The Costs of COVID: A Comparative Analysis of K-12 curriculum delivery in Illinois & Iowa Rural School Districts as a Result of Varying Pandemic Mandates

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Abstract

In March 2020, COVID-19 resulted in school closures for the remainder of the 2019-2020 school year across the nation. Because of the pandemic predictions regarding the 2020-2021 school year, concerns regarding curricular offerings and delivery surfaced quickly. A non-experimental quantitative comparative study was conducted in two neighboring Midwestern states with different directives for the 2020-2021 school year. The attribute of rurality became important to this study regarding curricular offerings and delivery because of challenges related to the access of technological resources in rural areas. This non-experimental quantitative comparative study focused on Illinois, where 20.8% of its public schools are rural and Iowa, where over half of its public schools are rural. Purposive sampling was used and superintendents from rural public districts were invited to complete an online survey. Research questions focused on how state mandates impacted curriculum offered, curriculum delivery strategies used, and professional development on remote learning provided to teachers before the start of the 2020-2021 school year. The overall survey return rate was 22.30% with 67% from Illinois and 33% from Iowa. Most respondents worked in districts with enrollments of 1 to 999 students. The theoretical framework for this study was the top-down theory of policy implementation wherein top decision-makers assume a command and control orientation, generating clear and definite policies/strategies that are communicated to others to implement. This study is important because it provides superintendents with a reference point for how mandated state policies can impact student achievement through both curriculum and its delivery.

Keywords: *curriculum, return-to-learn, rural schools, policy implementation, top-down theory*

America is not like a blanket: one piece of unbroken cloth, the same color, the same texture, the same size. America is more like a quilt: many patches, many pieces, many colors, many sizes, all woven and held together by a common thread.
—Jesse Jackson

Introduction

Throughout the nation's history, one of the most enduring and common threads that has held American society together is that of public K-12 education. Education, as that common thread, is

the institution through which society provides its members with important knowledge, skills, values, and cultural norms (Macionis, 2005). While there are wide-ranging models and settings in which K-12 education is delivered, each contains certain commonalities through which the metaphor of the quilt is evident: 1) diverse learners (one resource); 2) curriculum content to be taught and assessed (the material); 3) instructional strategies to be implemented (the patterns); and 4) technologies to be used in teaching and learning (the tools). Finally and most importantly, the community and the people who serve the learners make up the strength of the K-12 public education quilt.

Collectively and periodically, the seams of the American education quilt have been stretched because of mandated education reform, but nothing has pulled at its seams as immediately and drastically as the March of 2020 declaration of the COVID-19 pandemic. As a result of this pandemic and the varying state mandated policies for the delivery of education during it, there have been and continue to be lasting effects at all levels of educational systems, and on the people who serve in them. This paper discusses study findings regarding how differing state-mandated policies impacted the delivery of education in rural public K-12 systems in the two neighboring Midwestern states of Illinois and Iowa.

Rurality as Foundational in this Study

When the term "rural" is mentioned, it quickly brings to mind images of open spaces, farms, and small towns and these settings are indeed the most likely locations for K-12 rural public schools and their districts (Cromartie & Bucholz, 2008). Mann et al. (2017) note that almost 30% of all American public schools are rural and educate approximately one-fifth of all public school students. While states may differ in their percentages of rural schools (ranging from 8.6% to 74.4%) the national average for the percentage of rural schools in the United States is 28.5% (Showalter et al., 2019). According to 2019 data from the National Center for Education Statistics (NCES), the average rural school in the country housed 368 students during the fall of 2019 (National Center for Education Statistics, 2019).

Rural and Rurality Defined

The definition of "rural" varies by organization and takes into account population density and geographic isolation or boundaries. Among federal agencies in the nation alone, there are more than two dozen rural definitions being used (Cromartie & Bucholz, 2008). For example, while the United States Census Bureau defines "rural" as encompassing all population, housing, and territory that is not included within an urban area (United States Census Bureau, 2022), the United States Department of Agriculture Economic Research Service defines it as places or towns with fewer than 2,500 people (United States Department of Agriculture Economic Research Service, n. d.).

Ruff (2020) points out that there is no standard definition for the term "rural". Due to this lack of a standard definition, there is potential for confusion resulting from the varied definitions that do exist. Therefore, researchers must choose an appropriate definition from those that exist for their research studies, and for this study, it was essential that a commonly used definition of rural (for both Illinois and Iowa) be used.

One such appropriate available definition for use was that which comes from the NCES. Working in conjunction with the United States Census Bureau (U. S. Census Bureau), NCES has assigned each school district a locale code which designates it as one of the following four basic

types: city, suburban, town, or rural. Within each of these types are three subtypes. City and suburban each have the three subcategories of "large," "midsize," and "small" while town and rural each have the three subcategories of "fringe," "distant," and "remote" (Geverdt, 2017).

"Rural-Fringe" (NCES locale code #41) is defined as a "Census-defined rural territory that is less than or equal to 5 miles from an Urbanized Area, as well as rural territory that is less than or equal to 2.5 miles from an Urban Cluster" (National Center for Education Statistics, n.d., Locale Definitions). Using this same resource, "Rural-Distant" (NCES locale code #42) is defined as a "Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an Urbanized Area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an Urban Cluster. Finally, citing the same source, "Rural-Remote" (NCES locale code #43) is defined as a "Census-defined rural territory that is more than 25 miles from an Urbanized Area and also more than 10 miles from an Urban Cluster." It is important to note that in creating these definitions, the NCES and the U.S. Census Bureau did not use student enrollment numbers as the definition's basis. Therefore, some districts with larger enrollments have been assigned a rural locale code due to their geographic location.

