Perceived Effects of the COVID-19 Pandemic on Teaching and Learning in Rural Areas of Central Kansas

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Abstract

COVID-19 pandemic shuttered schools and impacted the typical delivery methods of instruction in Kansas beginning March of 2020. The purpose of this mixed methods convergent design study was to addresses the impact of a global pandemic on rural central Kansas public education. The purposes included examining educator perceptions of teaching prior to the pandemic and subsequent impact on student achievement, educator perceptions of teaching during the pandemic, and subsequent impact on student achievement, and the impact of the requirements from state and local governing bodies on instruction, preparation, and stress of educators and students during the COVID-19 pandemic. Data from the quantitative portion included survey responses from 82 educators showed statistically significant differences, and the qualitative portion included interviews from seven administrators which supported the findings and perceptions of survey respondents. The results from the COVID-19 impacted education during the 2020-2021 school year in rural Kanas as educators altered their instructional strategies usage as well as their perceptions of the profession. The decrease in usage of Gregory and Parry's instructional strategies was statistically significant while there was an increase in technology usage. This increase was determined to be a large effect size difference from prior to the COVID-19 pandemic, during in person instruction.

Dedication

I would like to dedicate this achievement to my husband Jarrett. Your steadfast support, though years of coursework and a year of research allowed me to reach a dream. I would never have been able to accomplish any of this without you. Thank you for your support, the organization of our family and the steadfast resolve you shared for any doubt ever voiced.

Secondly, I would like to dedicate this research to my children. Kyler, Trevyn, Maislyn, and baby, you are my reason for striving forward. I hope to be the beacon of light that reminds you that anything is possible with dedication and hard work. There is no obstacle too great to prevent a determined individual from the goal. I would have never made it through without your unwavering support through my education, research, and work. I know that it was hard when I was deep in coursework and research.

I also must thank my parents for the emphasis they placed on education and the value of working hard to achieve your dreams. Kim, you are a hero and the model I use for leadership. Your selfless help with keeping my home and family running smoothly is part of the reason this research was possible. Valerie, thank you for always being the voice of reason, the cheerleader, and reminding me that I have made you proud.

Finally, I must dedicate this research to the countless educators who strive everyday to make a difference in the lives of children. The calling to educate others doesn't come with a warning label yet we still strive to make an impact every single day. When you enter a challenge, your heart is hurting or you are unsure where to turn remember how and why you entered the profession, reach out to a collegue, and keep striving forward!

Acknowledgments

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This research should be recognized as an acknowledgement of the perseverance, and value of the many dedicated educators who valiantly forged onward during the great unknown of the COVID-19 pandemic. The courage so many showed during this situation, indeed, makes you heroes. As many struggled to process and survive, educators forged ahead, reshaping education in the matter of weeks and months. The long-term impact of the evolving environment of education is yet to be determined, but the impact you have on students is the light in days of darkness.

I must also acknowledge the many wonderful, supportive, and helpful mentors from whom I have had the pleasure of learning; Dr. Kathleen Barrett-Jones, the first mentor in education that made me want to pursue my doctorate degree; Christie Gerdes, thank you for supporting and believing in my when I was just beginning my career and path to leadership; Jim Johnson, thank you for your guidance, support, and knowledge that you have shared during our journey together.

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Chapter 1

Introduction

Schools face challenges every day that range from the budget, continued staff development, increasing student engagement, and managing challenging behaviors, among other challenges. In each challenge faced, educators strive to help students learn and progress to become competent citizens. According to Durlak, Weissberg, Dymnicki, Taylor and Schellinger (2011, p. 406) schools have an important role to play in raising healthy children by fostering not only their cognitive development but also their social and emotional development. Education is not isolated; instead, it is completed reciprocally, "students typically do not learn alone, but rather in collaboration with their teachers, in the company of their peers, and with the encouragement of their families" (Durlak et al., 2011, p. 406).

The demands placed on educators and students have increased over the last twenty years most notably since the advent of No Child Left Behind (NCLB) in 2002. As the demands to meet the academic and social emotional needs of students have increased, educators have continued to build their skills to meet the demands. However, in January 2020, a global pandemic stopped the current practices of education with limited warning.

Prior to the onset of the 2020-2021 school year, educators were left with uncertainty as they began to navigate the waters of restarting education for students across Kansas. Journalists reported educators were leaving the profession, and mental health concerns were on the rise impacting schools across Kansas. In order to help students meet their educational goals, educators have implemented two known strategies, school-wide positive behavior intervention and supports (SWPBIS), and social and emotional learning (SEL), to help students overcome key challenges, transient living situations, classroom disruption, mental

health concerns, increase academic rigor, and increased incidence of violence. During the 2019-2020, 2020-2021 school years, challenges faced by schools were made more difficult with the onset of a global pandemic caused by the novel, COVID-19 virus that swept the world, shutting down businesses, closing schools, and killing hundreds of thousands of people in the United States. Schools, while facing these challenges and increasing policy demands for student achievement growth, have implemented universal measures and responsive cultural changes.

Background

The size of Kansas school districts is rated in size from smallest to largest 1A through 6A. The central Kansas area schools include 23 school districts that range in size from small 1A to 5A districts. The districts meet regularly to collaborate and discuss mutual concerns. This group of schools are the participants of the study. Building and district level administrators were interviewed in rural districts in central Kansas. The seven administrators voluntarily completed the interviews regarding their perceptions of the impact of COVID-19 on educational practice and operations. Demographic information about each interview participant and the district represented are found in Table 1. The administrators' combined experience includes 84 years in educational leadership. The longest serving educator has been in the profession for 22 years.

Table 1

Participant Information

Participant			District		
Identifier	Experience	Level	Size	Certified	Classified
DL1	30	PreK-12	1A	28	28
DL2	12	PreK-12	2A	36	36
DL3	3	PreK-12	3A	72	72
BL1	1	K-6	5A	21	40
BL2	3	PreK-1	3A	15	7
BL3	16	6-8	3A	30	14
BL4	10	6-8	3A	55	40

Note. DL# = District level employee. BL# = Building level employee. Certified = Number of certified educators. Classified = Number of classified employees.

Statement of the Problem

Educators are faced with a lack of research related to the impact of school closure and the subsequent restarting of in-person instruction during a global pandemic due to the recency of such a wide-spread and long-term event. Education professionals and students were encountering isolation, limiting factors to in-person instruction, and increased demands on instruction. These included teaching remote learners, educators who needed reliable information about the impact of a global pandemic on educational practice, and student achievement concerns arising from social emotional impact on educators and students. Educational leaders are facing supporting academic instruction and social emotional needs of teachers, staff, and students when previously used practices are not available or prohibited due to illness mitigation requirements.

Purpose of the Study

This mixed methods study addressed the impact of a global pandemic on public education. A convergent parallel design was used, a type of design in which qualitative and quantitative data are collected in parallel, analyzed separately, and then merged (Creswell & Creswell, 2018, p 15). In this study, the challenges associated with a pandemic led to the prediction that COVID-19 will influence the instructional practices for teachers in rural central Kansas. The quantitative data resulted from a survey selected to measure the use of instructional strategies prior to COVID-19 and the use during the COVID-19 pandemic as well as the perceptions of educators about the impact on the role, responsibilities, and future of education. The qualitative data interviews explored the challenges of administrators in rural central Kansas.

The reason for collecting both quantitative and qualitative data was to converge the two forms of data to bring greater insight into the problem than would be obtained by use of either type of data separately. The first purpose was to examine what extent educators perceive that the COVID-19 pandemic altered instructional practice and impacted achievement. The second purpose was to examine the perceptions and descriptions of school building and district leaders in their experiences with instructional practices and achievement during the COVID-19 pandemic. The third purpose was to examine the commonalities between interview responses of school building and district leaders and whether they agreed with or extended the results of the teacher survey.

Significance of the Study

Numerous rural schools are found throughout the United States, and educational leaders require guidance to lead schools with effective preparation to improve professional practice and student outcomes in rural settings. During a global pandemic, traditional use of instructional strategies and interventions were impacted by the changes to in-person instruction, the use of technology, and the requirements of social distancing. The perceptions and experiences that educational leadership provide to a body of research is small and incomplete. No research was found on the impact of a long-term school closure or remote learning in a rural setting. This study provides both qualitative and quantitative data to explain the impact of COVID-19 on instruction and student learning.

Delimitations

"Delimitations are self-imposed boundaries set by the researcher on the purpose and scope of the study" (Lunenburg & Irby, 2008, p. 134). The delimitations utilized by the researcher in this study were determined by a desire to gain a better understanding of the impact of the pandemic on instructional practices and student achievement. To gain the perspectives of educational leaders, the researcher only sought participants in the study who were building principals, curriculum directors, or superintendents of public schools. This sampling of public school administrators did not allow the researcher to gain the views of those leaders involved in private or charter schools located in the state of Kansas. A second delimitation used by the researcher was the use of only teachers in rural central Kansas schools as participants in the survey. This sample was limited to educators from twenty-two districts in rural central Kansas.

Assumptions

"Assumptions are postulates, premises, and propositions that are accepted as operational for the purpose of the research. Assumptions include the nature, analysis, and interpretation of data" (Lunenburg & Irby, 2008, p. 135). This study was conducted under the following assumptions: the selected educators responded to the survey accurately and indicated their perceptions of the impact of COVID-19 on teaching and learning; the selected educators understood the vocabulary and concepts associated with teaching and learning; the data collected measured the knowledge, skills, and perceptions of the educators' involvement in teaching and student learning; and the interpretation of the data accurately reflected the perceptions of the respondents.

Research Questions

RQ1. To what extent do educators perceive that the COVID-19 pandemic altered instructional practice and impacted achievement?

RQ2. How do school building and district leaders describe their experiences with instructional practices and achievement during the COVID-19 pandemic?

RQ3. How do the interview responses of school building and district leaders agree with or extend the results of the teacher survey into perceptions of instructional practices and achievement during the COVID-19 pandemic?

As Lunenburg and Irby (2008) pointed out, research questions are critical components of the dissertation. The interconnection between variables is exceedingly important as we examine two individual interventions implemented in tandem. This study examined the interconnection between educators perceptions of instructional practice usage and leaders perceptions of the impact on COVID-19 on instruction, operations, and professional practice.

Definition of Terms

Cooperative Learning (CL) is defined as an instructional technique designed to promote the academic and social development of students (Loptata, Miller, & Miller, 2003). CL can take place when students work together to achieve a common, goal utilizing an organization of learning from a collaborative group of peers to provide feedback on performance.

Differentiated instruction provides students with options for taking in information, making sense of ideas, and expressing what they learn (Tomlinson, 2001 p.1). The theory of multiple intelligences supports differentiated instruction from the perspective of realizing that student have different strengths and learn in different ways (Noble, 2004). Tomlinson (2001) stated, it is a teaching strategy based on the premise that instructional approaches should vary and be adapted in relation to individual and diverse students in classrooms.

Organization of the Study

This research study is presented in five chapters. Chapter 1 includes the background of the study, the statement of the problem, purpose of the study, significance of the study, definition of terms, theoretical framework, research questions, limitations, delimitations, and the assumptions of the study. Chapter 2 presents a review of the literature, which includes instructional strategies, previous responses to pandemics, and COVID-19 response. Chapter 3 describes the methodology used for this research study. It includes the selection of participants, instrumentation, data collection, and data analysis procedures. Chapter 4 presents the findings including demographic information, and discussion of the findings. Chapter 5 includes implications of the findings for theory and practice, recommendations for further research, and conclusions.

Chapter 2

Review of the Literature

This chapter is organized in a manner to both define and provide prior research associated with key elements of this study. Addressed are the instructional strategies, impacts of previous pandemics on communities and schools, COVID-19 and Kansas education system, and the guidance associated with the COVID-19 pandemic including operations and instruction.

Hattie (2009) suggested when professionals see learning occurring or not occurring, they intervene in calculated and meaningful ways to alter the direction of learning to attain various shared, specific, and challenging goals. The response of teachers historically includes the need to pivot to reach the challenges of educating students with the skills necessary to become successful, productive members of the community and workforce. The importance of teachers and their strategies used in instruction has been found to play important roles in successful student performance, test performance, educational attainment, and long-term outcomes such as student employment (Isenberg et al., 2016; Miller-Thompson, 2020; Sivri & Balci, 2015; Stough, Montague, Landmark, Williams & Diehm, 2015).

Major philosophies of education include perennialism, progressivism, essentialism, and social reconstructivism, each developed out of cultural and political climates. Education from the perennialism focus utilizes universal truths and the desire to return to the past, the purpose of schooling is to cultivate rational intellect and provide knowledge of eternal truths. Religious text and training of the will are major components coupled with standardized objective examinations that typically include essay examinations.

Progressivism utilized inductive reasoning and the belief that a child is capable of learning by doing, the theory also utilizes schools to prepare students for democratic society by creating experience that encourage cooperation, problem-solving, and decision-making skills. School and classroom experiences utilize the methods of group work and projects as well of exploration of the natural world and community, assessment of learning is formative or on-going measures of feedback about activities rather than outcomes.

Essentialism theory attempts to return education to the purpose that prepared student for life by teaching them the culture and traditions of the past. Curriculum focus of essentials includes reading, writing, mathematics, history, geography, natural science, and foreign languages. Instructional methodology of essentialism includes lecture, recitation, discussion, and Socratic dialogue. Social reconstructivism focused the purpose of schooling on the critical examination of cultural and educational institutions to act as change agents. This is accomplished through a focus on problem solving, critical thinking, and community service. Assessment in this theory typically includes authentic assessment, formative evaluation, and standardized assessment when mandated by state or federal law.

