Exploring Superintendents' Understandings on Virtual Learning Responses

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Introduction

As many school districts prepared to open for the 2020-2021 school year, they faced an unprecedented crisis: transforming an educational system that was built for in-person instruction into a 100% virtual learning environment. Developing a PK-12 learning system that works for myriad students and stakeholders can be difficult even during non-crisis times; developing such a learning system during a pandemic makes the task even more complicated. Superintendents and their leadership teams had to navigate multiple stakeholder needs while also considering effective leadership strategies. In this study, we sought to explore superintendents' understandings of the various influences on how their districts implemented a 100% virtual learning experience for students.

COVID-19 continues to spread across the United States (Scudellari, 2020), and now with new variants (Murray & Piot, 2021). Experts also worry that with the world's current population and ease of travel, more pandemics could occur, even simultaneously (Yong, 2020). There are other potential disasters that can impact educational systems, such as hurricanes, the occurrence of which has steadily risen since 1851 (Watts, 2020). Understanding understand the influences on designing learning during long-term, unprecedented crises may help school districts make such decisions more effectively during future crises.

This study was guided by the following research questions:

1. What was the relationship between internal and external influencers on the 100% virtual learning design choices made by superintendents during the COVID-19 pandemic crisis?

2. What role, if any, did feedback between the various actors play in the emergence of the 100% virtual learning plan?

Crisis

A crisis can be defined as "a sudden and unexpected event that threatens to disrupt an organization's operations and poses both a financial and a reputational threat" (Coombs, 2007, p. 164). Minor crises tend to pose minor threats to an organization, whereas larger crises have the potential to have a dramatic impact, positive or negative, on an organization (Coombs, 2012). The steps taken by organizational leaders frequently determine the impact of the crisis on the organization.

Effective Crisis Leadership

Scholars of crisis research have identified several common themes related to leaders who navigate their organizations effectively through a crisis. For instance, leaders need to be aware of and take steps to protect the organization's reputation during a crisis. Their organizational reputation can be positively or negatively impacted by crisis depending on how they are perceived to handle the crisis (Benoit, 1997; Coombs, 2007; Coombs, 2012). Whether the organization is seen as responsible for, or a victim of, the crisis tends to impact how stakeholders interpret actions taken by the organization (Coombs, 2007), though organizations can potentially influence how stakeholders perceive the responsibility for the crisis using narrative control (Sellnow et al., 2017; Sellnow et al., 2019). Narrative control requires that the organization: (1) helps stakeholders to internalize the message, which may require overcoming competing narratives; (2) effectively distributes the narrative via appropriate media for the stakeholders; (3) provide an adequate explanation regarding the role of the organization in the crisis; and (4) describe what actions the stakeholders need to take based on the crisis (Sellnow et al., 2017; Sellnow et al., 2019).

Controlling the narrative can also help organizations build relationships with external partners; in fact, crises frequently tend to present more opportunities for partnerships (Gray & Prudy, 2018). If an organization does not successfully work with these external groups, the organization may find the external groups attempt to coerce the organization into responding to the crisis in a particular way (James & Wooten, 2006). Similarly, organizations need to ensure they effectively manage internal conflicts, leveraging conflict in a way that allows it to lead to more perspectives and stronger consensus (Coser, 1962). Lastly, leaders need to ensure that they can engage in quality decision-making under pressure, avoiding what Wooten and James (2006) refer to as "threat rigidity," in which leaders' decision-making becomes less flexible as a result of the crisis.

Influences on How a District Designs Learning

School districts provide educational services to residents living within their borders and because of the wide variety of stakeholder needs within communities, many external influences exist when considering the design of virtual learning. One of the biggest influences may be public policy, which is defined as "the dynamic and value-laden process through which a political system handles a public problem" (Fowler, 2013, p. 5). There are many policies that impact the decisions of school districts and in Virginia some of the most influential policies concern the State Accreditation System. Which is based on tests of those standards of learning (Ruff, 2019). The accreditation system assesses students on the "Virginia Standards of Learning" (SOL) and these tests – and their results - continue to significantly shape the actions taken by school districts, even during a crisis.

Additionally, organizational constructs play an important role in how leaders design learning for their districts (Hoy & Sweetland, 2001). Enabling structures may include explicit

decisions, such as providing a time and place for teachers working in professional learning communities, and are typically associated with higher levels of collective efficacy, trust in leadership, and academic optimism in schools (Wu et al., 2013; Gray & Summers, 2015; Gray & Summers, 2016; Gray et al., 2016). While other organizational structures may be more implicit, such as isomorphism, or the tendency of an organization to behave similarly to other organizations of the same type (DiMaggio & Powell, 1983). Organizations may engage in isomorphic behaviors because they have been forced by outside influences to do so (coercive isomorphism), because they believe that acting like other organizations will help them solve problems (mimetic isomorphism), or because they are seeking legitimacy within the sector they inhabit (normative isomorphism) (Seyfried et al., 2019).

