2: Impact of the Pandemic on Different Areas of School and School-Service Provision — Average (mean) of Stakeholders Assessment of Impact for Each Area.



N=30. 1 = no impact, 2 = minor impact, 3 = moderate impact, 4 = major impact.

The initial impact of the pandemic on online instruction and student social interaction identified in the survey also were clearly evident in Delphi respondents assessment of which areas of school functioning were most affected by the pandemic. Delivery of instruction, counseling and mental health services, and extracurricular events were also deemed to have been highly impacted. While school finances and delivery of meals were seen as less impacted, this again may reflect the fact that the pandemic impacted the schools in waves or stages.

For example, one Delphi respondent characterized the final stages of the pandemic as “*Full re-open, contact tracing, learning loss.*” Another simply described it as “*Living with COVID.*” This is a far different set of problems than the emergency response mode noted for phase one – the impact on online learning and extra-curricular events in the final phases were likely far less. Indeed, the final phase of the pandemic seems to have accentuated the school’s role as interpreting and administering state guidelines. Another respondent characterized the final phase as “*August 2021 - Present. All students allowed to attend in-person. Masks required until lifting of the mask mandate by PA Supreme Court in December 2021.*” This indicates a shift to enforcing mandates and managing public health concerns in the final stages of the pandemic.

Table 2: Specific Policy Proposal Rankings- Average (Mean) of Stakeholders' Rating of Policy Proposals

Increase funding to municipalities or counties to provide access to broadband internet.	3.45
Provide tax incentives to companies that bring broadband access to rural areas.	3.00
Provide free internet hotspots or financial assistance to families of school-age students with financial hardships during periods of emergency closure.	3.21
Supplement special education funds during times of closure to provide extra support for online services.	3.21
Increase state-level monitoring of cyber charter schools to ensure they adhere to PDE guidelines for quality of instruction.	3.34
Increase funding to support the identification and support of students with mental health concerns or incentives for mental health providers in rural areas.	3.41
Expand mental health services for teachers.	3.07
Create or expand funding programs for 1:1 computing initiatives in schools.	2.71
Provide technology workshops for families on how they can assist and support their child when taking online courses and help assure student attendance.	2.97
Provide more extensive teacher professional development in online instruction and online technologies and provide more online teaching tools.	2.72
Develop and make available a common online education platform for all school districts to be used as a base of virtual instruction for any emergency school closure situation.	2.68
Develop a mechanism to pool and share resources among adjacent districts and increase communication between district leaders.	2.66

N=30. 1 = not a priority, 2 = low priority, 3 = moderate priority, 4 = highest priority.

Other specific policy initiatives did not reach this level of consensus. For example, creating or expanding 1:1 computing initiatives in schools did not obtain general consensus. Specific stakeholder groups also ranked certain policy proposals highly, while other stakeholders did not. For example, administrators ranked the policy proposal of creating a board of superintendents that consults with state agencies highly, while others did not.

DISCUSSION AND POLICY CONSIDERATIONS

The COVID-19 pandemic imposed a serious strain on Pennsylvania rural schools and tested their ability to provide distance learning and deliver essential noneducational services to their students and communities during a time of extended school closure. Some rural districts were better prepared than others; they had the online infrastructure, resources, and personnel in place to transition more smoothly into distance learning and support the needs of their students and communities. Most rural districts, however, experienced substantial obstacles and had to find last-minute solutions to address problems such as students and staff lacking internet access and internet devices, poor student engagement, increasing stress and frustration levels, and other difficulties that affected entire rural communities.

Through the five data collection projects, the researchers were able to identify a number of common issues that most rural districts faced. And, the survey, focus groups, and Delphi study provided specific policy considerations from various rural stakeholders. While the experiences of rural districts were exceptionally diverse, three primary themes capture the majority of the concerns and considerations identified:

- Inequitable access and opportunity to experience online learning and communication across rural Pennsylvania.
- Communication problems at multiple levels during the pandemic that impeded the sharing of important information and damaged long-term school/community relationships.
- The unique characteristics of each rural school district makes it difficult to create universal policies or procedures: rural districts require autonomy crafting policies around emergency school closure as well as state-level support for developing programs to enhance online capacity and expertise.

Inequitable Access to the Online Services

The primary concern emerging from focus group interviews, Delphi respondents, and the survey of rural administrators is inequitable access and opportunity to experience online learning across rural Pennsylvania. Huge differences appear when examining how superintendents estimated the internet access available to their districts. When given the opportunity to express in their own words what policy changes are needed, the majority of school leaders made it clear that they believe there is a dire need for the provision of universal high-speed broadband internet service in rural areas. Many of the respondents cited affordability concerns that make doing business with local providers difficult or impossible for rural school districts. Respondents hoped that the state government would assume some fiscal responsibility — some called for the state to fully assume the costs, comparing internet access to the funding of roads and bridges. All stakeholders (parents, teachers, administrators, and school board members) were united in their call for increased broadband networks for rural schools and communities.