In education, change is needed consistently to stay current with demands of society, current research, and global trends. Educational leaders are looking for ways to change teachers into transformational teachers and leaders. The struggles in education are an opportunity to solve problems, make a positive impact on students and global culture. Educational changes in recent years have encompassed a major shift in attempts to improve teacher quality, increase student engagement, and overcome societal disparities. Educational change is a requirement not only to stay current in practice and pedagogy but also to stay current in the creation of well–rounded moral and ethical citizens.

Rosenberg (2012) discussed the primary way to overcome poverty experienced by some children is to hire and utilize the best teachers. "Great teachers must have an innate ability and access to a mechanism to improve the craft of teaching and instruction" (p. 9). Teacher development and teacher growth are the most relevant sources of data associated with student achievement. To ensure teacher growth, high quality professional development is necessary, along with collaboration among professionals. The use of technology in education is a major shift, as technology continues to grow and shift, the use of technology for instructional purposes is referred to as blended learning (Vodicka, 2012). Great teaching is a result of teachers' utilization of research, support for professional development, and encouragement as they begin to practice the strategies.

Instructional Strategies

Instructional strategies or methods of instruction are the way teachers arrange the classroom environment so students can learn. Over time instructional strategies have altered to meet the needs of students and the changes to prepare students for the workforce. Cognitive research has been compiled since the 1990s that specifically examined the way in which a child's brain learns. This led to cognitive psychologists working with educators to find connections between the classroom and brain research. According to Gregory and Parry, "we have identified a number of powerful instructional techniques that enhance learning, can be generalized across all areas of the curriculum, and can be applied at all grade levels" (Gregory & Parry, 2006, p. 34). The best instructional practices presented in Gregory and Parry's book *Designing Brain-Compatible Learning* are directly linked to the research on cognitive brain development. Best practice strategies supported in this book are, activating prior knowledge, cooperative group learning, concept formation, direct teaching, and graphic

organizers. "Activating prior knowledge means calling to mind information that is already known about a topic before proceeding to new information" (Gregory & Parry, 2006, p. 35). The activation of prior knowledge helps students make clear connections and align their learning to an already made path within the brain. "Advanced organizers help students understand the general patterns or organization of information and assimilate new material" (Gregory & Parry, 2006, p. 35). The use of advanced organizers provides a graphic or visual connection to information to provide a framework for information storage and retrieval. "Research from McTighe and McRel both show support for cooperative group learning, graphic organizers/visual representations, questioning, advanced organizers, and teaching thinking compare/contrast, and classify skills" (Gregory & Parry, 2006, p. 49). Additional research and history are provided on cooperative learning, direct teaching, and graphic organizers in later pages of this study. Additionally, the research support cited in Designing Brain-Compatible Learning, and the use of the listed educational best practices and strategies provide the framework and alignment for survey questions in this study.

Research by Griffith (2015) endorsed the use of independent student selected reading materials also known as sustained silent reading (SSR), directed independent reading time (DIRT), or Reader's Workshop are part of active learning tasks which were beneficial toward student vocabulary achievement. Motivation was considered an important factor in student learning (p 82). Connections can be found between the use of active learning strategies and increased vocabulary achievement. Griffith (2015) found fifth grade students gained an average of 17.45 points on their tests when teachers used some or more time engaging students in researching and collecting information as part of their teaching method. In 2009, Hattie introduced a meta-analysis of educational research to provide educators with research

proven methodology to impact student learning. Part of Hattie's work includes a description of the impact of instructional strategies on student learning. The influences of teaching on student achievement, according to Hattie's meta-analysis findings examine the effect size of each influence, included: (1) providing formative evaluation $d = 0.90$ this is a large effect size, (2) comprehensive interventions for learning disabled students $d = 0.77$ this is a medium effect size, (3) reciprocal teaching $d = 0.74$ this is a medium effect size, (4) feedback $d = 0.73$ this is a medium effect size, (5) spaced vs. mass practice $d = 0.71$ this is a medium effect size, (6) meta-cognitive strategies $d = 0.69$ this is a medium effect size, (7) self-verbalization/ self-questioning $d = 0.64$ this is a medium effect size, (8) problem-solving teaching $d = 0.61$ this is a medium effect size, (9) teaching strategies $d = 0.60$ this is a medium effect size, and (10) cooperative vs. individualistic learning $d = 0.59$ this is a medium effect size (Hattie, 2009).

Cooperative Learning. Cooperative learning research by Kagan included a structured learning method that utilizes 'PIES' in all structures. PIES work to build positive interdependence, individual accountability, equality in participation, simultaneous interaction, and motivation for students to be and achieve learning goals (Kagan, 2011). Many cooperative learning classrooms have grouped desks which allows small communities of students to work together toward a common goal, this promotes problem solving, communication, and leadership within the classroom. A hallmark of a cooperative learning classroom or structure includes explicit instruction and clear descriptions of the expectations. "The very essence of a learning community is a focus on and a commitment to the learning of each student" (DuFour, DuFour, Eaker, & Many, 2010, p 2). Effective cooperative learning is characterized by deliberate and effective group members, goals are clarified,

good discussion skills are used, and team members are motivated to do a good job. Learning and instructional strategies have a clearly defined norms, roles, and reasoning (Beebe, Mottet, Roach, 2013). Social values and life skills clearly posted because good citizens are important in the classroom and the community. The effective size for cooperative learning increases from elementary, middle, to high school from $d = 0.28$, $d = 0.33$. and $d = 0.43$ respectively (Hattie, 2009).

Direct instruction. This method of instruction provides a clear path toward learning new material or curriculum and includes seven steps for success. According to Gregory and Parry (2006) the steps include planning by the teacher to include clear learning intentions, clear success criteria, and building commitment and engagement to the learning task. The teacher presents through the lesson input, modeling and checking for understanding. Guided practice, closure of the lesson, and independent practice follow (p. 57). Hattie's research showed, the effect size for Direct Instruction is $d = 0.59$. An effective size of $d = 0.2$ is considered small, $d = 0.4$ medium and the hinge point, and $d = 0.6$ is considered a large effect size. "The teacher needs to invite students to learn, provide much deliberative practice and modeling, provide appropriate feedback and multiple opportunities to learn" (Hattie 2009, p. 207).

Differentiation. The introduction of NCLB and later the Race to the Top pushed schools across the United States to close the achievement gap between high and low preforming students. Rozeski (2012) found that intervention programs do make an impact on student achievement, however the implementation of differences and fidelity of the program do not indicate evidence of a single intervention program as the most effective from the three programs in the study. Differentiation is defined as a teaching theory that encourages varied

and adapted instructional approaches (Tomlinson 2001). The variety of teaching interventions, methods, and systems are likely to provide students with the opportunity for success. When looking at methods to differentiate instruction, the use of multiple intelligence theory (Gardner 1989) is common. According to Gregory and Parry (2006), the theories of intelligence that have the greatest relevance to education are multiple intelligences', emotional intelligence, and intelligent behavior. The use of these theories can be applied to teaching and learning process in the following ways.

> (1) Provide opportunities for student to not only learn but to also show what they know using the full range of multiple intelligences. (2) teach students to reflect on their internal states of mind and apply that knowledge to learning and inter analyzing the collaborative skills necessary to use the power of emotional intelligence. (3) Demonstrate intelligent behaviors and ensure that students understand the behaviors by providing opportunities to apply them on a regular basis. (Gregory & Parry, 2006, p. 111-112)

Assessment. Student learning must be measured to determine if progress was made. Assessment is defined as the process that is used to determine the importance, size, or value of something (Webster, 2020). Assessment is typically conducted using small informal or formal assessments for learning designed to inform and guide both the teacher and student on the progress toward learning goals a particular student has made in formative assessment. DuFour et al. (2002) confirmed that summative assessment is a method of assessment used to determine if students have met intended standards by a specific deadline. Direct measures of student learning are best when authentic because students are required to grapple with solving realistic and unstructured problems with no right answers (Lopez, 2002).

Lecture. This is a method of instruction that is commonly used when the teacher provides most of the talk and is presenting specific information. Typically, there are limited opportunities for student interaction when using the lecture method of direct instruction (Hackathorn, Solomon, Blankmeyer, Tennial, & Garczynski, 2011). The lecture method is effective when a large amount of information or materials need to be presented to a large group of students. Lecture method requires students to actively listen and engage in learning through auditory learning. Although lecture is a common practice in schools Hackathorn et al. (2011) contented lecture is not the most effective teaching technique for knowledge level questions.

Impacts of the Pandemics on Communities and Schools

Pandemics have occurred during the history of compulsory education. The following sections will include information and previous research into the impact of pandemics on schools and communities. The most recent pandemic to impact schools was the H1NI flu. Previous pandemics included the 1918 H1N1 virus, the 1957-1958 pandemic H2N2 virus, the 1968 H3N2, and the 2009 H1N1, have each had an effect on the communities.

H1N1 flu pandemics. H1N1, or Swine-Flu, caused significant absences to schools in 2008 and 2009. After some short-term school closures, educators, the federal government, and private industry began developing plans to keep students learning when faced with illness or extended absence. Davis and Ash (2009) suggest, “Many educators were caught unprepared when schools closed in response to cases of swine flu” (p. 1). In response to the challenges of H1N1, the federal government created partnerships with technology companies like Google, Apple, Microsoft, Pearson, Scholastic, Curriki, and iNACOL and the U.S. Department of Education, the partnerships worked toward the common goal of released

recommendations for districts as well as support for district to have a larger resource base for support, infrastructure, and training. After H1N1 districts were encouraged to examine how the level of preparation as well as needs should another event occur, an example of a critical idea asked is, "One critical area that schools and districts must consider is completing readiness assessment to evaluate what kind of technology infrastructure is in place both at schools and in homes" (Davis & Ash, 2009, p. 18). Another item learned from the 2009 pandemic, included an emphasis on teacher training and preparation to utilize technology for instruction and delivery of materials as well as instruction to students for access and ease of use. The H1N1 influenza pandemic sparked the exploration of online learning and open educational resources for K-12 schools as school leaders focused on strategically using e-learning to facilitate continuity of learning plans.

Online learning providers have responded to the call from the Department of Education to offer solutions for districts should the H1N1 influenza virus continue to spread. Eisele-Dyrli (2010) stated the following companies have created online platforms or resources for schools to help students and schools with continued education during a pandemic: "K12 Online Learning, Aventa Learning, Learn360, Wimba Collaborative Suite, New Dimension Media, and School Center" (p. 12). Educators and education preparation programs should have begun preparing teachers for the use of technology based programs after what was learning during the H1N1 virus.

COVID-19 and Kansas Education

The COVID-19 Pandemic has and will continue to impact education and the ability to reshape education for the future could be good or bad. Schools have struggled to move away from the lecture-based instruction in classrooms into technology focused delivery models.

Erickson (2020) declared, as schools adopt virtual learning the digital access gap must be closed.

Romero-Ivanova,, Shaughnessy, Otto, Taylor, Watson (2020) acknowledged, the main tasks or chores that faculty were forced to transition to include: learning new software, teaching students to use new software, providing captions and interpreters, navigating copyrights, helping students cope with isolation, balancing our new family life and work, and feeling disconnected from students. Fisher and Frey (2020) encouraged teachers to make coursework predictable, structured, establish a routine with clear concise expectations to lead to a rich, robust, distance learning experience. Although COVID-19 is not the first pandemic, it has offered a unique opportunity for all educators to prepare for major disruptions that may occur in the future.

Personalized learning has been used for the primary purpose in the education setting to create a tailored education to address the individual, strengths, weaknesses, and personal interests of students, it requires flexibility from teachers and encourages student independence. As schools have moved through a variety of learning situations including in-person, remote, and hybrid learning model both teachers and students have begun to develop skills different than previously imagined. Will (2020) revealed, teachers found students need extra guidance to manage executive functioning skills like, schedules, assignment completion, and goal setting, the development of teacher coaching small groups of students with the goal of oversight and relationship building has made a difference for students. Instructional strategies that educators have used to encourage collaboration with students have not disappeared rather they are retooled to work.

The COVID-19 pandemic shuttered schools in Kansas in March 2020, as educators and the Kansas Department of Education developed a task force of over 700 educators to develop a guidance document that would help schools be prepared to re-open their doors for the fall semester. The guidance document encouraged educators in Kansas to utilize the pandemic as an opportunity to redesign student learning and instructional practice into a competency model. Dr. Watson (2020) cited the COVID-19 pandemic required flexibility and challenges associated with the limitations and safety measures needed for schools to operate safely in the 2020 school year.

Feldman and Reeves (2020) pointed out, educators will need to focus on essential content, explicitly state what it takes to earn specific grades, be more responsive and strategic with supports, and expand how and when students demonstrate what they know. Northwest Evaluation Association (NWEA) estimated the spring 2020 school closing would impact schools with a range from 30% in reading and math to the loss of a full year of learning. The disruption of COVID-19 drew attention to the disparities of equity for students regarding access and support. One way to counter the equity aspect that students should be graded on achievement of academic distinction based on the work they accomplish during the school day. Feldman and Reeves (2020) noted, the pandemic should teach us what we already should have known. Many grading systems are broken, when these systems rely on antiquated, inaccurate, and unfair practices, such as the average and using the 100 point scale, then we systematically put students at a disadvantage not only during the extended school absences caused by the pandemic, but throughout, their educational experiences.

Marshall, Shannon, and Love (2020) compared the transition from typical instruction to online and the transition that occurred in the Spring of 2020, they contended it should be

called emergency remote teaching (ERT) to be defined as “a temporary shift of instructional delivery to an alternate delivery mode due to a crisis circumstance” (p. 47). Educational experts advocate for a clear distinction between online learning and ERT as online learning is planned from the beginning, experts of online learning advocate that online learning is a valid method of instruction. The study completed by Marshall, et al. (2020) of 328 teachers, 92.4% reported they had never taught online before the emergency transition and all six aspects of professional work including lesson planning, assessing student learning, engaging with parents, and differentiating instructions were much more challenging during remote instruction on a six point Likert scale.