General Rural Characteristics of Illinois Public Schools

Small rural school districts in Illinois equate to 57.6% with one in five Illinois schools (20.8%) being located in a rural area (Showalter et al., 2019) and the average Illinois rural school has just over 2 school buildings (Yun & Kinkley, 2019). The overall rural student population in Illinois (8.7%) reflects: 1) stable residences with low racial diversity and poverty rates; 2) nine out of ten students graduating in four years; and 3) a high rate of students who qualify for individualized education services (Showalter et al., 2019).

General Rural Characteristics of Iowa Public Schools

One in three of Iowa's public school students are served by rural schools with half of Iowa's schools being located in rural districts (Showalter et al., 2019). As of April of 2022, Iowa had 327 K-12 public school districts of which 104 had fewer than 500 students (Mensching, 2022). Iowa rural students tend to be less diverse than those nationally (Showalter et al., 2019).

The Illinois and Iowa Rural Superintendent Study on K-12 Curriculum as a Result of Varying Pandemic Mandates

Background of the Study

The worldwide COVID-19 pandemic was declared on March 11, 2020 by the World Health Organization, and countries were implored to take action to contain the virus (Cucinotta & Vanelli, 2020; World Health Organization, 2020). Suddenly, public education systems were thrust into mass disruption. Phrases such as "quarantine," "social distancing," and "contact tracing" became part of the daily conversations among leadership, and city, suburban, town, and rural school districts alike were forced to close in domino-like fashion throughout the nation. Ohio was the first state to close its K-12 public schools for a tentative period of time on March 12, 2020 (Education Week, 2020; Ujifusa, 2020). By the end of the next day, Illinois was among fourteen other states to make the same tentative closure decision (Ujifusa, 2020). Iowa quickly followed on March 15 (Education Week, 2020). Eventually, all states, after playing a game of "wait and see," closed their

doors for any face-to-face or in-person learning for the remainder of the school year by May 6, 2020. The exceptions to this were Wyoming and Montana who kept postponing their decision until the school year expired. Illinois and Iowa made the decision to close for the remainder of the school year on April 17 (Education Week, 2020). As a result of these national closures, the education of nearly 50 million students was affected (National Center for Educational Statistics, 2022; Zviedrite et al., 2021; Ujifusa, 2020). Subsequently, from that point in time and literally overnight, states were relegated to educating students remotely. Student instruction was delivered synchronously with a teacher and students live online or asynchronously through respective district/school software already in use to some capacity (i.e. Google classroom) or with paper and pencil packets on their own at different times (Greener, 2021). While the spring semester of the 2019-2020 school year was rife with new state mandates resulting from the pandemic, so, too, was the upcoming 2020-2021 school year. District leaders found themselves not only complying with these shifting pandemic mandates but also developing specific "return-to-learn" (RTL) plans for the upcoming 2020-2021 school year, all the while not fully knowing what to anticipate. Due to increased public scrutiny of the state mandates issued, the pandemic became even more politicized which impacted the decisions that school district leaders made regarding the delivery of student instruction.

Illinois Specific Educational Mandates (March-May 2020)

From the onset of the pandemic, the response in Illinois was guided by the Illinois state public health agency and focused on ensuring the health and safety of Illinoisans. In late March, following the mandated closure of all 4, 244 schools, affecting over 2.8 million students, the Illinois State Board of Education produced *Remote Learning Recommendations During COVID-19 Emergency*. This document provided information and clarification to district and school leaders, teachers, students, and parents as they designed and implemented remote learning (Illinois State Board of Education, 2020a, p.1). A theme of the guidance outlined by the state board of education was that of consistent efforts in thought, planning, implementation, and monitoring of remote learning. The state board purported that "a school community can be connected and thriving even if the physical school building is closed" (Illinois State Board of Education, 2020a, p. 9).

Further, this document outlined numerous recommendations regarding both instruction and grading. Specifically, the instructional focus was on meeting the needs of learners in a respectful and planful manner, documenting efforts to meet the needs of students from special populations (i.e. multilingual learners and special education), selecting content for remote learning that was aligned with the state standards, and engaging in consistent communication with students, families, and staff to understand how the health emergency was impacting them (Illinois State Board of Education, 2020a, p. 2). Grading recommendations reflected an emphasis on learning rather than compliance, thereby encouraging districts to allow students to redo or make up work assigned prior to the mandated school closure. To allow for such flexibility, districts were challenged to provide alternative assessment measures for all content areas and to include such concessions as electronic submission of assignments. Teachers were to operate under the principle of "causing no educational harm" to any child (Illinois State Board of Education, 2020a, p. 19). It bears repeating that the driving force behind the recommendations for instruction and grading were keeping children engaged in a way that supported emotional safety. An additional concern during this timeframe, and a part of the state issued guidance document, was the well-being of the staff and students. An emphasis on eating, sleeping, exercising, and stress management were among several topics addressed in this document. (Illinois State Board of Education, 2020a, p. 13).