Theoretical Framework: Complexity Theory

Complexity theory originated in the mathematical and computational disciplines in the 1940s and was popularized by Edward Lorenz's experiments with weather predictions in 1963. It began to be adopted by the field of business management in the 1990s because of its usefulness in understanding processes that are governed less by linear explanation and rules and more by patterns (Ditlea, 1997; Shoup & Studer, 2010; Hazy, 2018). This is especially significant for "wicked" problems, which are defined as problems that are "ill-defined, ambiguous, and contested, and feature multilayered interdependencies and complex social dynamics" (Termeer et al., 2015, p. 680). Many of the problems faced by organizations today can be described this way, especially when facing an unprecedented crisis (Gray & Purdy, 2018). Complexity theory can be understood as the study of how patterns and change occur in dynamic environments and is opposite of linear cause-and-effect descriptions of events (Ditlea, 1997; Israel, 2005; Shoup &

Studer, 2010; Thompson et al., 2016; Nunn, 2017; Hazy, 2018). The next section will discuss the two elements that will be primarily used as lenses for this study: cybernetics and emergence.

Cybernetics

"Cybernetics" encompasses two complexity theory elements: networks and feedback. Shoup and Studer (2010) explain that in addition to variables being linked (networked), they provide each other with feedback that, in turn, has some kind of impact on those linked variables. The main purpose of feedback is to ensure processes occurred according to an efficient norm (Delobelle, 1975). Feedback can also be leveraged to bring about learning, growth, and/or change (Shoup & Studer, 2010; Siemens et al., 2018). Feedback will come whether organizational leaders plan for it or not and "[a]s much effort should be placed into feedback planning as in the original planning of a goal or outcome" (Siemens et al., 2018, para. 27). Leveraging networks through appropriately timed solicitation of feecback that focuses on the key objective(s) can enable organizations to effectively navigate organizational change and crisis ((Siemens et al., 2018; Shoup & Studer, 2010).

Emergence

Emergence occurs when "systems emerge as the sum of the parts becomes greater than the individual parts by themselves" (Shoup & Studer, 2010, p. 16). In other words, the interactions, reactions, and connections between the parts create patterns and outcomes that are greater than the original parts of which they are composed (Israel, 2005; Shoup & Studer, 2010). Grumadaite (2020) described four characteristics of a situation that must be present in order for emergence to occur. They include: (1) actors capable of starting and sustaining relationships; (2) interactions between these actors; (3) appropriate resources for the relationships to develop and thrive; and (4) a value system and organizational process that support collaboration in a self-

organizing system. Many complexity theorists do not conceptualize emergence leadership as merely a function of those closest to the top of the bureaucratic hierarchy (Lichtenstein & Plowman, 2009; Uhl-Bien & Marion, 2009; Mendes et al., 2016; Grumadaite, 2020). Lichtenstein and Plowman (2009) explained that "Emergence in this sense occurs through the interactions across a group of agents—individual members and managers, networks, and organizations" (p. 618). This "meso model" of leadership works under the assumption that macro leadership strategies cannot be understood without looking at micro-level phenomena and contexts, and that micro- leadership strategies also cannot be properly understood without simultaneously examining macro-level phenomena and contexts (Gardner & Cogliser, 2009; Uhl-Bien & Marion, 2009).

Emergence as a Result of Cybernetics

Emergence, defined as the whole being more than the sum of its parts, is a result of the interactions between the myriad variables (e.g., people, circumstances, resources) and the feedback they give each other (Lichtenstein & Plowman, 2009; Uhl-Bien & Marion, 2009; Mendes et al., 2016; Grumadaite, 2020). These variables each have an impact on one another by providing positive or negative feedback (Shoup & Studer, 2010). This concept of feedback can be understood as the micropolitics that exist within an organization (Lichtenstein & Plowman, 2009). Meanwhile, the interactions also need to be understood within the context of the macro-level features, such as climate, culture, processes, and structures (Lichtenstein & Plowman, 2009). Feedback can be positive, and therefore support the interactive from which the feedback arose, or negative, seeking to impede the particular connection (Gear et al., 2018). It is this dynamic interplay of feedback that creates overall system emergence.

Methodology

We drew from grounded theory methods to inform our study and inform the way we understand perceived influences and responses on the design of 100% virtual learning systems during the COVID-19 pandemic. We conducted and analyzed interviews with 15 Virginia superintendents. Literature exists on crisis leadership and factors that influence the designs of learning in schools, but there is a dearth of literature that examines the building of a new learning system in a short period of time while facing a long-term crisis.

The 15 superintendents were district leaders of the same Virginia school district from March 13, 2020, when all Virginia public schools closed, through December 1, 2020. Selected superintendents led school districts in which virtual learning took place during both the spring of the 2019-2020 school year and at least a portion of the first marking period during the fall of the 2020-2021 school year. Using a sample of superintendents who met these qualifications allowed a richer reflection during interviews as the participants were able to compare what they learned during the spring with what their school districts implemented in the fall.