Focus group respondents and survey responses indicate that most districts mobilized to provide increased online access to students. But lack of internet access was not limited to student or families in many districts. Many superintendents reported that internet access was

also an obstacle for their teachers. More than 20 percent of survey respondents found that teachers' access to internet was a moderate to extreme barrier for their schools. Lack of internet access impeded teachers in connecting with their students, as well as in effectively delivering instruction during periods of school closure.

Problems in internet access may also have exacerbated teachers' attempts to use online instructional formats or to hold IEP meetings online. Here, it is not clear if it was the internet access itself, or problems related to the functioning of online services that created such a barrier. The large proportions of respondents who indicated that using online programs for instruction to hold IEP meetings or to provide learning support for special education students suggest that it may not be simply a question of access to reliable broadband, but that access to high quality online programs and training on using these programs is also unequal across rural districts. Not every district employed a full-time technology director who could fulfill the role of managing these kinds of changes and the distribution of tools and resources needed during the pandemic. This leads to the question of how schools without technology directors mobilized these efforts, and to what extent superintendents and school leaders had to take on additional roles beyond administrative duties.

Access to the internet for students, parents, and teachers alike is critical during times of extended school closure. Such access is also becoming more and more important even during the regular school year as both teachers and learners access more online material. The researchers suggest that the following priorities will greatly assist rural school districts:

- A commitment from state legislators and policymakers to ensure that families in rural school districts have access to affordable high-speed broadband internet and access to personal computing devices. Without this access, rural schools will continue to have difficulty preparing students for the future.
- Expand effective and reliable high-speed broadband Internet throughout Pennsylvania.
- Incentivize internet providers to expand services to rural Pennsylvania.
- Increase funding for local townships or counties to provide broadband access to the internet.

Communication During Emergencies

A major issue emerging from the data is the role of online communication methods in supporting or inhibiting school and community partnerships during the pandemic. Due to extended school closures, communication became a vital part of reaching the parents/guardians of students. Focus group interviews suggest that school or district websites became important sources of information on the pandemic (e.g., masking requirements, vaccination information) to the community at large. Thus, during periods of extended closure, districts and schools became essential to broader disaster or public health mobilization in rural communities. It will be critical for rural districts to be able to use online means of communication to connect with and provide multiple services to rural communities.

The researchers found several areas involving poor or problematic communication. The survey found that the most popular communication channels for rural school districts were digital channels, such as district websites, social media, and text messaging/SMS platforms. Unfortunately, when paired with the findings that many rural areas have little or spotty internet coverage, this leads to a concern that historically marginalized groups (such as students living in poverty, students with disabilities, second language learners, and students of color) are being inadvertently left out of critical communications. The research also found vast inconsistencies in rural district websites and planning documents, especially in their levels of detail and topical coverage. This limited the sharing of important information to students, parents, and other members of the community.

Of the communication strategies surveyed, those that were most frequently employed were digital strategies, such as district websites, social media, and text messaging/SMS platforms. These were used by over half of the school leaders surveyed. Again, paired with the findings that many rural schools have little or spotty internet coverage throughout their districts, these strategies suggest a logical disconnection taking place, particularly for historically marginalized groups such as students living in poverty, students with disabilities, or second language learners. The wide range of differences observed in reviewing the websites suggests that rural school districts should have a plan for how their websites are intended to be used in emergency closures, and how district and school websites can coordinate the display of information.

Analysis of both district planning documents and district websites during the pandemic showed a great degree of variation and wide disparities in the quantity and level of detail of information provided. Given the heterogenous nature of rural school districts, creating standard templates for district websites, Continuity of Education Plans, and other documents may **not** be beneficial. Rather, providing districts with several different templates for web pages that could then be customized to meet local needs would help to ensure that district web pages would be more useful to communities in times of emergency closings. Similarly, providing examples of detailed CEP to districts, or providing checklists of topics or issues that are frequently addressed, could also help rural districts craft more detailed planning documents that are tailored to the specific needs of each community. Additionally, the Pennsylvania Department of Education might consider holding workshops or providing workshops at IUs to assist rural districts in preparing emergency planning documents and in upgrading their websites.

The survey revealed that nearly all districts used an automated phone system, a strategy that is more direct than email or website announcements, but also has its limitations. Only simple messages can be conveyed via recorded calls or texts. This approach also presents challenges for parents and guardians of students lacking adequate cell phone service, or parents who are unable to receive such messages during their regular work hours. The researchers recommend that superintendents use a broad range of communication technologies to successfully manage and prioritize tasks during the pandemic and suggest the following priorities to support rural districts:

- Create detailed district-level communication plans that use a range of media and provide the community with access to important planning documents as well as timely updates.