Ongoing professional development designed to meet the remote learning needs of students was noted in the guidance document. Support for educators was of utmost importance, and the document generated ideas that districts could employ to offer opportunities to teachers whereby they could continue to build their skills to meet the remote learning needs of their students. Ideas included scheduling virtual workshops to better understand staff needs and deliver insightful "just-in-time" guidance on pertinent topics (i.e., working with a student who might struggle with online learning), providing staff an annotated hyperlinked bibliography of accessible free resources to support instructional decisions, and providing training on the impact of trauma and stress to support teachers' understanding of how children may have been responding to the stress they were enduring (Illinois State Board of Education, 2020a, p. 14).

Because this guidance document underscored the social emotional needs of students as the driving force of all educational efforts, basic needs of students were of utmost concern. Suggestions regarding supporting student learning during remote instruction were included and emphasized considerations for the length of time students, at a respective grade level, should spend engaged in online/remote learning on any given day. Additionally, the document encouraged a variety of enrichment activities tailored to support overall mental, physical, and spiritual health (Illinois State Board of Education, 2020a, pp. 16-18). Every effort for every Illinois school district during these spring months was to "do no harm" (Illinois State Board of Education, 2020b). This message permeated throughout.

Iowa Specific Educational Mandates (March-May 2020)

In Iowa, the focus of the governor was to keep Iowa's students safe while continuing to provide educational services to all students. The governor held daily press conferences, as did many governors during the early weeks of the pandemic, as decisions relating to education and public safety helped Iowans respond as COVID-19 cases surged throughout the spring months. Flesher (2020b) shares that the directive to close all of Iowa's 1, 322 school buildings was not easy for Governor Kim Reynolds, but it was necessary for safety reasons due to the anticipation of positive COVID-19 cases rising in Iowa. Teachers taught via remote learning and online classes and they were encouraged to be creative in providing services to the over 530,000 now homebound students. Districts scrambled to learn about best practices for online education. Districts recognized that many students did not have internet access from home or because of their remote residential location, they lacked internet access due to a poor internet signal. To try to combat the challenge of access, some districts purchased portable internet hotspots for students who did not have access to the internet or they encouraged parents to access the school's internet from its parking lot (Fleig, Opsahl, & Rolands, 2020). Other districts sought to form a partnership with companies such as Mediacom to connect students, from qualifying households, to broadband internet service in their home, with the district paying for the cost of these connections. Hot spots became ubiquitous, often being the primary source of the internet connection (Bogaards, 2021). The name of the game became improvisation and partnership, and the goal was to mitigate the disparities caused by the digital divide.

To offer support to districts, the Iowa Department of Education (IDoE) instructional support consultants created a bank of webinars for school administrators focused on instructional support for PK-12 students and highlighting the expectations of the IDoE throughout the remainder of the school year. Additionally, the IDoE provided targeted guidance documents for students being served on Individual Education Plans under the umbrella of special education in an effort to

ensure that the parameters of a Free and Appropriate Public Education (FAPE) were being met. The documents referenced guidance underscored by the Office of Special Education Programs (OSEP) and included information about meeting the provision of FAPE, meeting evaluation timelines, completing annual reviews, gathering data, participating in mediation, student extended absences from instruction, and providing Early ACCESS during the time of district closure (Iowa Department of Education, 2020a). Interestingly, Iowa's state board of education was more reserved in its involvement, deferring to the IDoE to assume the dominant role in directing schools regarding guidance for remote learning. In late March, the IDoE indicated their role was to ensure a minimum standard of care while allowing maximum opportunities for growth through flexibility (Flesher, 2020a). They issued a document that focused on the provision of continuous learning that guided districts as they tried to navigate the uncontrollable consequences of the pandemic. The two primary approaches to continuous learning outlined were voluntary enrichment opportunities and required educational services. Similar to Illinois, the IDoE emphasized the voluntary element of the remaining days of the 2019-2020 school year. Neither grades nor credit were awarded and attendance was an engagement indicator rather than a requirement. The focus was to engage students. Table 1 outlines the basic similarities and differences between the two states amidst their initial response to school closures and providing educational opportunities to students.

Table 1: *Comparison of States COVID Spring 2020*

Key Concepts	Illinois	Iowa
Mandated school closing	March 13, 2020	March 15, 2020
Final decision to close for remaining 2019-20 school year	April 17, 2020	April 17, 2020
Students affected by closing	2.8 million	530,000
Attendance	Voluntary	Voluntary
Grading	No make-up of lost time Learning v. compliance No student can fail Credits not denied	No make-up of lost time Learning v. compliance No student can fail Credits not denied
IEP instruction	Remote and focused on minimal to meet FAPE	Remote and focused on minimal to meet FAPE
Professional development regarding remote learning	Direct, Specific, Task Force Collaboration	Indirect, General, IDoE Guidance

As both states hastened to respond to the continued educational needs of their students during the initial weeks of pandemic, the multitude of moving pieces caused some gaps in services, which, while frustrating for parents, educators, and students, was not surprising. What the initial weeks of the pandemic did bear witness to was the undisputed effort of so many dedicated people working in the education sector to do what could be done to serve, in some capacity, the needs of the students. As the end of the spring 2020 semester neared, thoughts shifted to returning to school in the fall for the 2020-2021 school year. Both states worked with their respective public health departments and state departments of education to plan for a safe return to the educational facilities that had been closed to them since March, 2020.