Instruction and Operations during the COVID 19 Pandemic

Initially when the COVID-19 virus was classified as a pandemic the concern for illness spread was significant and resulted in sweeping executive orders from state governments. The following section will describe the evolution of the guidance, restrictions, and regulations that governed schools in Kansas during the COVID-19 pandemic. In August of 2020, each county and school were offered some level of autonomy in the direction of both instruction and operations from August 2020 through May of 2021.

Continuous learning spring 2020. In March 17, 2020 Governor Laura Kelly became the first governor in the United States to order a statewide shutdown of school buildings because of the COVID-19 pandemic (Watson, 2020). In early April 2020, the Kansas State Department of Education (KSDE) released a guidance document for schools to guide the continued learning of students despite the closed school buildings and uncertainty. The equity guidance that was provided to schools by KSDE focused on meeting student needs during times of uncertainty. Resources, guidance, and support were shared regarding

disadvantaged students such as English learners and students with exceptionalities (KSDE, 2020). Recommendations for meal distribution were also included in this document to ensure that underserved student populations had meals. The federal government authorized an extension of a free summer meal program for all children age 1- 18 including an alteration to the typical requirement that all meals must be served onsite, the impact of COVID-19 allowed for meals to be served off site.

Restart documents from KSDE. Watson (2020) endorsed the work by districts and educators in Kansas Redesign during the prior three years and mentioned that the COVID-19 pandemic presented an opportunity for all schools in Kansas to take the research collected from redesign and pivot the methods of instruction to align with Kansas Redesign efforts. The Navigating Change: Kansas Guide to Learning and School Safety Operations, was developed during the summer of 2020 by nearly 1000 Kansans with a variety of professions joined together to create a guide for Kansas schools as re-entry into schools and learning began for the fall semester. The guidance included two main areas, operations, and instruction during a pandemic. Provided in just above 1200 pages, with pages 9-1044 devoted to instruction and standards, many of the ideas or themes were previously associated with the Kansas Can Redesign. Pages 1045-1076 discussed operations, safety, food service and transportation (KSDE, 2020).

Competency. The restart document provided prioritized standards, competencies, rubrics for assessment, support for struggling learners, and implementation guidance. The competency section is divided by grade bands Pre-K- 2, 3-5, 6-8, and 9-12. KSDE acknowledged the work of the 1000 Kansas teachers, administrators, service centers, consultants, and program directors were to review and analyze 30 years of work and Kansas

Standards in 30 days to develop a competency-based model for Kansas schools (KSDE 2020). The intent of a competency-based model in education is to move away from seat time requirements and move toward students demonstrating learning in a personalized way at their own pace. “Students progress or advance by demonstrating mastery when they are ready not based on seat time or calendars” (KSDE, 2019 p. 14).

Operations. Schools and their employees are considered essential parts of the community. School administrators in conjunction with local health officials made decisions about the method of instruction at different points during the school year. Three learning environments are referenced in the Navigating Change document published by KSDE in July 2020. On-site learning includes both students and teachers in school with or without social distancing practices in place. Hybrid learning included students spending part of their time in the classroom and part of their time learning remotely from home. Remote learning included students doing all their learning from home and not entering the school building at all. Across Kansas, schools moved through different methods of instruction during the year based on the prevalence, spread, and illness rates of COVID-19 in individual counties, communities, and regions. Educators have a responsibility to monitor students for possible symptoms of COVID-19 and work with county health departments to follow isolation and quarantine orders. Signs were posted that stated: Do not enter if you have a cough or fever, maintain a minimum of 6-foot distance from others, do not shake hands or engage in unnecessary physical contact. Daily temperature checks and visual inspection for signs of illness were considered best practice. Social distancing as defined by KSDE is a physical separation of a minimum of 6 feet. Masks or cloth face coverings were recommended within school facilities and outside by all visitors, staff, and students. Handwashing was also

included in the guidance to specify that all people should wash hands upon arrival, and hourly during the day. Grouping stability or cohorts of students were encouraged to limit the potential for illness spread among the entire building population. Additional cleaning, disinfection, and physical barriers were all encouraged to reduce the spread of illness.

Support for mitigation procedures came in the form of executive orders from Kansas Governor Laura Kelly. On July 20, 2020 Executive Order #20-59 was signed which outlined mitigation procedures such as mandating face coverings, six feet social distancing, temperature checks, and hand sanitizer.

Summary

As stated above, a multitude of influences impacted the COVID-19 pandemic on Kansas schools. Teachers and school systems were provided with opportunities for changing models from the traditional learning model with direct instruction into a model that included more of a competency-based learning model. Regardless of the learning model schools may have utilized during the COVID-19 pandemic, education and student learning remained a priority.

Chapter 3

Methods

This mixed methods study addressed the impact of the COVID-19 pandemic on education and instruction. A convergent parallel mixed methods design was used in which quantitative and qualitative data were collected in parallel, analyzed separately, and then merged. In this study, the hypothesis was the COVID-19 pandemic had negatively influenced instructional strategies in school districts within central Kansas. The quantitative data survey explored the use of instructional practices prior to and during the COVID-19 pandemic along with the perceptions of educators about the impact on responsibilities, roles, and job satisfaction. The qualitative data interviews explored the perceptions of learning, engagement, culture for educators in rural Kansas public schools. The reason for collecting both quantitative and qualitative data was to corroborate results of the two forms of data and to bring greater insight into the problem than would be obtained by either type of data separately.

Research Design

This study involved the use of a mixed methods convergent design, as defined by Creswell and Creswell (2018). "The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem" (p. 217). Additionally, a convergent study, as described by Creswell and Creswell (2018), is "a single-phase approach, where data is collected independently as qualitative and quantitative data sets, then the results are compared to confirm or disconfirm each finding" (p. 217). Quantitative data included educator input in the form of a survey. Qualitative data collection included building principals and superintendents for interview response. The researcher in

this study converged data of both quantitative and qualitative nature to determine the impact of COVID-19 on educator perceptions of instructional strategies, culture, and student achievement.

Detailed Procedural Diagram

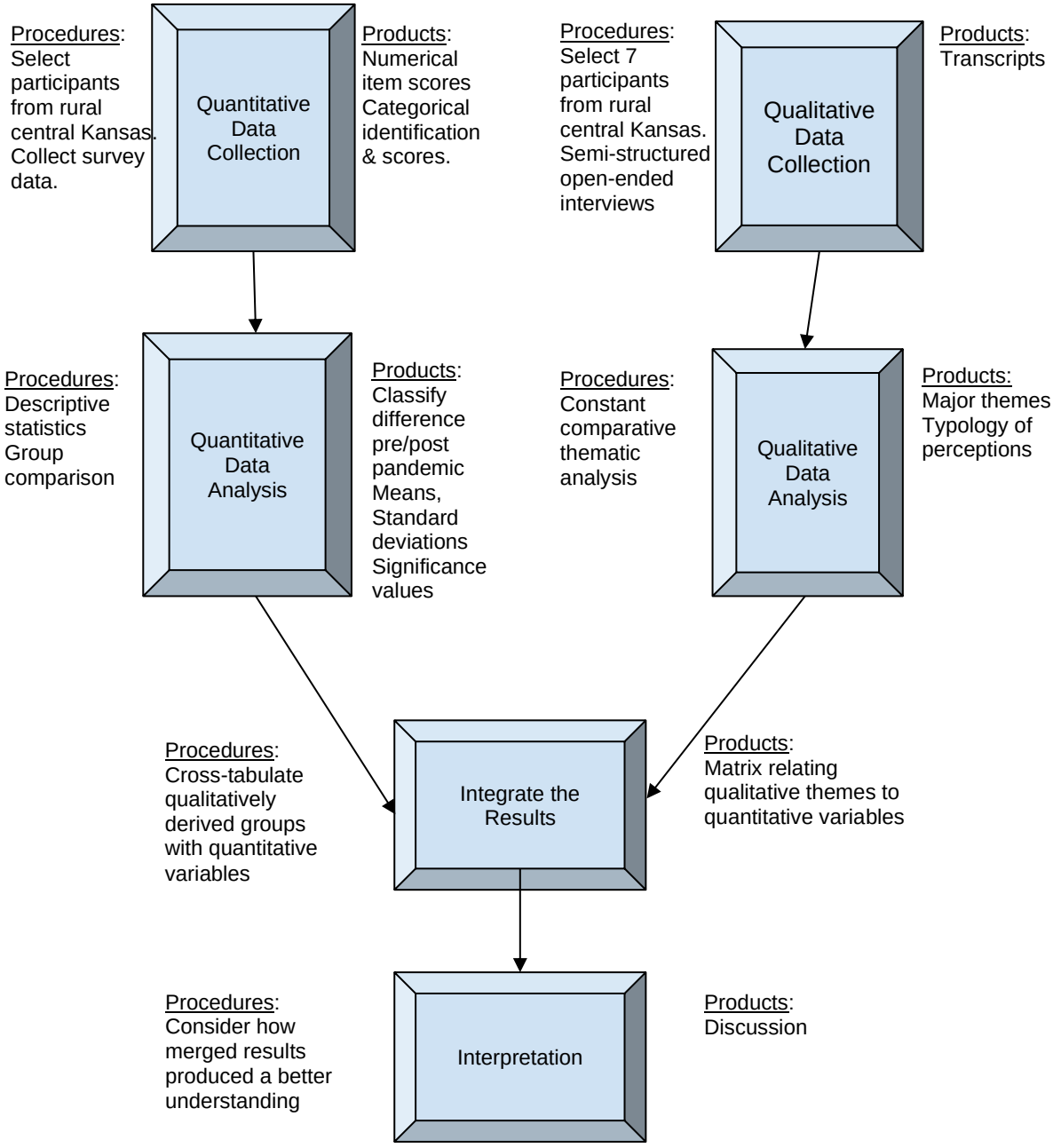

Figure 1. Procedural Diagram for Convergent Study Note. Adapted from Designing and Conducting Mixed Methods Research, by Creswell & Plano-Clark (2018) p. 76.

Selection of Participants

The study included participants from eleven school districts in central Kansas. The professional staff from the schools included licensed teachers and licensed administrators. The districts varied in size from small rural, to medium rural, and large rural districts in central Kansas. This population included a nearly equal distribution of male and female educators. All teachers were licensed in the State of Kansas. The participants were selected using purposive sampling. Purposive sampling was utilized to select the quantitative and qualitative participants. The quantitative and qualitative participants were selected through the utilization of maximum variation sampling. Creswell and Plano-Clark (2018) described this method as "a common strategy in which diverse individuals are chosen who are expected to hold different perspectives on the central phenomenon" (p. 176). The criteria used to determine maximum variation of the quantitative data involved the districts' membership into the rural central Kansas area school districts grouping. The criteria used to determine maximum variation of the qualitative data involved the participation of five building level administrators and three district level administrators. The quantitative participants were selected through purposive sampling of educators in rural central Kansas schools who were teaching prior to 2020-2021 school year and during the 2020-2021 school year. All participants were kept confidential and anonymous. Interview participants were confidential and were labeled as Building leader 1 – Building leader 4 and District leader 1-District leader 3.

Measurement

The measurement of the quantitative and qualitative data samples is not equal in sample size. Data from the survey and the interview were merged through parallel themes and context within the questions to facilitate integration of the results.

Quantitative measurement. The survey instrument was developed based on the work of Gregory and Parry (2006), which they described in a book called *Designing Brain-Compatible Learning*. The first section of the survey consists of demographic questions and district identification items, professional role within the school system, years of experience, primary method of instruction during the 2020-2021 school year, and which methods of instruction were utilized in the district during the 2020-2021 school year.

Section 2 focused on instructional elements and strategies and each strategy included components of the strategy while it asked for identification of use prior to the pandemic and during the COVID-19 pandemic. The first question in this section requested information on the use of the lesson or instructional methods. Survey participants were asked to check all that apply if they used the method before COVID- 19 and if they used the method during COVID-19 from the following list: mental set, the hook; clearly defined student objectives; instructional process; closure; extension. Survey participants were asked to check all that applied if they used the method before COVID- 19 and if they used the method during COVID-19 from the following list of strategies associated with lesson transmission or direct instruction of instructional materials: lecture, modeling, guided practice, independent practice, and reading. Survey participants were asked to check all that applied if they used the method before COVID-19 and if they used the method during COVID-19 from the following list related to the use of the following assessment types: formative, summative,

portfolios, logs & journals, performances, presentations, demonstrations, interviews, checklists, exhibitions, projects, paper and pencil test. The next question asked survey participants during COVID-19 to select from the following list of strategies associated with cooperative learning: cooperative learning, think pair share, 3- step interview, 4 corners, jigsaw, walkabout, round table, paraphrase, simple square, graffiti board, academic controversy, carousel, and brainstorming. The next question asked survey participants to check all that apply if they used the method before COVID- 19 and if they used the method during COVID-19 from the following list the use of graphic organizers: word web, Venn diagram, mind map, classification grid, sequence chart, flow chart, fish bone, right angle, spectrum, pie charts, histograms, agree/ disagree chart, KWL, ranking ladder, cause-reason chart. The next question asked survey participants to check all that applied if they used the method before COVID- 19 and if they used the method during COVID-19 from the following list differentiation. The components that were listed included differentiation, alternate assignments, multiple intelligences, learning styles, 4Mat, project-based learning. The next question asked survey participants to check all that apply if they used the method before COVID- 19 and if they used the method during COVID-19 from then following list of tools or strategies that use technology in instruction included: word processing, publishing, database, spreadsheets, search engines, graphics, internet email social media, online lesson submission, video lessons, virtual textbooks, virtual worksheets, Google Classroom / Blackboard. The last question in section 2 was open ended and asked participants to list any additional instructional methods utilized during COVID-19 pandemic.