- Increase school funding to assist in the identification and support of students with mental health concerns or to provide incentives to bring mental health providers to rural areas during periods of extended school closure.
- Supplement special education funds during times of closure to provide extra support for online services.

Unique Conditions of Rural Schools

Related to this theme of communication, one of the greatest challenges during the pandemic and a common complaint voiced by rural school district superintendents and IU executive directors was the constantly changing nature of state and federal guidelines. This situation placed district administrators in stressful and contentious positions with their school boards, parents, and their communities. Not only were they required to administer shifting policies and guidelines passed down to them, but they had to face the anger and frustrations of their communities over changing rules that they had no control over, such as masking and vaccination policies. One study participant explained the trying situation:

“The schools had to enforce state mask mandates in order to protect the students. The community, depending on their political beliefs or personal preferences, did not agree with the mandates and would openly argue with the school if their child was in trouble for not following the mask rules.”

As noted in the Delphi study, many rural residents experienced the pandemic as a set of distinct phases. In the first phase, schools were important centers of information and provision of essential services. Most extracurricular and community functions centered in schools were disrupted during the early phase of the pandemic, so communications from the school appeared to help rural communities respond to the shock of widespread emergency school closure. However, as the pandemic wore on, differences in access to distance education, frustration with online education, and growing concerns about student isolation and mental health raised new challenges for schools to address. Survey respondents also noted that the pandemic led to student flight from rural Pennsylvania districts to cyber charters. COVID-related departures of 50 or more students simply did not happen at the larger districts in the sample. Of the 37 districts reporting 50 or more students departing the district, 16 were schools with 2018 enrollments of less than 2,500, suggesting that small rural schools were susceptible to high proportions of student flight. Here again, the ability of small districts to provide quality online instruction and provision of services may play a role in parental decisions to shift students to cyber charters.

The studies identified crucial commonalities and concerns over the course of the pandemic. However, one of these common concerns was the sense that the special needs and circumstances of rural areas were often overlooked and unaddressed. The descriptive reports of the focus group participants reveal the many unique challenges that Pennsylvania’s rural school districts experienced because of the pandemic and the resulting school closures and that despite commonalities, the rural school experience of the pandemic was not uniform. Especially in the later phases of the pandemic, some districts experienced significant community resistance to state masking mandates and schools became the object of constituent frustration.

Policies should consider the heterogenous nature of rural districts and allow administrators flexibility in implementing strategies. In the same way, districts appear to vary considerably in the degree to which they require support in implementing distance learning and adhering to evidence-based instructional design principles for online instruction. While teachers, school board members, parents, and administrators all were united in identifying the policies listed below, they were equally vocal in rejecting the idea that a one-size-fits-all model of policy application works for Pennsylvania's rural schools.

Overall Considerations

Drawing on policy initiatives provided in the open-ended survey questions and focus group interviews, stakeholders surveyed in the Delphi process were consistent in ranking the following as high or highest priority:

- Increase funding for municipalities or counties to provide access to broadband internet.
- Provide tax incentives to companies that bring broadband access to rural areas.
- Provide free internet hotspots or financial assistance to families of school-age students with financial hardships during periods of emergency closure.
- Supplement special education funds during times of closure to provide extra support for online services.
- Increase state-level monitoring of cyber charter schools to ensure they adhere to Pennsylvania Department of Education guidelines for quality of instruction.
- Increase funding to assist in the identification and support of students with mental health concerns or to provide incentives to bring mental health providers to rural areas.
- Expand mental health services for teachers.
- Create or expand funding programs for 1:1 computing initiatives in schools.
- Provide technology workshops for families on how they can assist and support their child when taking online courses and help ensure student attendance.
- Provide more extensive teacher professional development in online instruction and online technologies and provide more online teaching tools.
- Develop and make available a common online education platform for all school districts to be used as a base of virtual instruction for any emergency school closure situation.
- Develop a mechanism to pool and share resources among adjacent districts and increase communication between district leaders.

CONCLUSIONS

The very real problems faced by Pennsylvania's rural schools can only be addressed by remedial actions that consider their actual needs and situations. In the long-term, coordinating policies and procedural recommendations between state agencies to provide consistent guidelines for schools would help rural school districts be more stable during periods of extended

school closure. The study participants suggested that more autonomy might be given to rural districts. One suggestion was to “allow districts to make individual decisions based on what is best for the students they serve, as opposed to mandating rules that may not work for all.”

Another aid would be to have state-level messaging consistent over time, and to better communicate changes in guidelines from the state level. Several superintendents suggested that the Governor’s office, the Department of Education, and the Department of Health host focus groups involving rural, urban, and suburban school district superintendents to gain important insights related to their particular local concerns, and to offer opportunities for collaboration in times of crisis and beyond. Their very real problems can only be adequately addressed by solutions that take their actual needs and situations into account. Under emergency closure conditions, it is critical for there to be clear communication across all levels of government to reduce conflicting messages. As one administrator noted there is:

“.. tension that is just built into our system of government, and there is no real answer. So regardless of mandates, ... in Governor Wolf's eyes, I'm sure he's doing what he thinks is right for all people of Pennsylvania. And then state legislators... think they're doing right by their constituents, and the school board members are absolutely doing what they think is right for theirs. And there's no quick answer to that built-in tension.”