Planning for a 2020-2021 Return to Learning (Illinois)

In the latter parts of June and July, 2020, Illinois disseminated two separate documents to school districts outlining guidance for transitioning to learning for the new school year. The document produced in June was a joint effort with the Illinois Department of Public Health and outlined a plethora of topics associated with reopening schools safely and thoughtfully to in-person

learning (Illinois State Board of Education & Illinois Department of Public Health Working Group, 2020). The second document, published in late July by the Illinois State Board of Education provided "recommendations to educators for implementing in-person, blended, and/or remote learning during the 2020-21 school year" (Illinois State Board of Education, 2020c, p.5). These recommendations referenced the need for individual districts to be empowered to make local decisions as per their unique circumstances and use the document to support their efforts to minimize any negative impact of their circumstances and maximize recovery and learning for all (p. 5).

An underlying premise of the efforts to return to school was that the "return to school is 'not business as usual' but rather the convergence of new reality in educational excellence in Illinois" (Illinois State Board of Education & Illinois Department of Public Health Working Group, 2020, p. 8). The learning recommendations fully recognized that while the state board of education recommended in-person learning, they encouraged local control and empowered school leaders to make decisions that honored their local needs (Illinois State Board of Education, 2020c, p.5). Learning recommendations encouraged districts to implement various teaming opportunities to engage in assessment of loss of learning status and develop a plan for responding to such learning loss through the creation of learning goals, the collection and evaluation of data, the support for teacher efforts in differentiation, the prioritization of learning standards for more in-depth study, the assessment of effectiveness of instructional strategies, and the provision of social-emotional support (p. 9-10). Furthermore, this document integrated structural recommendations to support student learning. Such recommendations underscored the attention to classroom organization, social distancing, and the use of blended learning in more structurally restricted circumstances (p. 26-31). Finally, this document detailed recommendations for learners from special populations (i.e., multilingual learners and special education). Each element, respective to the specific population, provided recommendations and considerations about planning, instructional delivery, and feedback/assessment (p. 32-101). This comprehensive document served as flagship for all Illinois districts as they prepared to return to in-person learning in the fall of 2020.

Planning for a 2020-2021 Return to Learning (Iowa)

The Iowa Department of Education (IDoE) worked in consultation with the Iowa Department of Public Health to develop a safe and responsible return-to-learn plan. The document framed return-to-learn options using community transmission rates within a specific time period. Based on positivity rates, the plan suggested mitigation strategies and offered insight regarding which return-to-learn plan (on-site, hybrid, continuous remote) to employ, how to handle confirmed cases of COVID-19 on-site, and identified at what point a staff or student could return to school (Iowa Department of Education & Iowa Department of Public Health, 2020). Logically, the higher the positivity rates, the more restrictive the learning model. To offer guidance regarding the academic element, the IDoE created and distributed a template for continuous learning to all districts. The template served as a checklist to support schools as they considered critical aspects of the development and delivery of education programming. (Iowa Department of Education, 2020b). Finally, the IDoE provided a companion support document to the return-to-learn guidance document previously mentioned that specified seven critical areas and considerations that would, more specifically, support efforts aligned to the return-to-learn template: leadership, infrastructure, health & safety, academic standards, social-emotional & behavioral health, equity, and data. The document was presented in table form and linked to various supplemental resources (Iowa Department of Education, 2020c).

Both Illinois and Iowa reflected intentional efforts to mitigate their concerns about the loss of learning experienced by students amid the COVID-19 pandemic school closings. As states worked with stakeholders in some capacity to return to in-person instruction, the stronghold of the pandemic would remain for months as families prepared to send their children back to school and districts prepared to receive them amid what would end up becoming a political fire focused on elements other than student learning. The table below reflects the primary similarities and differences between Illinois and Iowa districts in preparing for a return to learning in the fall of 2020.

Table 2 : *Comparison of States Return-to-Learn Guidance Efforts, Fall 2020*

Key Concepts	Illinois	Iowa
Worked with Department of Public Health	Yes	Yes
Worked collaboratively to develop return to learn plan guidance	Yes	No
Focused on local control	Yes	Yes
Required submission of local return to learn plan to state	No	Yes
Guidance focus on equity	Yes	Yes
Guidance focus on recovery of learning loss	Yes	Yes

Study Methodology

Need for the Study

With the March 2020 proclamation of the worldwide COVID-19 pandemic, the United States Department of Labor, through its Occupational Safety and Health Administration (OSHA), provided some workplace guidance and recommendations for states. However, OSHA was quick to point out that these were not regulations nor did they create any new legal obligations; they were simply advisory in nature (United States Department of Labor, 2020).

Consequently, due to no homogeneous federal regulations or mandates for states, each state was left to determine its own parameters and policies for safety in their various workplace settings. In addition to determining policies for safety, states were also tasked with determining a variety of other policies and parameters which included those affecting the education sector, specifically addressing how education might best continue to be provided during the pandemic. Thus, the need for this study is derived from the lack of federal action and specifically explores the impact of state created mandates and policies on K-12 educational delivery during the pandemic.