Section three of the survey requested information about perceptions on a three-point scale: little to no impact, some impact, or significant impact. The questions were as follows:

How has the COVID-19 pandemic altered your teaching practices?

How has the COVID-19 pandemic altered the structure of your job?

How has the COVID-19 pandemic altered your feelings about education?

Has the COVID-19 pandemic altered your desire to continue working in education?

Qualitative measurement. The measurement used for the qualitative portion of this study was an interview script and protocol developed by the researcher. This portion of the study involved the use of semi-structured, open-ended interviews, in which, according to Lunenburg and Irby (2008), "Some questions are developed in advance, while follow up questions are developed as the interview progresses based on participant responses" (Lunenburg & Irby, 2008, p.192). The semi-constructed, open-ended questions were designed to examine the effect of COVID-19 on educational experiences of school building and district leaders. The eleven questions addressed RQ2.

Interview Questions were as follows:

1. How many years of experience do you have in leadership?
2. What grade levels does your leadership cover?
3. What size is your district, number of students?
4. How many certified educators do you have?
5. How many classified employees do you have?
6. Please describe the learning methods utilized in your school or district prior to the COVID-19 pandemic?
7. Please describe the learning methods utilized in your school or district during the COVID-19 pandemic?

8. What types of professional development did your school or district provide to staff in preparation for education in the 2020-2021 school year?
9. Please describe the changes to operations that occurred during the 2020-2021 school year.
10. Please describe the engagement of students in the learning process prior to and during the 2020-2021 school year?
11. Please describe the change in school culture among teachers, students, and stakeholders during the COVID-19 pandemic?

Data Collection Procedures

Before the data were collected, the researcher obtained permission to conduct research. Permission was obtained from the central Kansas area superintendents. Eleven of the twenty-three districts consented to participate. A written proposal was presented to and permission was granted for the study to be conducted on February 16, 2021 (see Appendix A). Next, the researcher initiated the process to obtain permission from Baker University. A proposal for conducting the study was presented to Baker University on March 1, 2021. The Baker University Institutional Review Board (IRB) approved the research study on March 5, 2021 (see Appendix B). Data collection began following the approval of the study by Baker University IRB.

Quantitative data collection procedures. The quantitative portion of the study included survey data collected electronically. The survey instrument was sent to the superintendent of each district to distribute to all staff on March 7, 2021. The survey contained a consent. After one week of data collection, a reminder email was sent to the

superintendent of all districts that had less than five percent response rate (Appendix H). The survey concluded on March 25, 2021.

Qualitative data collection procedures. Participants were contacted by email on March 8, 2021 with a request to participate in the study (Appendix C). Written consent was signed on March 8, 2021. An introductory phone call followed by an email included a copy of the research questions, options for interview times (Appendix D). Participants selected an interview time during the follow up email (Appendix E). Interviews were scheduled to last 30-60 minutes. Next, the researcher began the interview process on March 9, 2021 and concluded the interviews on March 23, 2021. Each participant signed a consent form before being interviewed (see Appendix F). Interview questions were developed that aligned with the survey (Appendix G) Each interview was recorded using a digital recording device and transcripts were created and submitted to Dedoose.com. Results of codes are included in Appendices I and J. Each participant received a transcript of the interview to make corrections and approve the transcription. Following the participant approval, transcripts were analyzed.

The collection of quantitative and qualitative data were collected from two sources, surveys and interviews, within the same physical region. The convergent design merged data collected during the same period.

Data Analysis and Integration

Data analysis for all research questions included a matched pair analysis of pre and post intervention scores. Hypothesis testing and descriptive statistics were collected for each of the research questions.

RQ1. To what extent do educators perceive that the COVID-19 pandemic altered instructional practice?

***H1*.** Educators perceive that the COVID-19 pandemic is altering the practice of instructional strategies.

A paired samples *t* test was conducted to test H1. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of instructional strategies that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

***H2*.** Educators perceive that the COVID-19 pandemic is altering the instructional practice of direct instruction or transmission.

A paired samples *t* test was conducted to test H2. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of direct instruction or transmission that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

***H3*.** Educators perceive that the COVID-19 pandemic is altering the instructional practice of assessments.

A paired samples *t* test was conducted to test H3. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of assessment that

educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

H4. Educators perceive that the COVID-19 pandemic is altering the instructional practice of cooperative learning.

A paired samples *t* test was conducted to test H4. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of cooperative learning that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

H5. Educators perceive that the COVID-19 pandemic is altering the instructional practice of graphic organizer utilization.

A paired samples *t* test was conducted to test H5. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of graphic organizer utilization that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

H6. Educators perceive that the COVID-19 pandemic is altering the instructional practice of differentiation.

A paired samples *t* test was conducted to test H6. The two sample means were compared. A paired samples *t* test was chosen for the hypothesis testing since the analysis

involved the examination of the mean difference between the percentage of differentiation that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

H7. Educators perceive that the COVID-19 pandemic is altering the instructional practice of technology utilization.

A paired samples *t* test was conducted to test H7. The two sample means were compared. A paired-samples *t* test was chosen for the hypothesis testing since the analysis involved the examination of the mean difference between the percentage of technology utilization that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

RQ2. How do school building and district leaders describe their experiences with instructional practices and achievement during the COVID-19 pandemic?

RQ3. How do the interview responses of school building and district leaders agree with or extend the results of the teacher survey into perceptions of instructional practices and achievement during the COVID-19 pandemic?

Reliability and Trustworthiness

During the consent to participate in the interview process, the interview questions were shared with each participant, and the interview questions were examined by a field expert in instructional practice prior to the use of the questions. Interviews were completed by the researcher. After interviews were completed member check was utilized, and the transcripts were provided to each participant for review and correction. After data analysis

was completed by the researcher an auditor was utilized to ensure the correction conclusions were brought forth from the interviews.

Researchers Role

The researcher was a secondary building administrator in one of the central Kansas Area districts during the 2019-2020 and 2020-2021 school years. The researcher at the time of this study held a bachelor's degree in elementary education with a minor in special education, a master's degree in educational leadership, and was a doctoral candidate in educational leadership. The researcher held previous positions as special education teacher, special education program coordinator, and behavior and trauma coordinator in a previous district. The researcher is a female who has worked in the educational field for ten years. The researcher was a building leader during the COVID-19 pandemic with direct personal experience in leadership during this event.

Limitations

Lundberg and Irby (2008) defined limitations as "factors that may have an effect on the interpretation of the finding or on the generalizability of the results" (p.133). Limitations for this study include the participant's ability to understand the questions in the survey. This study was completed in rural districts with a high percentage of low socio-economic students, the generalization to a large, affluent, urban, setting could be limited.

Summary

The mixed methods convergent design of this study collected data from rural central Kansas educators to extend or support the information obtained to understand the impact of COVID-19 on instructional practices, student learning, and building culture. The use of research-based work from Gregory and Parry (2006) formed the basis for the instructional

strategies survey. While the interview questions were member checked to support or connect with the survey questions.

Chapter 4

Results

This study intended to investigate the effects of COVID-19 on instructional practices in rural central Kansas public schools. Building and district leadership interviews and certified educator survey were collected and merged to expand understanding and provide comprehensive results.

Descriptive Statistics

Descriptive statistics were calculated, and charts were constructed using data for 82 educators from 11 school districts in rural central Kansas. As seen in Figure 2 below, the survey was primarily completed by educators that identify as a teacher. The survey completed by educators included the following breakdown of educators by role.

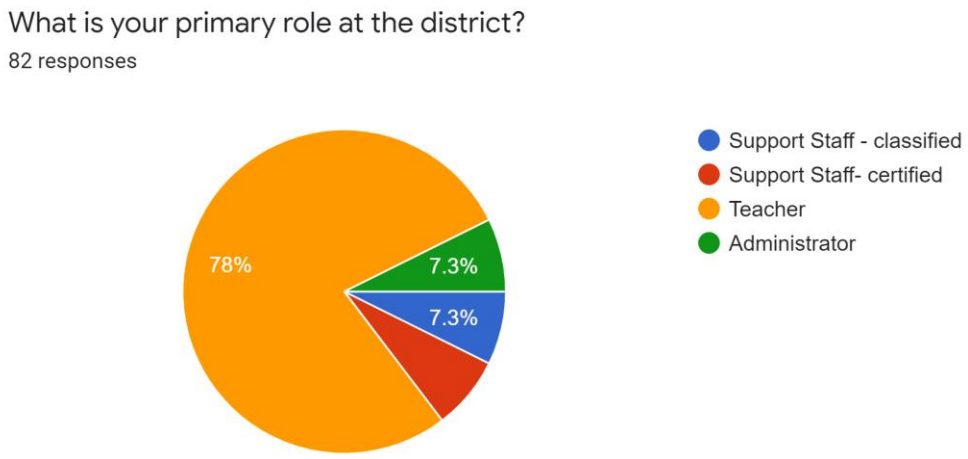

Figure 2. Primary Role in education of Survey Respondents

Additionally, when examining the length of time in education Figure 3 displays that the majority of respondents have been in the field of education fifteen or more years.

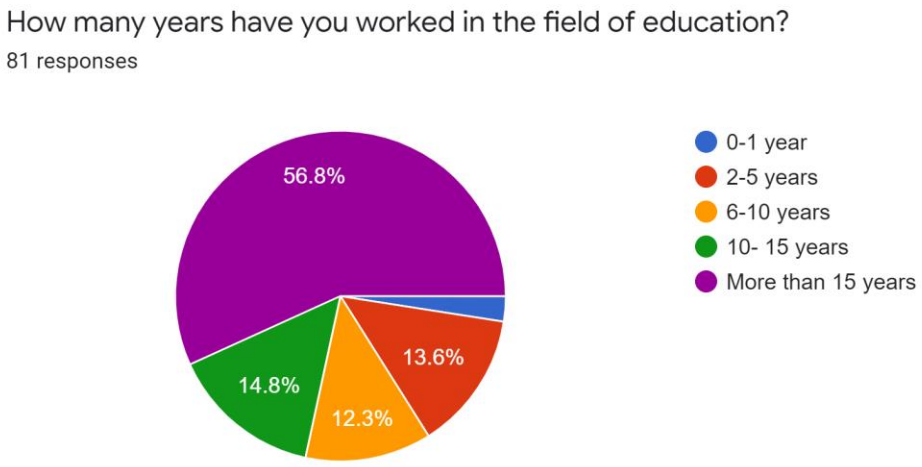

Figure 3. Survey respondents' years of experience in the field of education.

RQ1. To what extent do educators perceive that the COVID-19 pandemic altered instructional practice and impacted achievement?

Seven paired- samples *t* test were conducted to test H1- H7. For each test the two sample means were compared. Paired-samples *t* tests were chosen for the hypothesis testing since it involves the examination of the mean difference between the percentage of instructional strategies that educators reported were observable prior to and during the COVID-19 pandemic. The level of significance was set at .05. When appropriate, an effect size, as indexed by Cohen's *d*, is reported.

H1. Educators perceive that the COVID-19 pandemic is altering the practice of instructional strategies.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, $t(81) = 3.369$, $p = .001$, $d = .372$. The mean percentage of instructional strategies that educators reported were observable prior to the COVID-19

pandemic (*M* = .71, *SD* = .33, *n* = 82) was higher than the mean percentage of instructional strategies that educators reported were observable during the COVID-19 pandemic (*M* = .60, *SD* = .34, *n* = 82). H1 was supported. The effect size index indicated a small effect.

***H2*.** Educators perceive that the COVID-19 pandemic is altering the instructional practice of direct instruction or transmission.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, *t*(*81*) = 2.612, *p* = .011, *d* = .288. The mean percentage of direct instruction or transmission that educators reported were observable prior to the COVID-19 pandemic (*M* = .78, *SD* = .31, *n* = 82) was higher than the mean percentage of direct instruction or transmission that educators reported were observable during the COVID-19 pandemic (*M* = .72, *SD* = .30, *n* = 82). H2 was supported. The effect size index indicated a small effect.

***H3*.** Educators perceive that the COVID-19 pandemic is altering the instructional practice of assessments.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, *t*(*81*) = 4.82, *p* = .000, *d* = .533. The mean percentage of assessments that educators reported were observable prior to the COVID-19 pandemic (*M* = .51, *SD* = .27, *n* = 82) was higher than the mean percentage of assessments that educators reported were observable during the COVID-19 pandemic (*M* = .39, *SD* = .22, *n* = 82). H3 was supported. The effect size index indicated a medium effect.

***H4*.** Educators perceive that the COVID-19 pandemic is altering the instructional practice of cooperative learning.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, $t(80) = 5.443$, $p = .000$, $d = .605$. The mean percentage of cooperative learning that educators reported were observable prior to the COVID-19 pandemic ($M = .28$, $SD = .19$, $n = 81$) was higher than the mean percentage of cooperative learning that educators reported were observable during the COVID-19 pandemic ($M = .15$, $SD = .16$, $n = 81$). H4 was supported. The effect size index indicated a medium effect.

H5. Educators perceive that the COVID-19 pandemic is altering the instructional practice of graphic organizer utilization.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, $t(82) = 3.074$, $p = .003$, $d = .337$. The mean percentage of graphic organizers that educators reported were observable prior to the COVID-19 pandemic ($M = .19$, $SD = .18$, $n = 83$) was higher than the mean percentage of graphic organizers that educators reported were observable during the COVID-19 pandemic ($M = .16$, $SD = .17$, $n = 83$). H5 was supported. The effect size index indicated a small effect.

H6. Educators perceive that the COVID-19 pandemic is altering the instructional practice of differentiation.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, $t(83) = 2.795$, $p = .006$, $d = .305$. The mean percentage of differentiation that educators reported were observable prior to the COVID-19 pandemic ($M = .39$, $SD = .23$, $n = 84$) was higher than the mean percentage of differentiation that educators reported were observable during the COVID-19 pandemic ($M = ,32$, $SD = .26$, $n = 84$). H6 was supported. The effect size index indicated a small effect.