Because the changing nature of the pandemic, the perceived conflict in messaging, and the limited resources of rural schools, many school districts experienced a significant shift in community sentiment over the course of the pandemic. One administrator expressed that “instead of being an educator, I’m becoming a politician.” Rural school districts also had to handle the majority of contact tracing with little help from the Pennsylvania Department of Education or the Department of Health, at a time when districts were already stretched for resources and their staff was overworked. During the pandemic, schools became the primary organization for virus mitigation in rural areas and consequently became the focal point of local anger about the ongoing complexity of changing rules and mandates. An executive director of an IU stated that the state was “tone deaf to rural needs” and many others in the research study voiced similar sentiments.

There was broad stakeholder support for increased internet access and funding, expanding 1:1 initiatives, better monitoring of online education and increased support for mental health services, professional development, and consistent online communication and coordination during times of closure. To achieve successful policy solutions to these needs, the active participation of members of rural districts will be needed. In closing, the researchers wish to emphasize the final recommendation from the Delphi study: *“develop a mechanism to pool and share resources among adjacent districts and increase communication between district leaders.”* It is essential that rural school district stakeholders be part of the process of creating new policies and programs that can benefit the broadest range of schools.

Appendix 1: Institutional Review Board Letters

EXEMPTION DETERMINATION

Date: May 7, 2021

From: Amy Sellers, IRB Analyst

To: Gerald LeTendre

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are not required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

We would like to know how the IRB Program can better serve you.

Please fill out our survey; it should take about a minute:

<https://www.research.psu.edu/irb/feedback>.

ID27

Penn State researchers are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within CATS IRB (<http://irb.psu.edu>).

This correspondence should be maintained with your records.

EXEMPTION DETERMINATION

Date: September 20, 2021

From: Amy Sellers, IRB Analyst

To: Gerald LeTendre

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are not required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

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Penn State researchers are required to follow the requirements listed in the HRP- 103 – Investigator Manual, which can be found by navigating to the IRB Library within CATS IRB (<http://irb.psu.edu>).

Investigators are responsible for reviewing the History tab of their STUDY in CATS to ensure that any administrative HRPP requests are addressed in a timely manner.

This correspondence should be maintained with your records.

Appendix 2: Preliminary NVivo Categories

NVivo Code/Category	Text Search term Used	Include Stemmed Words?	NVivo Code
device hardware	Device	Yes	Device txt
device hardware	Hardware	Yes	Hardware txt
device hardware	Chromebook	Yes	Chromebook txt
device hardware	iPad	Yes	iPad txt
device hardware	Tablet	Yes	tablet txt
device hardware	"cell phone"	No	cell phone txt
device hardware	"cell phones"	No	cell phone txt
device hardware	hotspot	Yes	hotspot txt
device hardware	"1:1"	No	one to one text
device hardware	"one to one"	No	one to one text
device hardware	raspberry	Yes	uncoded - no hits
device hardware	datacast	Yes	uncoded - no hits
device hardware	assistive	No	assistive txt
online communication	"online communication"	No	online communication txt
online communication	email	Yes	email txt
online communication	"social media"	No	social media txt
online communication	website	Yes	website txt
online communication	robocall	Yes	robocall txt
online communication	twitter	Yes	twitter txt
online communication	tweet	Yes	twitter txt
online communication	Facebook	Yes	Facebook txt
online communication	Instagram	Yes	Instagram txt
online communication	"text message"	No	text message txt
online communication	"text messages"	No	text message txt
online communication	"texts"	No	text message txt
online communication	chat	Yes	chats txt
online communication	"board meetings"	No	virtual meetings txt

online communication	"information system"	No	student information systems txt
online learning platforms	"google classroom"	No	google classroom txt
online learning platforms	canvas	No	canvas txt
online learning platforms	schoolology	No	schoolology txt
online learning platforms	Moodle	No	Moodle txt
online learning platforms	edgenuity	No	edgenuity txt
online learning platforms	seesaw	No	seesaw txt
online learning platforms	PowerSchool	No	PowerSchool txt
online learning platforms	blackboard	No	blackboard txt
online learning technologies	"online learning technology"	No	uncoded - no hits
online learning technologies	Zoom	No	zoom txt
online learning technologies	"Microsoft teams"	No	teams txt
online learning technologies	"google meets"	No	google meets txt
online learning technologies	Nearpod	No	Nearpod txt
online learning technologies	Kahoot	No	kahoot txt
online learning technologies	mentimeter	No	uncoded - no hits
online learning technologies	eBook	Yes	ebooks txt
online learning technologies	Khan	No	khan academy txt
Internet access	internet	No	internet txt
Internet access	"internet access"	No	internet access txt
Internet access	Wi-Fi	No	wifi txt
Internet access	broadband	No	broadband txt
Approaches to learning	hybrid	No	hybrid txt
Approaches to learning	flipped	No	flipped txt
Approaches to learning	blended	No	blended txt
Approaches to learning	synchronous	No	synchronous txt
Approaches to learning	asynchronous	No	asynchronous txt
Approaches to learning	personalized	No	personalized txt
Approaches to learning	"competency based"	No	competency based txt