Purpose of the Study and Study Questions

The purpose of this non-experimental quantitative comparative study conducted in the two rural neighboring Midwestern states of Illinois and Iowa was to examine how very different pandemic-related state mandates for the 2020-2021 school year impacted the K-12 curriculum offered, its delivery, and the professional development on remote learning provided to teachers before the start of the 2020-2021 school year. The specific research questions included:

1) How did state mandates impact curricular offerings?
2) How was the curriculum delivered at the start of the 2020-2021 school year?
3) How did state mandates impact the provision of professional development provided to teachers prior to the start of the 2020-2021 school year?

This paper reports the findings as gathered from K-12 Illinois and Iowa superintendent respondents from those school districts that have been designated as "Rural-Fringe," "Rural-Distant," and "Rural-Remote" by virtue of their assigned NCES locale code.

The Top Down Theory of Policy Implementation as the Theoretical Framework

The theoretical framework used for this study was the top-down theory of policy implementation. This theory focuses on the capacity of top leaders and decision-makers to assume a command and control orientation that generates clear and definite policies and strategies that are communicated to others for implementation (Mazmanian & Sabatier, 1983; Nakamura & Smallwood, 1980).

This theoretical framework was appropriate for use as the study explored the impacts of top-down policies and authoritative decisions made by state leadership with regards to continuing to provide K-12 education during a pandemic.

Study Population and Sample

While convenience sampling (where a sample is drawn from a source that is conveniently accessible) could have been appropriate for this study, the researchers chose to use purposive sampling instead. It was selected because the population is one whose characteristics are relevant to the study (Andrade, 2021). In this study the key characteristics of having an NCES designated rural school district locale code and being a K-12 rural school district superintendent in Illinois or Iowa were essential. Purposive sampling is often referred to as judgment or expert sampling and certainly the 703 rural K-12 Illinois and Iowa superintendents would be experts having to implement the decreed state mandates during a world-wide COVID-19 pandemic.

Assumptions

An assumption is an assertion presumed to be true but not actually verified (Gay et al., 2012). There were four assumptions applied to this study, with the first being that survey respondents were practicing rural Illinois and Iowa K-12 public school district superintendents from March of 2020 throughout the 2020-2021 school year. The second assumption is their inclusion in the respective state directories of practicing superintendents was accurate. A third assumption was that the district's designated NCES locale code of "rural" was correct. The fourth assumption was that participants understood and honestly answered the survey questions.

Limitations

Limitations are those aspects of the study that the researcher can not control but may negatively affect the study's results (Gay et al., 2012). The two limitations for this study include the accuracy of the historical data provided by superintendents and the limited findings due to the number of superintendents who completed the survey.

Delimitations

Creswell & Creswell (2018) share that delimitations are those decisions the researcher makes to limit the scope of the study. The scope of this study was narrowed to a sample population of only those K-12 Illinois and Iowa superintendents whose school districts had a designated rural NCES locale code.

Survey Instrument

All potential respondents (435 K-12 rural superintendents with 200 from Illinois and 235 from Iowa) were invited to complete an online Google survey that included four demographic questions and 35 factual district data questions. There were three additional research questions that asked for the superintendent's thoughts as to their future in the superintendency, the success of their fall of 2020 return-to-learn plan, and district morale for which the findings are not reported in this paper.

Response Rates & Demographic Statistics

There was a respondent return rate of 22.3%, with the majority of survey completers from both Illinois (75.8%) and Iowa (71.4%) being males. This is not surprising as the majority of superintendents in each state is male as reported in each state's public school directory. In Illinois, the majority of survey completers served in school districts with enrollments of 1 to 999 students (98.4%) and there was a tie in terms of the number of years of total superintendent experience with 25.8% having 2 to 5 years of experience and 25.8% having 6 to 10 years of experience. In Iowa, the majority of survey completers served in school districts with enrollments of 1 to 999 students (60%) and the majority of respondents (34.3%) had 2 to 5 years total of superintendent experience. Table 3 summarizes the demographics of survey respondents.

Table 3: *Rural Respondents by State and Demographics*

Demographic Trait	Illinois	Iowa
Female respondents	22.60%	28.60%
Male respondents	75.80%	71.40%
Declined to respond	01.60%	00.00%
1-999 student enrollment	98.40%	60.00%
1000-4999 student enrollment	00.00%	40.00%
5000-9999 student enrollment	01.60%	00.00%
First year as a superintendent	12.90%	08.60%
2-5 years of experience as a superintendent	25.80%	34.30%
6-10 years of experience as a superintendent	25.80%	28.60%
11-15 years of experience as a superintendent	19.40%	14.30%
16+ years of experience as a superintendent	16.10%	14.30%

Descriptive Statistics and Results

The descriptive statistics and results for each of the study's research questions are provided below by research question.

Question One: Statistics and Analysis

The first research question focused on the impact that the top-down state mandates had on educational curriculum that could be offered during the 2020-2021 school year and it asked, "How did state mandates impact curricular offerings?"