H7. Educators perceive that the COVID-19 pandemic is altering the instructional practice of technology utilization.

The results of the paired samples *t* test indicated a statistically significant difference between the two means, t(82) = -8.674, p = 0.000, d = -0.952. The mean percentage of technology utilization that educators reported were observable prior to the COVID-19 pandemic (M = .32, SD = .25, n = 83) was lower than the mean percentage of technology utilization that educators reported were observable during the COVID-19 pandemic (M = .50, SD = .29, n = 83). H7 was supported. The effect size index indicated a large effect.

RQ2. How do school building and district leaders describe their experiences with instructional practices and achievement during the COVID-19 pandemic?

The qualitative portion of the study included interviews of four building leaders and three district leaders from five districts about their experiences with education prior to and during the COVID-19 pandemic. The interviews revealed three major themes (Appendix I).

Major theme one revealed that the COVID-19 pandemic created a challenging and difficult environment to navigate for educators, this theme was discussed by six of the seven educational leaders. The challenges were both emotional and physical changes to the environment and learning. Educational leaders shared the overall environment was one of higher stress with so many unknowns. Building Leader 2 reported,

> It has been more tense and that is just across the board and at no fault of anyone. When returning to school have a long school closure with so many regulations and so many expectations has been tense. It's put a lot of pressure on our teachers. I feel like the students have done awesome; it really has not affected them too much. The mask stuff has been like second nature to the students, but it has affected our teachers.

> I think burnout is a lot higher and has been a lot quicker this year. I noticed that teachers typically itch for those breaks but this year it was like you almost had a rash for those breaks from school to occur. People seem to just really need the breaks to be there. It's almost been exhausting in other ways, more emotionally and mentally this year than any other year that I've been in education. (personal communication, March 16, 2021)

The stress as described above was also shared by another building leader,

> It almost feels like there is somewhat of a cloud. Not a bad one, but a quiet one. It's kind of like we've got to cover up, you know, I don't know, quite how to explain it but it just it feels different now. Things are less active, in the hallway and greeting others, people are respectful, but they're not as excited. I don't even know the right words, but it is different. Prior to COVID-19, we had a little more movement and everyone seemed a little more excited. Now we're a little less excited (Building Leader 3, personal communication, March 17, 2021).

The cloud over schools was impacted by the unknown nature of a pandemic; worry, fear, and additional stress put a significant amount of pressure on everyone, from parents, board members, teachers, community members and especially students. When asked about staff culture in preparation for the school year the initial response of staff was described as overwhelming, "They absolutely did nothing, couldn't and wouldn't do it. The world was covered in gloom. They asked, how we're going to make this happen, 1000 questions. Frequently I heard, this is awful. We're all going to die" (Building Leader 4, personal communication, March 22, 2021).

Educators weren't the only people who saw the challenges of COVID-19 on school, "It was most difficult for our elementary kids and family and really hope that that never happens again. It's that bad to me" (District Leader 2, personal communication, March 22, 2021). Other leaders reported that when elementary students returned to school and in-person learning, the students were so happy and excited to be there. District Leader 2, shared about the challenges of COVID-19 on parents,

> I would get calls from both sides of the fence especially when we were dealing with a full remote period of instruction. In reflection, I will never say that was the best decision to be made, but it was the decision, I felt like needed to be made at the time. I really felt like it was really hard on our community to try to educate students remotely, especially at the elementary level with parents trying to deal with young kids at home. Not only just in the custodial level but trying to help them with the learning of what was going on in the classrooms. I just think that was really difficult for our parents. (personal communication District Leader 2, March 22, 2021)

Major theme two was discussed by all interviewees, which included the changes required to minimize illness, masking, sanitizing, social distancing, temperature taking, and quarantines associated with illness. The challenges of altering a long-standing routine in a school setting were described well in the interview with Building Leader 1 (personal communication, March 12, 2021)

> We just had to alter some of our routines like, making sure that there were staff stationed at the entrances, making sure kids were walking in with their mask on or provide them with a mask. We had to do temperature checks, provide sanitizer at different entrance and exit points of the building. We had to make sure the cleaning

supplies were in the proper place. We had to provide the proper procedure training on every time they switch rooms or groups, there's hand washing and/or, sanitizing of hands, and wiping down of tables and surfaces. We just had to make sure that we had the supplies in place and people knew where to get them or who to get in touch with to get those either prepared, or refilled. Some people had to check on them. We did have to change and restructure a little bit of our intervention groupings or times because we were trying, not to mix different grade levels. We had reorganized scheduling and locations.

Then the biggest one is lunch was really tough. We started off with masking tape, we took masking tape and x-ed off every other chair on our tables and that worked for a while until we realized after the first month or two, a lot of our quarantines were coming from lunch spaces. We had to reorganize our lunch schedule, which alters your whole schedule. We had three students per lunch table and then assigned some lunch groups to eat in the classrooms.

The best efforts of schools and districts to keep students in the building still created many challenges as local health departments worked in conjunction with schools to stop the spread of the COVID-19 virus. Schools were notified when students were placed into a 10-14 day quarantine period. District Leader 1 shared the impact of quarantine on not only students but staff as well. “Quarantines nailed us the most between staff and students. We were wiping out, 10 to 15 kids at a time just because of space issues and not be able to keep everybody separated as the six feet required” (personal communication, March 22, 2021).

Major theme three was discussed by six of the seven interviewees and looked at the preparation for remote learning or the use of remote learning. As the structure of learning

became clearer from the guidance of Kansas State Department of Education, schools worked to prepare teachers for instruction. “We did have a speaker come in and talk to us that had been experience, their job to do online learning. Now it wasn't likely enough, we definitely could use more” Building Leader 3 (personal communication, March 17, 2021). Regardless of the preparation that was provided schools reported seeing challenges in student engagement and learning during remote or hybrid learning, Building Leader 4 (personal communication, March 22, 2021) said,

> When we went remote it was terrible. The kids did not care. They didn’t want to come to class. I was making phone calls so much. They didn’t want to be there. The kids were worried about their families, didn’t understand what was going on, and they didn’t want to be there online sitting all day. We also didn’t do a very good job of it; the teachers weren’t prepared.

Educators struggled to navigate the changes both with the technical challenges as well as the loss of connectedness and relationships. The following is a commonly shared experience from the interviewees,

> I saw that it was very difficult for the teachers, not to have daily physical contact with the kids. I felt the same thing and it seems like the kids miss that connection as well. I think the kids thought at first it was fun to be home, but they really missed the contact, especially our students that may need a little extra care. We saw that the kids who needed it, they were not getting that.
>
> Our structure had to change of course especially the time of meeting each day. What we tried to do was meet every day, it was more online, and it was hard to make a connection over the Internet. We really felt the distance because we just couldn’t

> stand beside them and see what's going on. That was tough for the teachers to not see and monitor the student learning. Now, they had to change how they met with the students, and their lessons were different. The delivery was different because we still had students that wanted the paper copy, so we did make copies for those students. Several students came in and got those every day even when we were remote.
>
> The other thing that was difficult was you can't make the students get online. You can go speak with the parents and you can visit with the family, but you can't make the parents understand the importance of being online, or in a room, where it's quiet without a lot of interruptions. (Building Leader 3, personal communication, March 17, 2021)

Educators saw the struggles of students yet were unable to meet the needs of students from a distance in many situations, leaving them feeling overwhelmed and frustrated. District Leader 1 shared the frustration he heard associated with student learning behavior,

> It became really apparent that students were disconnected. You know, disengaged from the start and then when truancy was filed, and people realize this is the real deal. Many students returned to brick and mortar buildings. We started seeing that and then the ones that weren't successful, were told you are going to repeat that same grade, if you don't get back in school or display some kind of effort on your part to get those classes taken care of.
>
> There is a disengagement with our remote learner, sadly we did assume that might be there, but we didn't expect to have that high level. It took a lot of work from counselors, family support workers, principals, everybody, trying to keep engaged with those families and children, really pushing them hard to keep going. We saw,

> when parents realized hey this is a lot of work, we would rather have the school do that work. Instead of us trying to fight our kids. Next year we will not offer remote learning, but we are looking at the possibility of virtual school. That will help provide education to those that either health-wise or some other need, will have that virtual option but it's going to be limited to high needs situations.

Preparation for remote or hybrid learning was minimal in most schools or districts as schools had to teach the basics of technology usage to ensure connection rather than specific strategies to use for hybrid or remote learners. District Leader 3 shared their approach to professional development for education during COVID-19, (personal communication, March 23, 2021)

> We wanted every teacher to be able to hit Google Meet and broadcast immediately. If they had a kid that either was quarantined or chose to go remote. We did quite a bit of training at the beginning of the year just to help them get their laptops ready and have everyone do a practice lesson so that they would be able to get it up and going pretty quickly. It was mostly just technical training. We didn't have a ton of professional development on how to be in hybrid or remote.

District Leader 3 shared about the engagement of students as they moved from remote to in-person, to hybrid (personal communication, March 23, 2021)

> It was very difficult during the last year when we were fully remote. We had to throw all that together. Our principals went out and made kids turn in assignments. They would go and talk to students and families to explain we were turning kids in and reporting them truant because they wouldn't turn things in for several days. I would say, compared to districts across Kansas above average engagement, but it still wasn't

> anything close to what we normally have. This year it's been good, back up to normal until we moved to hybrid and even that started out really good, but towards the end we saw the decline. The kids that were home were starting to fade.

Some schools in central Kansas delayed the start of school to give teachers, administrators, and staff more time to prepare for the changes to come. Building Leader 1 (personal communication, March 12, 2021) describes the preparation for school in a district that had experience with one-to-one technology.

> We postponed the start of the school year by a week, and in that week, we spent a couple of days training teachers, how to use new tools like Kami or how to fully engage in Google Classroom. Many classrooms have not used or were superficially used to using it. We learned about different presentations software that our district had purchased. Then, we provided teachers with time practice with and learn those tools after we were trained. Teachers were able to plan for using them at the start of the school year. It was a good thing we did because we had a pretty high rate of quarantines in the first month or two of school.

As the codes for the interviews were examined a high level of co-occurrence was observed in a few areas (Appendix J). As leaders noted on six different occasions that student engagement was poor during remote learning. Remote or hybrid learning was also described as difficult or challenging on six occurrences. As leaders reflected on the impact of the pandemic on education long term and how quickly it changed things for schools, Building Leader 2 shared,

> I think overall I think it has made us appreciate education. When the shutdown happened it just happened. There was nothing we could do about it. It was like the

> rug had been pulled out. We had a matter of a week to get ready for how we were going to move forward. "How we were going to still try to educate our kids?" I think overall, it has made us appreciate being where we're at and who we are as educators. I think some have found maybe a new light in their career. I think it has put us in situations that we may have needed to be put in to improve. It's not something I would like to go through again. Looking back, I think for myself, there are a lot of things I would have done different but at the time it was doing what I could to support my teachers and the other staff. Now I know that I would have done things differently but that's a hindsight 20/20, it is what it means to be part of education. It taught everyone a lot about appreciation. It made people think about what you want to be as an educator and what is important inside our classrooms. We know academics are important, but I think that it made us realize how important the social emotional aspect is also. (personal communication, March 16, 2021)

RQ3. How do the interview responses of school building and district leaders agree with or extend the results of the educator survey into perceptions of instructional practices and achievement during the COVID-19 pandemic?

Educational leaders in rural central Kansas reported that instructional practices were traditional with some integration of cooperative learning and teacher driven technology incorporation. The survey respondents reported traditional instructional practices with a large focus on transmission methods were used prior to COVID-19 pandemic. District Leader 3 shared, "We are typical of any small town. Certainly, no remote, or distance learning. We do have some dual credit classes and concurrent credit classes with a couple of

different colleges but other than that, just pretty much typical instruction" (personal communication, March 23, 2021).

Both educational leaders and survey respondents reported that cooperative learning and collaborative work declined in use during the pandemic. Survey respondents reported an overall decline in all instructional practices other than technology. This was echoed by interviewees, "With the time restraints on it, we didn't do much. We just focused on the cores for our main subjects" (Building Leader 4, personal communication, March 22, 2021). However, the use of technology increased significantly according to both measures. As can be expected with the need for remote, hybrid, and the unknown nature of the virus on attendance within a brick and mortar setting, schools needed to be prepared to have students in person one day and then gone for fourteen days.

Summary

The data compiled in this mixed methods study support that COVID-19 had an impact on instructional practice and culture in education. The three major themes as well as the survey data indicate that instructional practices were forced to be altered but that caused a level of frustration within educators and students with poor student engagement reported. All instructional practices were altered in a statistically significant manner. Although educators in rural central Kansas were primarily providing instruction in person there was a decrease in use of instructional practices for all surveyed except technology.

Chapter 5

Interpretation and Recommendations

Study Summary

The qualitative data interviews of seven building or district level leaders explored the challenges and observations of administrators in rural central Kansas. The quantitative data collected in the form of a survey completed by 82 educators examined the use of specific strategies prior to and during the COVID-19 pandemic. The collection of both quantitative and qualitative data converged to bring greater insight into the challenges of COVID-19 pandemic than would be obtained by either type of data separately.

Overview of the problem. Educators were faced with a lack of research related to the impact of school closure and the subsequent restarting of in-person instruction during a global pandemic. Educational leaders were facing the requirement to support academic instruction and social emotional needs of teachers, staff, and students during a global pandemic.