Approaches to learning	"project based"	No	project based txt
Approaches to learning	"standards based"	No	standards based txt
Approaches to learning	"universal design"	No	universal design for learning txt
Approaches to learning	UDL	No	universal design for learning txt
Disability ADA	ADA	No	ADA txt
Disability ADA	disability	Yes	disability txt
Disability ADA	"special education"	No	special education txt
Gifted Education	gifted	No	gifted txt
Gifted Education	talented	No	talented txt
Grades/grading	assessment	No	assessment txt
Grades/grading	assessments	No	assessment txt
Grades/grading	grading	No	grading txt
Grades/grading	"report card"	No	report card txt
Grades/grading	"report cards"	No	report card txt
Grades/grading	"progress reports"	No	progress report txt
Grades/grading	"progress report"	No	progress report txt
Grades/grading	summative	No	summative txt
Grades/grading	formative	No	formative
IEP and 504s	"individualized education plan"	No	IEP txt
IEP and 504s	"individualized education plans"	No	IEP txt
IEP and 504s	IEP	Yes	IEP txt
IEP and 504s	504	No	504 txt
Mental Health	Mental	No	mental health txt
Mental Health	counsel	Yes	counseling txt
Mental Health	"social work"	No	social work txt
Mental Health	"social worker"	No	social work txt
Mental Health	"social workers"	No	social work txt
Mental Health	"social emotional"	No	social emotional txt

Coordination/distribution of meals	meal	Yes	meal txt
Coordination/distribution of meals	breakfast	Yes	breakfast txt
Coordination/distribution of meals	lunch	Yes	lunch txt
Support for non-identified students	tutor	Yes	tutoring txt
Support for non-identified students	"home visit"	No	home visit txt
Support for non-identified students	"home visits"	No	home visit txt
Support for non-identified students	"community partnership"	No	community partnership txt
Support for non-identified students	"community partnerships"	No	community partnership txt
Support for language learners	EL	No	EL txt
Support for language learners	ELL	No	ELL txt
Support for language learners	"English language learner"	No	English language learner txt
Support for language learners	English language learners	No	English language learner txt
Support for language learners	"English as a second"	No	English as a second txt
Support for language learners	ESL	No	ESL txt

Appendix 3: Survey Questionnaire

Distance Learning and Online Coordination of Service in Pennsylvania's Rural School Districts

Start of Block: Introduction Page

Q1 You are being invited to participate in a research study entitled: Distance Learning and Online Coordination of Service in Pennsylvania's Rural School Districts. The principal investigator is Prof. Gerald K. LeTendre (814-863-3771). This study examines Pennsylvania's rural schools use of distance learning, online service coordination, and online planning for medium and long-term school closure. The survey you are being asked to take part in is administered via Qualtrics and will take 20 minutes to complete. The survey asks about your district's resources, procedures, and staffing decision during the COVID pandemic and how they affected the provision of distance learning and online coordination of noneducational services. Unless otherwise indicated, all questions relate to the period from March 2020 to March 2021.

End of Block: Introduction Page

Start of Block: District Information and Infrastructure

Q2 What is the name of your school district?

Q3 Does the district employ a designated technology director?

- Yes (1)
- No (2)

Q4 What Learning Management System (LMS) does your district use? (Choose all that apply)

- We do not use an LMS (1)
- Canvas (2)
- Moodle (3)
- See Saw (4)
- Schoology (5)
- Blackboard Learn (6)
- Google Classroom (7)
- Other (please list) (8) _____

Q5 What Student Information System (SIS) does your district use? (Choose all that apply)

- Sapphire (4)
- PowerSchool (5)
- Skyward (6)
- We do not use an SIS (7)
- Other: (8) _____

Q6 Does the district have an online Parental Access Center?

- Yes (1)
- No (2)

Q7 Do the schools in your district provide hotspots to students who lack internet access?

- Yes (1)
- No (2)

Q8 Prior to the pandemic, did any schools in the district have a 1:1 initiative for devices like chrome books, tablets, etc.? If your district has 1:1 initiative, what levels are included (e.g., K-2, 4-6 , middle, and high)?