Using the NCES codes, there were 62 respondents representing rural districts from Illinois and 35 from Iowa. In both states, respondents indicated that they struggled to offer courses in the "other" survey category; specifically, 53 of the 62 (85.4%) in Illinois and 28 of the 35 (80%) in Iowa. In a review of the respective state's mandated units of study/general accreditation standards, "other" most likely referred to courses related to safety education and computer literacy at the K-8 level, career exploration at the middle school/junior high level, and CPR at the high school level (Illinois Instructional Mandates, 2022; Iowa General Accreditation Standards, 2022). Additional possible "other" categories may have included bilingual education, computer science, special education, and courses known as "exploratory" that are often a part of the middle school/junior high program of study. Exploratory courses are not a part of the accreditation standards of either state but are common for upper elementary or middle grades. One major difference between the states was that Illinois encouraged districts to prioritize standards by disseminating a document in August 2020 to support their efforts (Illinois State Board of Education, 2020d). The goal was to help districts maximize learning and help students recover from the learning impact of the pandemic (p.4). In addition to being unable to offer courses in the "other" category, another 8.1% of respondents in Illinois cited the inability to offer courses in the fine/visual arts and career and technical education. In Iowa, an additional 3 rural districts (8.6%) indicated they could not offer courses in the fine/visual arts.

As an additional point of interest, regarding rurality as a primary focus of this research and specifically in reference to the inability to offer courses in any noted academic category, 61 of the 62 respondents (98.4%) in Illinois and 21 of the 35 respondents from Iowa (60%) were from districts with a population of 1-999. Districts with populations of less than 1,000 are often the most geographically remote rural districts, having a smaller number of staff. During the early months of the pandemic, such districts found themselves stretched thin and only able to offer a skeletal curriculum, thereby having to cut out any course that was not considered a "core course" or critical for their students.

Question Two: Statistics and Analysis

The second research question was related to the delivery of the curriculum offered and investigated "How was the curriculum delivered at the start of the 2020-2021 school year?"

As both states prepared to return-to learn for the 2020-21 school year, both governors issued mandates regarding learning. Illinois Governor Pritzker issued an executive order specifying that all schools "could open" for "limited in-person instruction" (Illinois Executive Order Number 2020-40), and Iowa Governor Reynolds ordered schools to take all efforts to resume in-person learning with at least 50% of all core classes being offered in person (Duffy, 2020). Under the

given parameters and guidance, both Illinois and Iowa schools opened their doors to learning in the fall of 2020. Of the 62 respondents in Illinois, 19 districts (30.6%) selected face-to-face with adjustments and 34 districts (54.8%) opted for a blended/hybrid form of learning. As per the learning recommendations document that guided districts as they planned to return to learn, blended was defined as "combining some aspects of in-person learning with some aspects of remote learning to meet the unique needs of their students" (Illinois State Board of Education, 2020c, p. 27). To align with the Iowa Governor's directive, 20 (57.1%) rural districts started the school year using face-to-face learning with adjustments made to the learning environment as needed. Adjustments included those laid out by the Departments of Education and Public Health in a uniform document disseminated in the latter part of July (Iowa Department of Education & Iowa Department of Public Health, 2020). An additional 11 districts (31.4%) started the school year in a blended/hybrid format. Because of the governor's mandate, the likely scenario for this option was that students reported to school for core academics and were allowed some flexibility with taking their electives or exploratory online or virtual. Finally, in Illinois, 4 rural districts started the new school year offering courses totally remote with synchronous learning interludes, and 5 started the year with an alternative schedule of sorts (14.5%). In Iowa, a total of 3 rural districts entered the new school year offering courses completely face-to-face with no adjustments made to the learning environment and 1 district implemented an alternative schedule (11.4%). Looking at the relationship between enrollment and selected instructional delivery method, all those 53 districts in Illinois had enrollments of 1-999, and in Iowa, 20 of the 31 districts (64.5%) had enrollment of 1-999.

Further, to support a district's return-to-learn plan for the two primary designated instructional methods noted previously (face-to-face with adjustments and blended/hybrid), survey questions explored the need to hire additional personnel, specifically substitute teachers, paraprofessionals, and technology support. Undoubtedly, both states hired additional staff in each of these areas. The primary question base was the following: As a result of the pandemic, how many additional staff did your district need to employ to support student learning. Table 4 reflects the specifics.

Table 4: *Additional Specific Hires Needed to Support District Return-to-Learn Plans*

Additional Hire	Illinois	Iowa
Substitute Teachers	0 (20 districts)	0 (14 districts)
	1-5 (32 districts)	1-5 (16 districts)
	6-10 (0 districts)	6-10 (0 districts)
	11-19 (1 district)	11-19 (1 district)
	20+ (0 districts)	20+ (0 districts)
Paraprofessionals	0 (24 districts)	0 (12 districts)
	1-5 (22 districts)	1-5 (17 districts)
	6-10 (2 districts)	6-10 (1 district)
	11-19 (5 districts)	11-19 (0 districts)
	20+ (0 districts)	20+ (1 district)
Technology Support	0 (30 districts)	0 (27 districts)
	1-5 (8 districts)	1-5 (4 districts)
	6-10 (0 districts)	6-10 (0 districts)
	11-19 (0 districts)	11-19 (0 districts)
	20+ (0 districts)	20+ (0 districts)

Question Three: Statistics and Analysis

This question asked superintendents to address the quantity of professional development (PD) provided to instructional staff at the start of the 2020-21 school year if their district delivered any content remotely. With the respective state educational mandates issued by both governors, there was room for remote instructional delivery under certain circumstances, and, based on the events from the prior spring with the closing of educational institutions and the need to deliver instruction remotely, this question attempted to derive any insight that would promote an element of instructional preparation for teachers regarding the online/remote population. The question asked superintendents to report such effort in the following increments: 0 hours, up to 4 hours, up to 8 hours, 9+ hours.