Purpose statement and research questions. The purpose of this mixed methods study was to addresses the impact of a global pandemic on public education. A convergent parallel design was used to examine the impact the challenges associated with a pandemic led to alteration of the instructional practices for educators in rural central Kansas. The first purpose was to determine educator perceptions of teaching prior to the pandemic and subsequent impact on student achievement. The second purpose was to determine educator perceptions of teaching during the pandemic and subsequent impact on student achievement. The third purpose was to find the impact of the requirement from state and local governing

bodies on instruction, preparation, and stress of educators and students during the COVID-19 pandemic.

RQ1. To what extent do educators report that the COVID-19 pandemic altered instructional practice and impacted achievement?

RQ2. How do school building and district leaders describe their experiences with instructional practices and achievement during the COVID-19 pandemic?

RQ3. How do the interview responses of school building and district leaders agree with or extend the results of the teacher survey into perceptions of instructional practices and achievement during the COVID-19 pandemic?

Review of the methodology. The mixed methods study addressed the impact of COVID-19 pandemic on education and instruction. A convergent parallel mixed methods design was used, designed in which quantitative and qualitative data were collected in parallel, analyzed separately, and then merged. In this study, the prediction was that the COVID-19 pandemic would influence instructional strategies in school districts within central Kansas. The quantitative data survey will explore the use of instructional practices prior to and during the COVID-19 pandemic along with the perceptions of educators about the impact on responsibilities, roles, and job satisfaction. The qualitative data interviews will explore the perceptions of learning, engagement, culture for educators in rural Kansas public schools. The reason for collecting both quantitative and qualitative data is to corroborate results the two forms of data to bring greater insight into the problem than would be obtained by either type of data separately.

Major findings. The survey found that a statistically significant difference of means occurred when comparing the use of instructional strategies and components prior to and

during the COIVD-19 pandemic. The use of all tools except technology decreased during COVID-19. Small effect sizes were observed with decreases in lesson or instructional methods, transmission or direct instruction strategies, graphic organizer usage, and differentiation. A medium effect size was observed with decreases in the use of assessment and cooperative learning. A large effect size was observed in the increased use of technology.

When examining the instructional practice usage during COVID-19 had declined as compared to typical instruction in rural central Kansas, a connection can be drawn to the increase in student engagement being poor. The use of the primary components of instruction according to Gregory and Parry (2006) were documented as decreasing in use during COVID-19 as compared to before COVID-19 (Figure 4). This begs the question of what components of instruction educators were using during the COVID-19 pandemic.

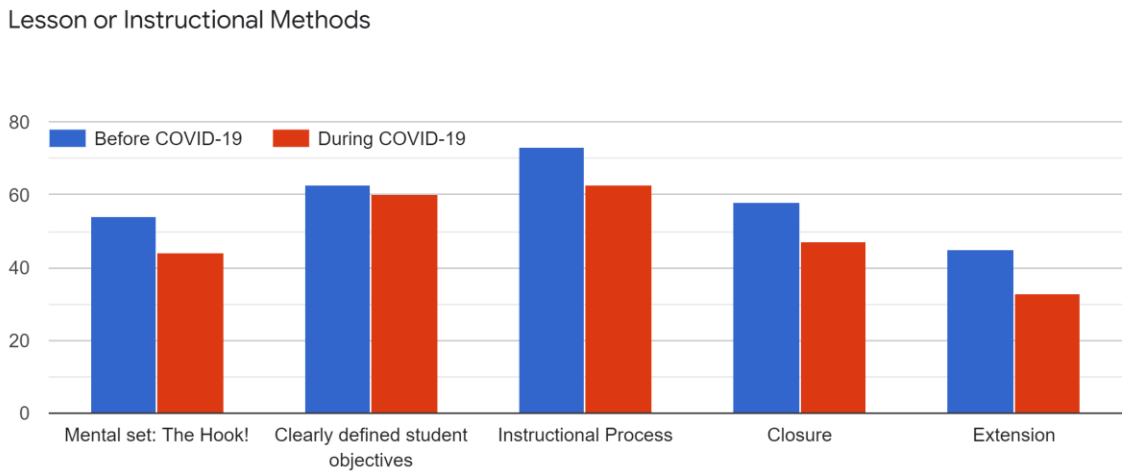

Figure 4. Survey response bar graph of instructional methods prior to and during COVID-19 Pandemic.

As shown in Figure 5, overall, the use of assessment practices decreased during COVID-19 than prior to COVID-19. This indicates that teachers were likely providing activities and assignments without assessment for knowledge.

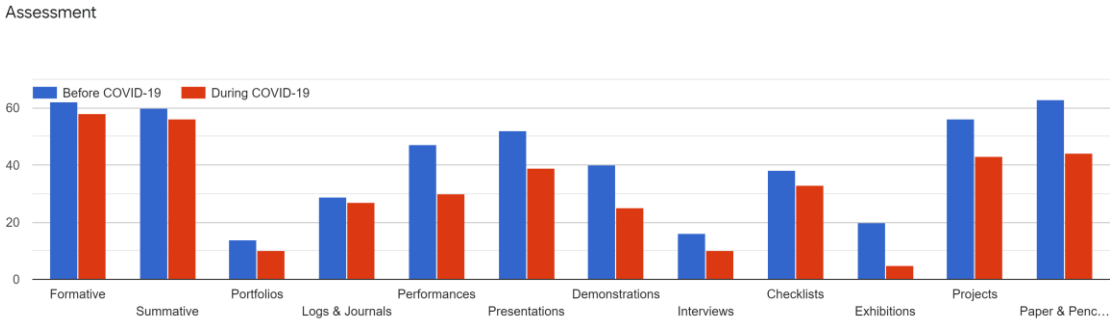

Figure 5. Assessment response bar graph from instructional practices survey.

Cooperative Learning usage decreased during COVID-19 likely due to the social distancing requirements (see Figure 6). Educators were told to keep students at least six feet apart. This was supported in the interviews with major theme two, that expressed connections to the mitigation procedures associated with the pandemic.

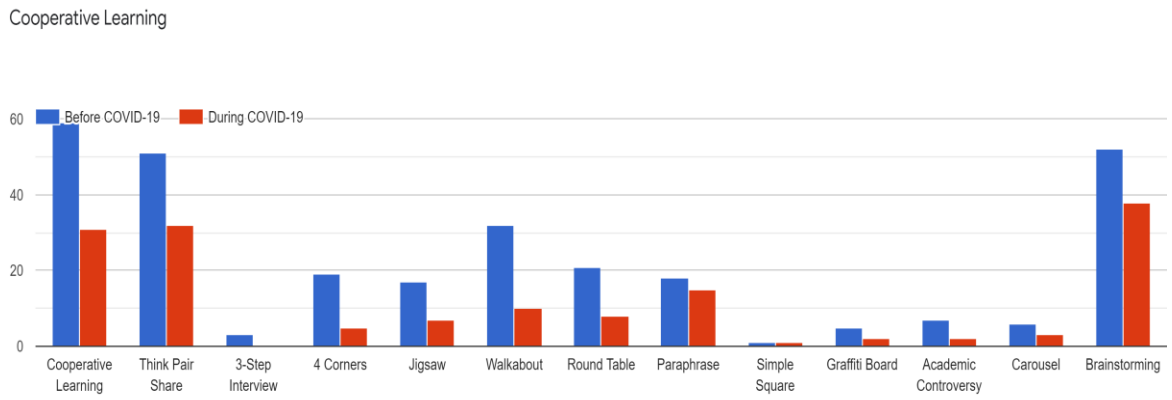

Figure 6. Cooperative learning usages prior to and during COVID-19 Pandemic as reported in survey

Technology usage increased by a statistically significant level of increased use during COVID-19. The increase in technology usage for instruction delivery is likely linked to the uncertainty of COVID-19 quarantines that sent students home for 10-14 days at a time per exposure or illness. This necessitated the need for students to have access to educational opportunities or instruction from home. As visible in Figure 7, technology usage increased significantly by educators during the COVID-19 pandemic. This was also listed as major theme three within the qualitative portion of the study and contributed to major theme one because of the co-occurrence of stress, challenges, and technology integration.

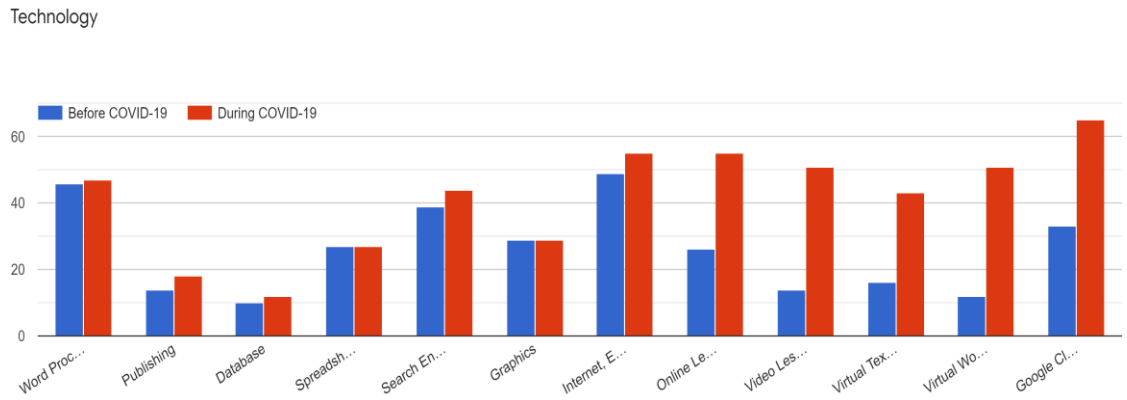

Figure 7. Technology use as reported by educators prior to and during COVID-19 pandemic.

In Figure 8, it is visible to see that when considering educators perceptions of the impact of COVID-19 on teaching practices at least 88% of educators mention that instructional practices changed with some or significant impact during COVID-19. When looking at all the instructional practices responses in conjunction with this specific question it is clear some educators saw a change in instructional practice. Although education leaders reported that instructional practices continued in a traditional manner that different from the perceptions of surveyed educators, likely because of the required implementation of technology as reported in the instructional practices portion of the survey.

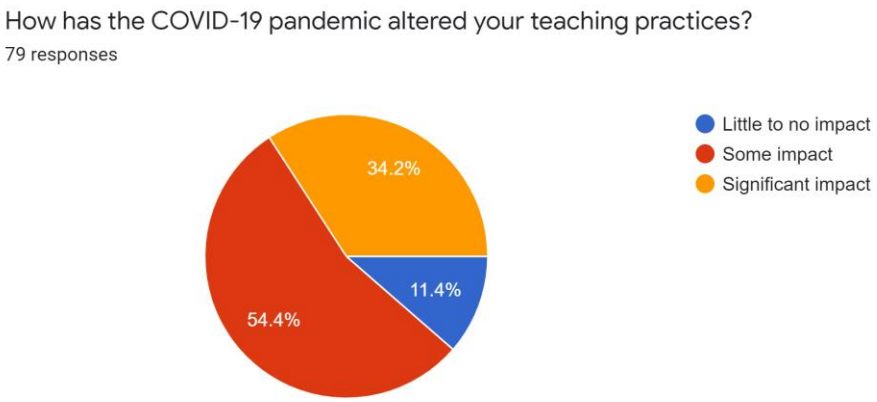

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Figure 8. Perceptions from educators on the impact of COVID-19 on teaching practices.

Approximately 87% of educators reported that COVID-19 had some or significant impact on job responsibilities as displayed in Figure 9. Interviews with leadership revealed that educators felt challenged to meet the requirements of wearing masks, social distancing, and quarantine. These changes likely connected to the additional procedures and protocols that were put in place as a direct result of the COVID-19 pandemic.

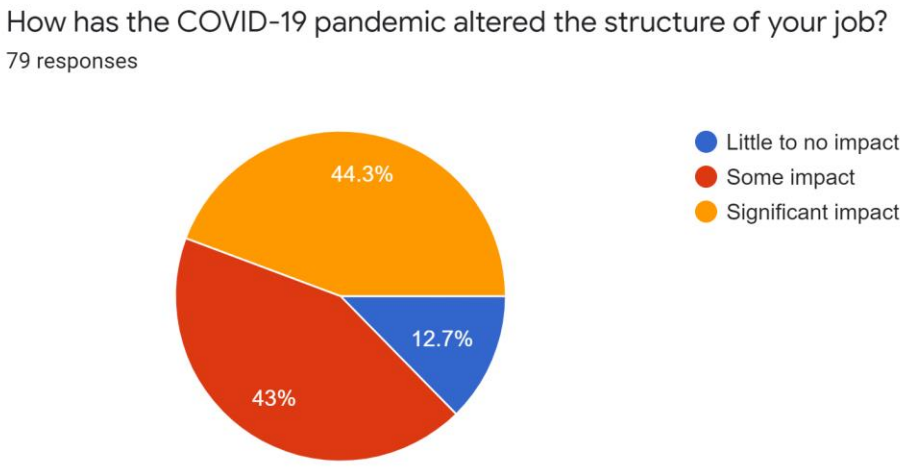

Figure 9. Educator perceptions relating to COVID-19 and job structure.

The last two questions associated with the educators' overall perceptions of COVID-19 and the impact on education lean in a concerning directions. In Figures 10 and 11 it is clear to see that the pandemic has had an impact on both job satisfaction and the feelings educators have about the continuing to work in education.