- Yes (1) _____
- No (2)

Q9 About how many students in the district do not have reliable internet? _____

Q10 Prior to the pandemic, did your district already use distance learning (fully remote or blended/hybrid) for any students:

- Yes (1)
- No (2)

Q11 Prior to the pandemic, did your district operate a cyber school (virtual school academy)?

- Yes (1)
- No (2)

Q12 Were you involved in planning stages for in the Pennsylvania Department of Education Datacasting initiative?

- Yes (1)
- No (2)

End of Block: District Information and Infrastructure Start of Block: Initial Pandemic Response

Q13 During the Pandemic, were you ever forced to shut down face-to-face instruction for a period of time?

- Yes (1)
- No (2)
- If yes, how many days (4) _____

Q14 Did your district utilize your Continuity of Education Plan during the pandemic?

- Yes (1)
- No (2)

Q15 Did your district utilize your Flexible Instructional Day Program during the pandemic?

- Yes (1)
- No (2)

Q16 Think back to March of 2020. In the first few weeks of the pandemic, can you recall any initial measures that the district took in response to school closings?

End of Block: Initial Pandemic Response Start of Block: Broadband and Device Access during the Pandemic

Q17 During the pandemic, reliable broadband/high speed internet access for remote learning during the pandemic was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q18 During the pandemic, how much did availability of reliable broadband/high-speed internet affect your districts' ability to organize learning and service provision online?

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q19 During the pandemic, did your district either expand or initiate a 1:1 initiative for devices such as Chromebook, iPad? If so, what levels were included (e.g., K-2, 3-6, middle, and high)?

- Yes (1) _____
- No (2)

Q20 During the Pandemic, did the district or district schools provide mobile hotspots or other devices to allow teachers to carry out instruction?

- Yes (1)
- No (2)

Q21 During the Pandemic, did your district provide hotspots or other broadband/high speed internet options to student and families?

- Yes (1)
- No (2)

Q22 During the Pandemic, did schools in the district provide laptops, chrome books or other devices for students in order to enable them to attend classes online?

- Yes (1)
- No (2)

End of Block: Broadband and Device Access during the Pandemic Start of Block: Instruction and Distance/Online Learning during the Pandemic

Q23 During the pandemic, teacher access to broadband/internet for instruction was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q24 During the pandemic, student access to broadband/internet for instruction was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q25 During the pandemic, teachers found that shifting instruction to online (Zoom, Google classrooms, etc.) was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q26 During the pandemic, holding IEP meetings online (Zoom, Google classrooms, etc.) was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q27 During the pandemic, providing learning support or special education services online (Zoom, Google classrooms, etc.) was:

- Not a barrier (1)
- Somewhat of a barrier (2)
- Moderate barrier (3)
- Extreme barrier (4)

Q28 Did schools in the district create and distribute physical packets of materials (e.g., worksheets) during the pandemic?

- Yes (1)
- No (2)

Q29 For district-run cyber school or virtual academies during the pandemic, which materials and resources did you use?

- Not Applicable (1)
- Vendor purchased course materials (2)
- Teacher created course materials (3)
- Mix of teacher and vendor created course materials (4)
- Other: (5) _____

Q30 Approximately how many students left the district to attend charter cyber schools during the pandemic?

- None (1)
- 1-9 (2)
- 10-19 (3)
- 20-29 (4)
- 30-39 (5)
- 40-49 (6)
- 50 or more (7)

Q31 Overall, what had the greatest impact on your ability to provide distance education or other online services support during the pandemic?

End of Block: Instruction and Distance/Online Learning during the Pandemic Start of Block: Community Engagement during the Pandemic

Q32 How did your district communicate emergency announcements during the pandemic (i.e. did you employ your website, social media, local radio, or television, etc.)?

- District Website (1)
- Local Radio or Television (2)
- Social Media (3)
- Print Newspapers (4)
- Electronic Newsletters (5)
- Text Messaging/SMS (7)
- Automated Phone Call System (8)
- Other: (9) _____

Q33 Which of the following services to students and families (e.g., pick-up meals, health checks, etc.) did your district provide during the pandemic?

- Food/Free Breakfast/Lunch Distribution (4)
- Health/Wellness Checks (5)

- Home Visits (6)
- Library Access (7)
- Technology Support (8)
- Counseling and Mental Health Services (9)
- Transportation (10)
- Other: (11) _____

Q34 Did your district receive any funds from outside the district to support provision of community services during the pandemic?

- Yes (1)
- No (2)

Q35 Were any of the following suspended or interrupted during the pandemic:

- Sports or Athletics Events (1)
- Music, Orchestral or Choral Events (2)
- Non-athletic Student Clubs (3)
- PTO meetings (4)
- Community Event Use of School Facilities (5)
- School Library access (6)
- Other: (7) _____

Q36 Did you coordinate any other community organization to coordinate service online through your school or district websites?