First, in a review of the data, it became clear that Illinois provided more hours of PD for instructional staff than did Iowa. Of the 62 respondents from Illinois, 59 (95.2%) provided at least 1 hour of PD to instructional staff, whereas in Iowa, 28 (80.0%) of the 35 respondents provided such support. The table below parses out the data into further detail regarding the overall PD provided to instructional staff regarding remote learning.

Table 5 : *PD Regarding Remote Learning: Hours to Start the 2020-21 School Year*

Illinois			**Iowa**		
No remote learning	(2 districts)	3.2%	No remote learning	(6 districts)	17.1%
0 hours	(1 district)	1.6%	0 hours	(1 district)	2.9%
Up to 4 hours	(15 districts)	24.2%	Up to 4 hours	(5 districts)	14.3%
Up to 8 hours	(18 districts)	29.0%	Up to 8 hours	(9 districts)	25.7%
9+ hours	(26 districts)	41.9%	9+ hours	(14 districts)	40.0%

Noteworthy is the number of district respondents who indicated they provided at least 9 hours of PD to support their instructional staff in the delivery of remote learning to start the new academic year. What we don't know from this data is whether the PD focused on the support on the remote learning that was occurring as districts returned to learn or if some of the PD was in preparation in case districts were faced with moving to remote learning in a way that mirrored the previous spring. Also noteworthy is that of the 62 districts in Illinois that provided at least 1 hour of PD, 61 of those districts had an enrollment of less than 1,000. In Iowa, of the 28 districts that provided at least 1 hour of PD, 60.7% of those had enrollments of less than 1,000. Finally, in looking at PD provided to districts based on the two primary learning plans employed, Illinois provided the most PD with 54.8% (34 of the 62 districts) to support instruction in the blended/hybrid model with 25.8% (16 of the 62 districts) providing PD to support face-to-face learning with adjustments while those percentages in Iowa were 80% with 16 of 20 districts providing PD hours to support face-to-face learning with adjustments and 90.9% (10 of the 11 districts) providing PD support focused on the blended/hybrid learning model. What could be inferred from the PD data is that district respondents prioritized support for remote learning, either as the new academic year began or in anticipation of the possibility of having to go fully remote again.

Further Discussion

The purpose of this non-experimental quantitative comparative study was to investigate the educational reality of curriculum offerings, delivery, and educator preparedness for remote learning that occurred during the 2020-2021 school year in the two rural neighboring Midwestern states of Illinois and Iowa. This was essential to examine as each state was issued very different mandates from their state leadership and further discussion is offered below.

Why Some Curriculum was not Offered

Research has consistently shown there is a shortage of teachers in the United States which has intensified in recent years and that has disproportionately affected rural communities and the curriculum their school districts can provide (Latterman & Steffes, 2017). In 2020, some of the teacher shortage areas in Illinois included special education, foreign language, and computer science (White & Withee, 2020), with Iowa having these same shortage areas (Szabo, 2022). While it is true there are fewer candidates entering teaching, it appears that the pandemic may have also contributed greatly to the teacher shortage in both states. Andrews and Marzano (2021) share that 2020 data from the Illinois Teacher Retirement System indicate that over 6000 Illinois positions were unfilled and there was a 50% increase in retirements. In addition, an Illinois Education Association survey done in November of 2020 reported that 12% of teacher respondents do not want to be a teacher anymore, with one justification being the resulting 'burnout' from added work responsibilities that included having to prepare for both in-class and remote learning (Tietz, 2020). In Iowa, since 2020, the number of teachers planning to leave the field has doubled to 55% due to burnout and the effects of the pandemic (Reichardt, 2022).

While certain curricular area teacher shortages existed pre-pandemic, there are additional potential reasons as to why a curricular area may not have been offered during it. One obvious reason is the mandate for social distancing and some curricular areas (such as career and technical education and physical education) do not easily lend for the application of skills learned when socially distancing. Also, those teachers who could not teach in their areas of expertise (for safety's sake) were often assigned other duties, such as being a second set of eyes in the classroom or helping other teachers.

Curriculum Delivery and Political Unrest

As the COVID-19 pandemic began in March of 2020 and continued to endure throughout the 2020-2021 school year, the delivery of education in both Illinois and Iowa was ever-evolving due to changing mandates for masking requirements, quarantines and closures. While the study findings indicate the majority of rural districts in Illinois and Iowa complied with their state appropriate mandates, there was still some resulting political unrest that had the potential to interrupt delivery of the curriculum.

District boards of education in both states had to determine if they were going to comply with state mandates. In Illinois, the Red Hill School District chose not to and was put on probation by the Illinois State Board of Education who believed that the district was exhibiting deficiencies that presented a health hazard or a danger to students or staff (Bishop, 2021); they were threatened with closure if they chose not to comply during or after their probationary time period.. In Iowa,

the Des Moines School District chose not to comply with the governor's ban against masks, eventually taking it to court and winning their case (Coltrain, 2021).

In both states there were parents who were extremely vocal and active pertaining to their school district's model of curriculum delivery. There were teachers who feared for their health and safety if curriculum delivery was fully in-person and there were others who were extremely stressed at having to deliver a curriculum in a technological way that they had never before used. Some teachers found themselves having to plan and prepare lessons that were both technologically and in-person based. In some Illinois school districts curriculum delivery had to constantly shift modes from hybrid to full asynchronous, depending upon the quarantine status among school staff (personal communication, Grzanich).