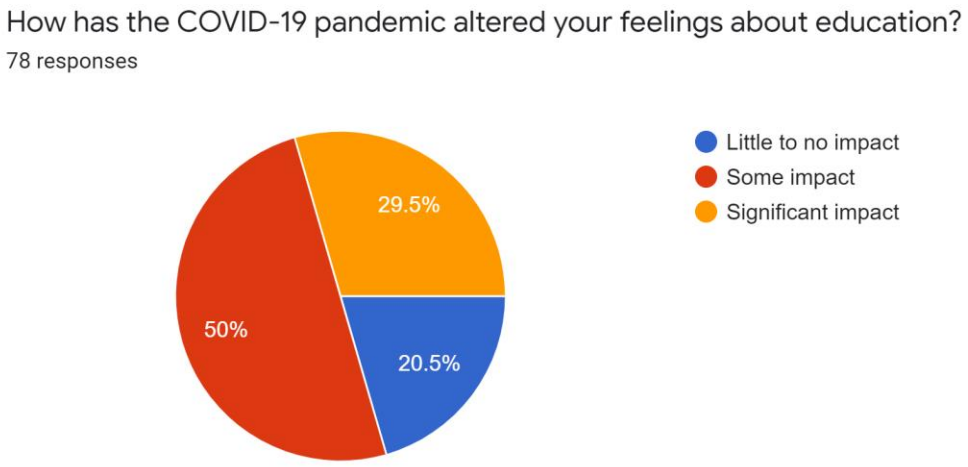

Figure 10. Educator perceptions associated with COVID-19 and feelings about education.

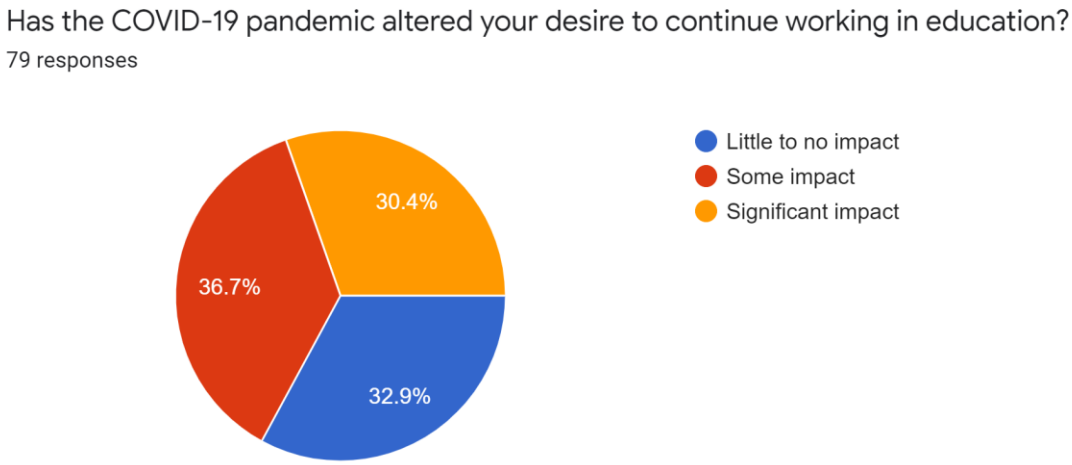

Figure 11. Educator perceptions associated with COVID-19 and the desire to continue working in education.

The data in in figures 10 and 11 were supported by the interviews that the overall climate of schools caused educators to feel extreme levels of stress, and the challenges of

education were more difficult than before. This could lead to a wider gap of available educators to fill vacancies as we see people leave the profession for retirement or career change.

Findings Related to the Literature

During the H1N1 pandemic, schools and educational suppliers developed the ability and encouraged schools to increase connect-ability to students at home for short periods of time. As Davis and Ash noted about H1N1 (2009), "One critical area that schools and districts must consider is completing readiness assessment to evaluate what kind of technology infrastructure is in place both at schools and in homes" (p. 18). COVID-19 tested those limits and pushed educators to move in a direction that required the use of technology as is evident by the increased use of technology during COVID-19. It is worth mentioning that H1N1 impacted schools in the United States approximately 10 years prior to COVID-19, yet the educational community had not adapted sufficiently to the use of technology which saw a significant shift related to the need for remote, hybrid, and distance learning. Romero-Ivanova,, Shaughnessy, Otto, Taylor, Watson (2020) acknowledged, the main tasks or chores that faculty were forced to transition to include: learning new software, teaching students to use new software, providing captions and interpreters, navigating copyrights, helping students cope with isolation, balancing our new family life and work, and feeling disconnected from students. This research also supported the finding that educators were not prepared to navigate the areas mentioned by Romero-Irvanova et al. but were forced to find a path to support students. Educators are lacking in professional development for integration of instructional practices, student engagement, and technology.

The traditional model of instruction echoed in rural central Kansas schools is a model frequently described as part of the instructional model connected to the industrial revolution, which included primarily lecture and paper and pencil assessments. Feldman and Reeves (2020) noted, the pandemic should teach us what we already should have known. Many grading systems are broken, when these systems rely on antiquated, inaccurate, and unfair practices, such as the average and using the 100 point scale, then we systematically put students at a disadvantage not only during the extended school absences caused by the pandemic, but throughout, their educational experiences. Although much research has been completed on instructional practice that incorporates technology, communication, teacher clarity, and student engagement many of the educators in this study have not yet incorporated the research-based practices from the two decades.

Conclusions

COVID-19 impacted education during the 2020-2021 school year in rural Kanas as educators altered their instructional strategies as well as their perceptions of the profession. The use of typical lesson structure, strategies, and assessment will have lasting impacts on both students who were in school and educators attempting to navigate the evolving educational setting.

Implications for action. District and pre-service education programs need to determine the level of knowledge and comfort that educators have currently with the use of the elements of instruction or instructional practice utilized in this survey. This concern springs from the low level of research-based strategies utilized that have been prompted and utilized for at least twenty years. Professional development is needed for educators to meet the demands of remote and distance learning. Likewise, teacher preparation programs must imbed technology that includes the use of traditional brick and mortar education practices with the practices that are available with technology integration. Teachers need to be knowledgeable about learning management systems, engagement strategies, instruction and assessment methods that incorporate technology while still meeting the demands of lesson rigor and relevance.

Preparation for a decline in educators leaving the profession due to the demands from instruction during the COVID-19 pandemic could result in additional paths for alternative certification as well as a need for change to the preparation of educators. Survey data from this study indicated that 67.1% of educators felt that the pandemic someone or significantly impacted their desire to continue in education. This data indicates the continued need to increase the number of qualified educators teaching in classroom.

Recommendations for future research. This study would be worth repeating in larger urban areas, as the urban communities saw a greater likelihood of remote learning. Additionally, future research that associates educational practices, professional development, and instructional practices may yield helpful information. Future research that associates educational practices that incorporate technology may provide additional knowledge to guide professional development and instructional practices. Additional research could be used to

examine the level of preparation that educators feel they have received to utilize any of the educational strategies mentioned in this survey. Future research into the long-term impact of COVID-19 on educators leaving the profession.

Concluding remarks. Educators and researchers agree that the COVID-19 pandemic impacted the daily operations of schools and the long-term outlook for educators. As schools continue to navigate the procedures implemented for illness mitigation and the use of technology for instruction, changes should be seen in a longer term than in previous pandemics. Educational leaders, teacher preparation programs, and educators need to examine the use of instructional practice to ensure that education has a strong foundation rooted in research to ensure that student engagement and instruction continue forward.

The data collected in this study provides educational leaders with evidence that traditional or typical instructional strategy usage decreased during the COVID-19 pandemic. Preparation and professional development are needed to help close the gap among educators in the use of technology and instructional practice.

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Appendices

Appendix A. Email to Area Superintendent Counsel to Participate in Study

The purpose of this email is to confirm your willingness to have educators in the central Kansas area participate in the research study conducted by doctoral candidate Kylee McDonald studying leadership at Baker University. I spoke with the area superintendent counsel in November 2020 and received verbal consent for the central Kansas area districts to participate. This document will serve as formal documentation for the educators in your district to participate in the study.

I invite your participation in a study to examine the experiences of rural central Kansas educators. K-12 public school educators in dealing with the COVID-19 pandemic. As a professional educator in central Kansas, your district was selected to participate. Thank you for considering this request. Your participation is unique, needed, and professionally informative to the COVID-19 experience.

Your staff's participation will consist of being informed about the study, agreeing to participate, and responding to a questionnaire where you will respond to open-ended, semi-structured, and structured questions focused on instructional practices, it also includes five demographic questions. The questionnaire should take no more than 20-30 minutes to complete.

I ask when the survey is sent to each superintendent that the email be forwarded to all staff in each district by the superintendent. Staff will be able to participate in this study, using a survey link in google forms, each participant will read the informed consent, decide whether they wish to proceed, and enter the questionnaire. Each participant may complete any portion or all the questionnaire.

Please respond to the consent below at your earliest opportunity by either completing the survey link or copy and respond to this email.

Link for Consent- https://forms.gle/D54LcvS6vghFEuiX8

Research Study Consent to Participate

I, _____ Superintendent of USD _____ consent to allow educators in the previously mentioned USD to participate in the research study conducted by Baker University doctoral student, Kylee McDonald. I understand that all responses will remain anonymous and will be kept confidential and that participants can choose to not answer any questions that make them uncomfortable. By signing this consent, I affirm that participation is voluntary.

_____ _____

Name Date of Consent

Please send me a copy of this study upon completion. Yes No

Thank you for your willingness to participate in this study. If you have any questions, please contact me.

Kylee McDonald

365 W. 11th Street

Hoisington, KS 67544

785-820-0967

Kyleejm7@gmail.com

If you have any questions, please feel free to contact the researchers via reply email or telephone. Contact information is included at the end of this email.

Thank you for your participation.

Best wishes,

Kylee McDonald
Baker University Doctoral Candidate
365 W. 11th St.
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Appendix B. IRB Approval

Baker University Institutional Review Board

March 5th, 2021

Dear Kylee McDonald and Harold Frye,

The Baker University IRB has reviewed your project application and approved this project under Expedited Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.
6. If this project is not completed within a year, you must renew IRB approval.

If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,

Nathan Poell, MLS
Chair, Baker University IRB

Baker University IRB Committee
Sara Crump, PhD
Nick Harris, MS
Christa Manton, PhD
Susan Rogers, PhD

Appendix C. Survey Email

The purpose of this email is to invite your participation in a study to examine the experiences of rural central Kansas educators. K-12 public school educators in dealing with the COVID-19 pandemic. As a professional educator in central Kansas, you were selected to participate. Thank you for considering this request. Your participation is unique, needed, and professionally informative to the Covid-19 experience.

Your participation will consist of being informed about the study, agreeing to participate, and responding to a questionnaire where you will respond to open-ended, semi-structured, and structured questions including five demographic questions. The questionnaire should take no more than 20-30 minutes to complete. To participate in this study, please click on this questionnaire link below to read the informed consent, decide whether you wish to proceed, and enter the questionnaire. You may complete any portion or all the questionnaire.

If you have any questions, please feel free to contact the researcher via reply email or telephone. Contact information is included at the end of this email.

Follow this link to the Survey:

https://forms.gle/AtkPut2ikKJ5jBkH7

Thank you for your participation.

Best,

Kylee McDonald
Baker University Doctoral Candidate
365 W. 11th St.
Hoisington, KS 67544
785-820-0967
kyleejm7@gmail.com or mcdonaldk@usd401.com

Appendix D. Interview Email

Hello,

My name is Kylee McDonald and I am a student working on my EdD in Educational Leadership at Baker University. I have finished coursework and am now beginning work on my dissertation. The focus of the study will be on the impact of COVID-19 on teaching and learning in rural central Kansas.

This email is an invitation to participate in the study. Should you agree to participate you can be assured that your personal/ identifying information will be confidential. Your participation, aside from the fact that you are guiding instructional practices will be anonymous to everyone but me. In the next few days, I will contact you by telephone to discuss confidentiality, the possibility of your participation, share more information about the study, and answer any questions you might have.

Thank you in advance for your consideration.

Respectfully,

Kylee McDonald

Baker University Doctoral Candidate

Principal [redacted]

785-820-067

Kyleejm7@gmail.com or mcdonaldk@usd401.com

Appendix E. Interview Consent

Dear _____,

This communication is to confirm your willingness to participate in the research study we discussed during our phone call. Please let me know your preferred time range for the 30-minute interview, morning, afternoon, or evening. I appreciate your willingness to participate in this research study.

Research Study Consent to Participate

I, _____ school leader of USD _____ consent to participate in the research study conducted by Baker University doctoral student, Kylee McDonald. I understand and acknowledge all responses will remain anonymous and will be kept confidential and that participants can choose to not answer any questions that make them uncomfortable. By signing this consent, I affirm that my participation is voluntary.

_____ _____

Name Date of Consent

Please send me a copy of this study upon completion. Yes
No

Thank you for your willingness to participate in this study. If you have any questions, please contact me.

Kylee McDonald

365 W. 11th Street

Hoisington, KS 67544

785-820-0967

Kyleejm7@gmail.com

Appendix F. Follow-Up Telephone or Email for Participants

Hello, I am Kylee McDonald, a doctoral student at Baker University. I sent an email this week inviting you to participate in my research study. Did you receive the email?

If the email was not received, I will briefly describe the information in the contact email. I will continue the conversation by asking if there are any questions. I will then follow up with, "Would you be interested in participating in this study?" If the subject agrees to participate, I will verify the email address to which I sent the contact email and if incorrect note the correct contact email. The conversation would continue with: "Thank you. Please expect an email from me in the next few days which will request confirmation of your willingness to participate in the study. Upon receipt of your confirmation, I will send an email to determine a time for the 30-minute interview".

If the potential subject declines to participate, "Thank you for your time".

If the email was received, I will continue the conversation with the following information:

As I stated in the email, the focus of the study is to examine the impact of COVID-19 on teaching and learning during the 2020-2021 school year. What questions do you have about the study? After responding to all questions, I will continue: Would you be interested in participating in this study?

(yes)

"Thank you. Please expect an email from me in the next few days which will request confirmation of your willingness to participate in the study. Upon receipt of your confirmation, I will send an email to determine a time for the 30-minute interview".

(no)

Thank you for your time.

Appendix G. Survey Questions for Educators in Rural Central Kansas

Educator Instructional Survey of COVID-19 Pandemic Impact.