- No (4)
- Yes (5)
- If yes, please list (6) _____

End of Block: Community Engagement during the Pandemic Start of Block: Professional Development during the Pandemic

Q37 Did your district organize professional development for teachers regarding online teaching or use of online instructional material during the pandemic?

- Yes (1)
- No (2)

Q38 Did the district or district schools review and post online resources for teachers on district or school websites during the pandemic?

- Yes (1)
- No (2)

Q39 For district administrators, identifying adequate training or professional development for teachers about online instruction was:

- Not a priority (1)
- Low priority (2)
- Moderate priority (3)
- High priority (4)

Q40 Providing professional development in online instruction for teachers was limited by:

- Teacher time constraints (1)
- Funding (2)
- Lack of teacher interest (3)
- Poor quality of materials (4)
- Teacher access to broadband or internet (5)
- Collective bargaining agreements (6)
- Other: (7) _____
- No problems arose (8)

End of Block: Professional Development during the Pandemic Start of Block: Effective Policies and Practices

Q41 Overall, what were three greatest challenges your district faced during the pandemic?

Q42 Were there any specific practices employed in your district that you found especially useful? (feel free to use bulleted points)

Q43 Please share any ideas about what next steps need to be in place to help rural districts more effectively use distance education? (e.g., lack of broadband access, lack of trained technical support, family access to technology)

End of Block: Effective Policies and Practices

Appendix 4: Survey Completers vs. Non-completers

	Total Rural Districts	Number of Districts Completing Survey	Response Rate	Total Non-Completers		
	235.00	116.00	0.49	119.00		
Selected Variables	All Rural Districts Mean	All Rural Districts Standard Deviation	Completers Mean	Completers Standard Deviation	Non-Completers Mean	Non-Completers Standard Deviation
2018 Population	13266.00	9477.00	14067.00	10178.00	12641.00	8881.00
Percentage White Only, 2018	0.96	0.04	0.95	0.05	0.96	0.04
Single Parents with Children <18 (No Spouse) Households, 2018	0.07	0.02	0.07	0.02	0.07	0.02
Percentage Households with Children, 2018	0.27	0.03	0.27	0.04	0.28	0.03
Average Household Income, 2018	67781.04	10358.65	67662.04	10453.43	67873.89	10323.03
Percent Poverty Rate for Children, (<18), 2018	0.17	0.07	0.17	0.08	0.17	0.07

Total Number of Students Enrolled K-12, 2018	1975.00	1480.00	2067.00	1593.00	1904.00	1387.28
Percent K-12 Students Enrolled in Public Schools, 2018	0.89	0.07	0.89	0.06	0.88	0.08
Number of Classroom Teachers, 2017-2018	120.00	82.00	126.00	84.00	115.00	79.55
Number of Students per Classroom Teachers, 2017-2018	14.00	1.76	14.04	1.62	13.97	1.87
Total Revenues (in \$1000), 2017-2018	29960.09	22964.33	30979.78	22997.84	29164.43	22994.15
Percentage Revenues from Local Sources, 2017-2018	0.43	0.14	0.43	0.13	0.43	0.14
Expenditures per Student (ADM), 2017-2018	17538.52	2863.24	17230.56	2556.14	17778.82	3069.83

Appendix 5: Focus Group Protocol

This group interview with other rural school leaders will focus on how events playing out now in your school and district during the earliest days of the pandemic. The interview will be recorded and will last between 60-90 minutes. To protect your anonymity, we will record the sound only. We will begin by asking you to reflect on how your district initially responded to the pandemic, and what specific practices or resources — in terms of distance learning and online coordination of noneducational services — were used. We will then ask them to reflect on the experience and identify any specific practices that you think would be especially useful in future events of extended school closings. We will ask you to reflect on the current situation as we enter the 2021-2022 school year facing another round of pandemic due to the Delta variant.

More information about the study and contact information can be found on the “Consent for Exempt Research” sheet that was emailed to you. Before we begin, I would like to remind you that your participation is voluntary, and you may decide to stop at any time. You do not have to answer any questions that you do not want to answer.

First, let's go around and briefly introduce ourselves by name and the school district we are from.

Questions

1. Now, to get started, can you think back to March 2020 and reflect on how your school district initially responded to the school closing?

Prompt: Any issues on transitioning to online/distance education to include broadband access, devices?

Prompt: Any issues arriving regarding provision of noneducational services (e.g. meal distribution)?

2. Now, let's shift gears a bit. In a survey of rural school districts that we did, these were the top three topics that respondents identified as their greatest challenge during the pandemic: student engagement/motivation; changing state guidelines; lack of internet and broadband. How do these align with your experience?
3. Given the influx of additional funding to support districts (CARES Act, CRISA Act, ARP Act and ESSER Funds), what are your funding priorities?
4. How would you compare the start of the 2021-2022 school year with last year? Do you see improvements that have been made, conditions surrounding vaccinations/mask polarization, increased funding etc.
5. Would you please share any ideas about what next steps need to be in place to help rural districts more effectively use distance education? For example, our survey identified issues like family access to technology; affordable broadband access; that sentiment that local townships need to be involved with the push for better internet access; teacher professional development, especially a review of best practices focused on instructional practices.