Preparedness for Delivering a Technology-Based Curriculum

March of 2020 triggered an overnight shift to online learning for Illinois schools and many were not prepared. This lack of preparedness was illustrated by the lack of educator professional development on remote learning and hybrid course creation, as well as a lack of access for students to technology hardware, software, internet hotspots, and appropriate internet bandwidth and speed. To address this, some Illinois districts such as Belleville Township High School District 201 parked four of their Wi-Fi equipped buses to serve as Wi-Fi hotspots, strategically parking them in the community where people could just pull up and download the information they needed for the day (Gaines, 2020). Other school districts purchased and loaned out technology to families while some cities partnered with their school districts to provide hotspots to students who needed Internet access at home during the pandemic (Schoenburg, 2020).

While the majority of Iowa rural superintendents responded that they implemented a face-to-face curriculum delivery model with some adjustments as their return-to-learn plan, 40% of them shared that they had provided 9+ hours of professional development on remote learning. The purpose for providing this amount might be for supporting teachers to be able to implement any "needed adjustments" for that face-to-face return-to-learn plan.

On August 7, 2020, Iowa's governor and the IDoE announced funding for the 2020-2021 school year that was to be used primarily for Iowa's 327 school districts and nonpublic schools to increase internet connectivity for use in telelearning, telework, and telehealth (Office of the Governor, 2020). This is indicative of a need for faster and more reliable internet in service in Iowa's schools, and the lack thereof before this announcement may have influenced the delivery of the curriculum for Iowa students to be mostly face-to-face (with some adjustments).

Conclusion

The Centers for Disease Control (CDC) in the United States notes that the last major worldwide pandemic pre-COVID-19 was the 1918 influenza pandemic. Similarities between the two include the facts that there was no vaccination or antibiotics first available, strategies for its mitigation included isolation, quarantine, good personal hygiene, use of disinfectants, and limitations of public gatherings (Centers for Disease Control, n.d.). The world learned from this 1918 pandemic and when it found itself in the same type of pandemic situation in 2020, these same mitigation strategies were immediately implemented.

But by 2020, the education that students received was drastically different from that received in 1918. Nearly a whole century had passed and with each decade, school district responsibilities continued to increase academically as well as socially and health-wise (Vollmer, 2012). Nicola, Gable, & Ash (2020) point out "The COVID-19 pandemic has highlighted the critical role that schools play in the lives of the students they serve" (p. 1). To that end, what lessons should school districts have learned from the recent COVID-19 pandemic pertaining to their critical role?

School Districts Must Be Prepared for the Next Pandemic

While school districts have created plans for managing all types of crises, there was no plan for delivering student curriculum during a pandemic. Districts must create a plan to address this as there will be another pandemic given the continuing multitude of variants that are mutating from the original COVID-19 virus.

As a part of their plan, they may want to offer and communicate when the varied learning options available for students will occur as a result of fluctuating state health metrics and quarantine closures. For example, the Vail School District in Arizona did this and communicated their varied learning options to parents. At different times they offered an in-person option, a full-time real time online option, a full-time self-paced online option, and a micro school that supported home-school students (Prothero, 2021).

Any form of remote learning requires access to updated devices and stable internet (Nicola, Gable, & Ash, 2020). A lack of funding in rural districts means that many students may not have regular access to updated or any technological devices, as well as needed internet bandwidth and speed (Bailey, 2018). To address this, districts can look to partner with all types of organizations and with other authorities such as city officials and technology companies (Battenfeld, 2020).

Learning remotely also requires professional development for teachers that keeps them up-to-date in remote curriculum delivery. Because technology-based instruction is ever-evolving, a school district may look to partner with local colleges/universities or other districts to provide professional development. If the district has funding available, it may consider hiring their own or sharing a curriculum/technology strategist. If a district needs to find funds, superintendents should consider the use of zero-based budgeting where they are developing a new budget from scratch every time that is based on the organization's mission and values (Future Ready Schools, n.d.) as opposed to just incrementally increasing each line item.

The Importance of Rurality and this Study's Results

Whitener and McGranahan (n. d.) contend that today's youth, no matter where they live, will need an unprecedented level of education and technical skills for an increasingly high-skilled economy. To achieve this, K-12 Illinois and Iowa students who attend rural districts must have a consistently offered curriculum and access to the technology needed while all K-12 teachers must be provided with the proactive professional development to deliver that technology-based curriculum.

The findings reported in this study are from rural Illinois and Iowa K-12 district superintendents. Due to the use of purposive sampling, these findings are generalizable to the rural K-12 Illinois and Iowa superintendents who did not take part in the study (Andrade, 2021).

The importance of the findings cannot be emphasized enough as school district superintendents are frequently given all of the blame or criticism for a "bad situation", often being referred to as

"the lightning rod" of a district. The findings and understandings from this study will hopefully help them in future pandemic-based "lightning rod" situations by providing: 1) a reference point as to how varying mandated state policies in pandemic times can potentially impact student achievement through the curriculum that is able to be offered and its mode of delivery; 2) proactive steps that they can take now for preparedness and future readiness; and 3) a contribution to the literature regarding an uninterrupted curriculum delivery for K-12 rural students during a world-wide pandemic.

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