The following is a questionnaire as part of a doctoral research study by Baker University candidate Kylee McDonald. The study seeks to understand the impact of the COVID-19 pandemic on instructional practices by educators in rural central Kansas. Your email address and name will not be utilized to identify you in any way. Your anonymity is assured.

* Required

1. Email address *

2. This question is to confirm your willingness to participate in the research study described above. I appreciate your willingness to participate in this research study. Research Study Consent to Participate consent to participate in the research study conducted by Baker University doctoral student, Kylee McDonald. By selecting agree this consent, I affirm that my participation is voluntary. *

Mark only one oval.

- ◯ Yes, I consent to participate voluntarily.
- ◯ No, I do not consent to participate.

3. In which district do you work?

Mark only one oval.

- ◯ USD 112 Central Plains
- ◯ USD 309 Nickerson
- ◯ USD 331 Kingman- Norwich
- ◯ USD 332 Cunningham
- ◯ USD 347 Kinsley- Offerle
- ◯ USD 349 Stafford
- ◯ USD 350 St. John - Hudson
- ◯ USD 351 Macksville
- ◯ USD 355 Ellinwood
- ◯ USD 376 Sterling
- ◯ USD 382 Pratt
- ◯ USD 400 Smokey Valley
- ◯ USD 401 Chase-Raymond
- ◯ USD 403 Otis Bison
- ◯ USD 405 Lyons
- ◯ USD 418 McPherson
- ◯ USD 419 Canton- Galva
- ◯ USD 423 Moundridge
- ◯ USD 428 Great Bend
- ◯ USD 431 Hoisington
- ◯ USD 444 Little River
- ◯ USD 448 Inman
- ◯ USD 495 Larned

4. What is your primary role at the district?

Mark only one oval.

- ◯ Support Staff - classified
- ◯ Support Staff- certified
- ◯ Teacher
- ◯ Administrator *Skip to question 8*

5. What was the primary type of instruction for the 2020-2021 school year when you completed this survey

Mark only one oval.

- ◯ In-person, on-site
- ◯ Hybrid- remote and on-site
- ◯ Remote Learning

6. Which type of instruction for the 2020-2021 school year had been used in your district when you completed this survey?

Check all that apply.

- ☐ In- person, on-site
- ☐ Hybrid- remote and on-site
- ☐ Remote Learning

7. How many years have you worked in the field of education?

Mark only one oval.

- ◯ 0-1 year
- ◯ 2-5 years
- ◯ 6-10 years
- ◯ 10- 15 years
- ◯ More than 15 years

Instructional Elements & Strategies

Select which elements of instruction are typically easily observable in your instruction. Mark before for elements utilized prior to the COVID-19 Pandemic, mark during for elements utilized during the COVID-19 pandemic.

8. Lesson or Instructional Methods

Check all that apply.

	Before COVID-19	During COVID-19
Mental set: The Hook!	☐	☐
Clearly defined student objectives	☐	☐
Instructional Process	☐	☐
Closure	☐	☐
Extension	☐	☐

Untitled Title

9. Transmission or Direct Instruction

Check all that apply.

	Before COVID-19	During COVID-19
Lecture	☐	☐
Modeling	☐	☐
Guided Practice	☐	☐
Independent Practice	☐	☐
Reading	☐	☐

10. Assessment

Check all that apply.

	Before COVID-19	During COVID-19
Formative	☐	☐
Summative	☐	☐
Portfolios	☐	☐
Logs & Journals	☐	☐
Performances	☐	☐
Presentations	☐	☐
Demonstrations	☐	☐
Interviews	☐	☐
Checklists	☐	☐
Exhibitions	☐	☐
Projects	☐	☐
Paper & Pencil Test	☐	☐

11. Cooperative Learning

Check all that apply.

	Before COVID-19	During COVID-19
Cooperative Learning	☐	☐
Think Pair Share	☐	☐
3-Step Interview	☐	☐
4 Corners	☐	☐
Jigsaw	☐	☐
Walkabout	☐	☐
Round Table	☐	☐
Paraphrase	☐	☐
Simple Square	☐	☐
Graffiti Board	☐	☐
Academic Controversy	☐	☐
Carousel	☐	☐
Brainstorming	☐	☐

12. Graphic Organizers

Check all that apply.

	Before COVID-19	During COVID-19
Word Web	☐	☐
Venn Diagram	☐	☐
Mindmap	☐	☐
Classification Grid	☐	☐
Sequence Chart	☐	☐
Flow Chart	☐	☐
Fish Bone	☐	☐
Right Angle	☐	☐
Spectrum	☐	☐
Pie Charts	☐	☐
Histograms	☐	☐
Agree/ Disagree Chart	☐	☐
KWL	☐	☐
Ranking Ladder	☐	☐
Cause- Reason Chart	☐	☐

13. Differentiation

Check all that apply.

	Before COVID-19	During COVID-19
Differentiation	☐	☐
Alternate Assignments	☐	☐
Multiple Intellegences	☐	☐
Learning Styles	☐	☐
4Mat	☐	☐
Project Based Learning	☐	☐

14. Technology

Check all that apply.

	Before COVID-19	During COVID-19
Word Processing	☐	☐
Publishing	☐	☐
Database	☐	☐
Spreadsheets	☐	☐
Search Engines	☐	☐
Graphics	☐	☐
Internet, Email, Social Media	☐	☐
Online Lesson Submission	☐	☐
Video Lessons	☐	☐
Virtual Textbooks	☐	☐
Virtual Worksheets	☐	☐
Google Classroom/ Blackboard/ LMS	☐	☐

15. List any additional instructional methods utilized during the COVID-19 pandemic.

Perceptions

16. How has the COVID-19 pandemic altered your teaching practices?

Mark only one oval.

- ◯ Little to no impact
- ◯ Some impact
- ◯ Significant impact

17. How has the COVID-19 pandemic altered the structure of your job?

Mark only one oval.

- ◯ Little to no impact
- ◯ Some impact
- ◯ Significant impact

18. How has the COVID-19 pandemic altered your feelings about education?

Mark only one oval.

- ◯ Little to no impact
- ◯ Some impact
- ◯ Significant impact

19. Has the COVID-19 pandemic altered your desire to continue working in education?

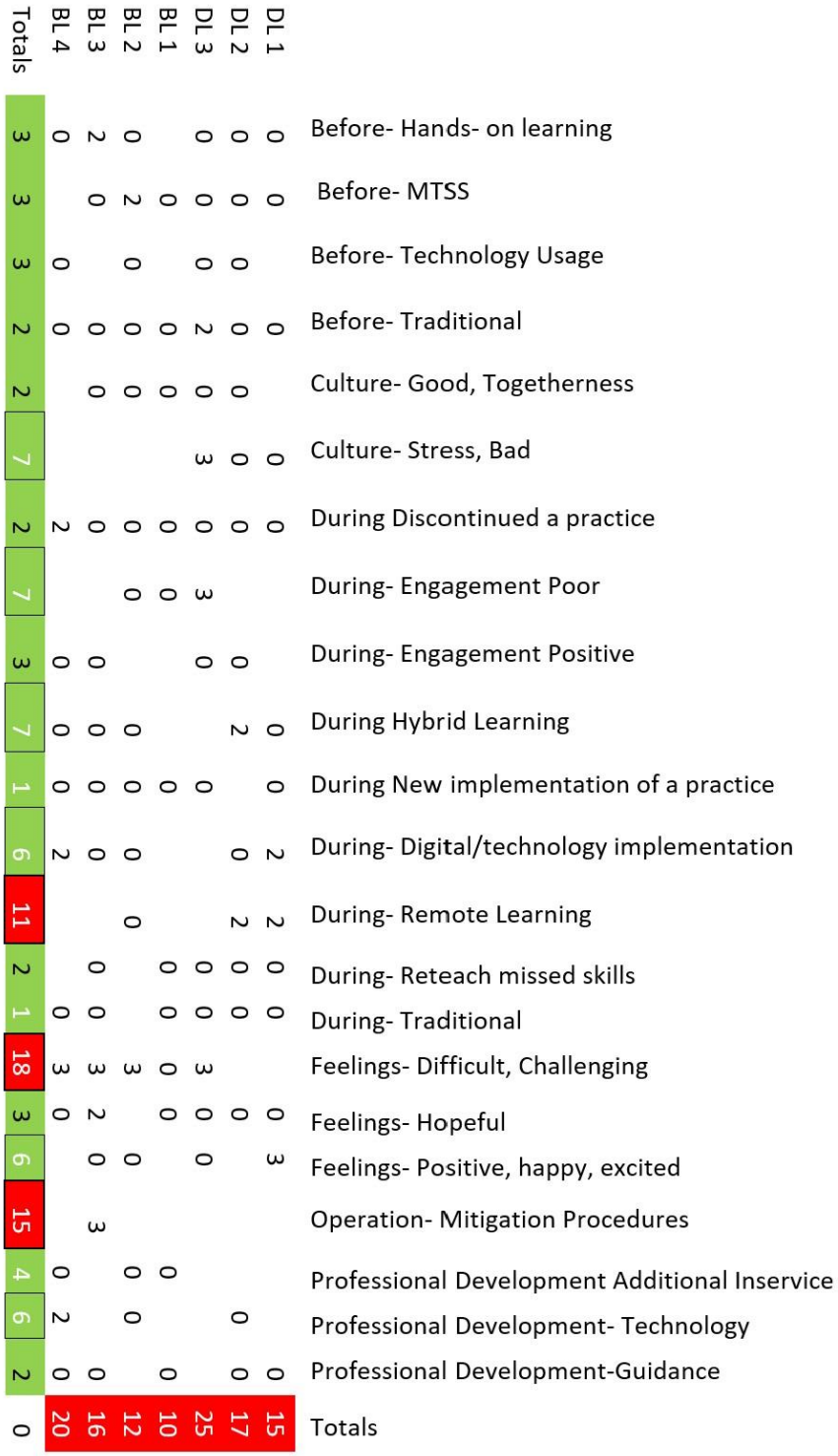
Mark only one oval.

- ◯ Little to no impact
- ◯ Some impact
- ◯ Significant impact

Appendix H. Interview Questions for Education Leaders in Rural Central Kansas

1. How many years of experience do you have in leadership?
2. What grade levels does your leadership cover?
3. What size is your district, number of students?
4. How many certified educators do you have?
5. How many classified employees do you have?
6. Please describe the learning methods utilized in your school or district prior to the COVID-19 pandemic?
7. Please describe the learning methods utilized in your school or district during the COVID-19 pandemic?
8. What types of professional development did your school or district provide to staff in preparation for school during the COVID-19 pandemic?
9. Please describe the changes to operations at your school or district that occurred during the pandemic in the 2020-2021 school year?
10. Please describe the engagement of students in the learning process prior to and during the pandemic of COVID-19?
11. Please describe the change in school culture among teachers, students, and stakeholders during the COVID-19 pandemic?

Appendix I. Code Application for Qualitative Data Table



Totals	BL 4	BL 3	BL 2	BL 1	DL 3	DL 2	DL 1	
3	0	2	0		0	0	0	Before- Hands- on learning
3		0	2	0	0	0	0	Before- MTSS
3	0		0		0	0		Before- Technology Usage
2	0	0	0	0	2	0	0	Before- Traditional
2		0	0	0	0	0		Culture- Good, Togetherness
7					3	0	0	Culture- Stress, Bad
2	2	0	0	0	0	0	0	During Discontinued a practice
7			0	0	3			During- Engagement Poor
3	0	0			0	0		During- Engagement Positive
7	0	0	0			2	0	During Hybrid Learning
1	0	0	0	0	0		0	During New implementation of a practice
6	2	0	0			0	2	During- Digital/technology implementation
11			0			2	2	During- Remote Learning
2		0		0	0	0	0	During- Reteach missed skills
1	0	0		0	0	0	0	During- Traditional
18	3	3	3	0	3			Feelings- Difficult, Challenging
3	0	2		0	0	0	0	Feelings- Hopeful
6		0	0		0		3	Feelings- Positive, happy, excited
15		3						Operation- Mitigation Procedures
4	0		0	0				Professional Development Additional Inservice
6	2		0			0		Professional Development- Technology
2	0	0		0		0	0	Professional Development-Guidance
0	20	16	12	10	25	17	15	Totals

Appendix J. Co-Occurrence of Code Application for Qualitative Data Table

	Hands- on learning	Technology Usage	Stress, Bad	Engagement Poor	Hybrid Learning	Digital	Remote Learning	Reteach missed skills	Difficult, Challenging	Positive, happy, excited	COVID-19 Mitigation Procedures	Additional Inservice	Totals
Before COVID-19	0	0	0	0	0	0	0	0	0	0	0	0	0
Hands- on learning	0	1	0	0	0	0	0	0	0	0	0	0	1
Technology Usage	1	0	0	0	0	0	0	0	0	0	0	0	1
Stress, Bad	0	0	0	1	2	0	1	0	3	0	0	0	7
Engagement Poor	0	0	1	0	2	0	6	0	3	0	0	0	12
Hybrid Learning	0	0	2	2	0	0	3	0	2	0	0	1	10
Digital	0	0	0	0	0	0	1	0	0	0	1	0	2
Remote Learning	0	0	1	6	3	1	0	0	4	0	0	1	16
Reteach missed skills	0	0	0	0	0	0	0	0	1	0	0	0	1
Difficult, Challenging	0	0	3	3	2	0	4	1	0	1	0	0	14
Positive, happy, excited	0	0	0	0	0	0	0	0	1	0	0	0	1
COVID-19 Mitigation Procedures	0	0	0	0	0	1	0	0	0	0	0	0	1
Additional Inservice	0	0	0	0	1	0	1	0	0	0	0	0	2
Totals	1	1	7	12	10	2	16	1	14	1	1	2	0