Prompt: Are there any other changes that will stay?

Prompt: What else might you anticipate happening?

6. Is there anything else you want to add?

Appendix 6: Delphi Protocol

Delphi Study of Policy Recommendations for Pennsylvania Rural Schools

Wave 1

Thank you for taking part in this study. This research is being conducted by Dr. Gerald LeTendre (Professor of Educational Leadership, Penn State University) and Dr. Peggy Schooling (Executive Director, Pennsylvania School Study Council) under a grant from the Center for Rural Pennsylvania. The study has been reviewed by the Penn State Institutional Review Board (IRB # 00018561). If you have any questions, you may direct all questions to Gerald LeTendre (email: letendre@psu.edu; telephone: 814-863-3771).

The Delphi Process structures group communication to identify key areas of consensus or disagreement around a complex process. For this research we want to draw on your experiences from the COVID-19 pandemic. We want to ask you to consider what policies (local, regional, or state) would help Pennsylvania’s rural schools to effectively plan for future school closure events. As a member of one of the major public education stakeholder groups, your views and opinions are crucial to identifying policy solutions that can gain widespread support.

Your participation in this research is voluntary. This is the first of three online surveys you will be asked to complete between November and January of 2022. Each survey should take about 20 minutes to complete. We will use code numbers to protect your privacy and data will be stored on secure University computers or servers. Your research records can be opened by court order. Your records also may be provided in response to a subpoena or a legal request for the production of documents.

You may choose not to answer any question, and you may withdraw from the study at any time without consequence or follow-up. You will not be identified in any publications or reports that result from the study. We will share the results of the study with you.

Q1: If you agree to participate in the survey please click “yes” to continue:

- Yes
- No

Q2. Please enter the code number you were sent in the recruitment letter:

The Pandemic

First, we need to understand the nature of the problem. How did the COVID-19 pandemic affect schools from your viewpoint? Some have characterized the pandemic as happening in three distinct phases.

Q1: The Pandemic proceeded in phases:

- 0 1
- No Yes

Q2: If you think the Pandemic had distinct phases, please list them below as bullet points:

Q3: Overall, did community and school relationships change over the course of the pandemic?

Q4: Overall, how did the ability of schools to respond to the pandemic change over the course of the pandemic?

Q5: What other aspects of the pandemic do you think are important to consider?

Problems

What aspects of schooling were most affected by the initial school closings during pandemic?

Please consider the impact of the initial closure (March 13, 2020).

Q1. The impact of the pandemic on of the delivery of instruction was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q2. The impact of the pandemic on of the delivery of meals and nutritional programs was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q3. The impact of the pandemic on of the delivery of counseling and mental health services was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q4. The impact of the pandemic on of the delivery of special education services or IEP related services was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q5. The impact of the pandemic on athletic practices and events was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q6 The impact of the pandemic on extracurricular events and clubs was:

1	2	3	4	5
Very				Very
Minimal				Severe

Q7: What other aspects of the schools' functioning were affected by the Pandemic? (e.g. staffing, transportation, technology, food, etc.)

Solutions

We conducted focus groups to identify concrete policy proposals or initiatives that could help rural schools better prepare for future school closings. Please rank these from 1 – Lowest Priority to 5 – Highest Priority.

Q1. Provide increased funding for local townships or counties to provide broadband access to the internet.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q2. Provide training grants for school districts to work with families on how they can assist and support their child when taking distance/online courses.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q3. Create financial assistance programs for families to purchase/access home technologies (e.g., computers, hotspots).

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q4. Provide tax incentives to companies that can bring broadband access to rural areas.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q5. Provide rural districts with funds to support teacher professional in online instruction and online technologies.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q6. Create a superintendent taskforce or oversight committee to monitor and assure that health and education guidelines issues during emergencies reflect local concerns.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q7. Supplement special education funds during times of closure to provide extra support for online services.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q8. Provide increased support for contact tracing during closures due to infectious diseases.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q9. Increase state-level monitoring of cyber charter schools to ensure they adhere to PDE guidelines for quality of instruction.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q10. Provide grants to school districts or counties aimed at developing partnerships between schools and community members.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q11. Create or expand funding programs for 1:1 computing initiatives in schools.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q12: Provide crisis management training or other forms of communication training for rural school district administrators and teachers.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q13. Amend Public School Code to allow for greater flexibility in meeting instructional hours and days requirements.

1	2	3	4	5
Lowest				Highest
Priority				Priority

Q15. Please provide up to three additional policy recommendations you believe would benefit rural districts in using online education during periods of school closure.

Thank you for your response.

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