Interviews were conducted using a semi-structured interview format to provide flexibility to participants in what they decided to discuss (Corbin & Strauss, 2014). Analysis of these interviews was "integrated and conducted simultaneously/iteratively/abductively" as the researcher "move[d] back and forth between levels of analysis and between analysis and further data collection" (Belgrave & Seide, 2019, p. 168).

The coding methods were informed by constructivist grounded theory research in Charmaz's Constructing Grounded Theory (2nd ed., 2014). These included initial line-by-line coding, with a focus on in vivo codes in order to understand implicit meanings in the data. Next, focus coding was completed to determine which codes seemed most frequent or most important.

The last part of coding was axial coding, in which the collected codes were sorted into categories and subcategories to develop a theory based on the data.

Throughout the study, we engaged in memo writing. Charmaz (2014) explained that writing memos helps connect the researcher to the data, encouraging the development of ideas and the ability to review the idea development at a later date. Furthermore, memo writing "helps concepts become more analytic and less context dependent" (Urquhart, 2019, p. 103). Glaser and Strauss' (1967) original technique involved neither recording nor transcribing interviews but instead relying solely on memos; however, we transcribed interviews so that we could review them multiple times during the memo writing process. Additionally, we recorded and analyzed feelings and perceptions during interviews (Gilgun, 2019; Charmaz, 2014). Transcripts and memos were kept in a reflection journal file in a password protected drive to allow cross-referencing of memos and themes.

Findings

There were three main findings related to the influences on superintendents' learning design choices during the Covid-19 pandemic: equity, unintentional influences, and intentional responses.

Equity as a Pervading Theme and Desired Outcome

Analysis of the interviews showed that all superintendents were strongly concerned about equity when designing virtual learning. This concern manifested itself in different ways. In Superintendent Greenhart's district, for isntance, the leadership team "had to have conversations with some teachers on why some students had their cameras off." The teachers equated being able to see students with being able to measure student engagement. Superintendent Greenhart, however, explained that sometimes students do not want others to see their living conditions, or

have adults in the background acting inappropriately. Instead, the district urged the teachers with concerns about cameras to "have a one-on-one with the student ... then maybe you can probe a little bit deeper." Superintendent Greenhart described their district as purposefully "about ten years behind" regarding pedagogy "because people want to remain in power and don't want to share it with the folks that need it."

Superintendent Ashe discussed similar equity issues during virtual learning. This superintendent discussed a program in the district in which the teachers would recognize outstanding students during virtual learning. At first, Superintendent Ashe thought it was a great idea, but soon had second thoughts because:

> When all the kids look the same and they look like they're coming from the same neighborhoods, I just want to pick up the phone and call the school counselors and say, "Can you pick some virtual all-stars who look different than these ones, or is that really what's happening?"

Superintendent Ashe could not tell whether teachers were choosing mostly White students due to implicit bias, or because of the connection between socioeconomic status and race in the district. Were the students from families that received free and reduced lunch significantly struggling with virtual learning? And if so, Superintendent Ashe wondered why, and how to solve such issues if opening school doors was not an option.

Superintendent Larch took the theme of equity further, explaining that what was really needed was an entire culture shift:

> We should not have been in a position where we didn't know [number] of our families had no internet access. And so, they didn't have it before this happened, and yet we need them to have it, and we didn't know. We never asked. So that points to our challenges,

our internal, institutional, structural challenges and the barriers that we put up to prevent

children from learning. … At the very least, what I hope and think this kind of spotlight

on equity issues will do is force people who have not been having that conversation to

have it.

Unintentional Influences

The Impact of Political Factors

Public policy is both "dynamic" and "value-laden" and that not all public problems rise to

the level of policy issues (Fowler, 2013, p. 5). The global COVID-19 pandemic quickly became

a policy issue due to competing opinions on how to handle the impact of the pandemic on the

economy, the health industry, the educational sector, and other areas.

Divisive National Politics

By far, one of the biggest impacts on the designs for virtual learning was national

politics. While it was not the purpose of this study to examine influences on the decisions to

teach virtually versus in-person, the politics of that decision were so divisive that every

superintendent spoke to this. In areas that tended to have more conservative constituents,

superintendents were far more likely to see virtual learning as a stop-gap or last resort, therefore

putting less time into training and developing plans for it. Superintendent Elm described working

with school board members who represented different viewpoints on the political spectrum:

There is some doubt about whether the virus is real or manufactured…. There was a huge

priority to in-person learning, no matter what the metrics say. I spent a great deal of time

working with our board members, and they span from extremely liberal to extremely

conservative and everything in between, and really worked with them on the unknown

and what we could do with the guidelines.

Some communities were more divisive than others when it came to the virus. Superintendent Juneberry leads "a community with a 50/50 split." This superintendent explained that, "Some think the virus doesn't exist or doesn't bother them and 50% are afraid. We're one of those communities where it's not totally in one camp or the other so we're walking a fine line every time." Meeting the needs of those who feared the virus and those who wanted students back in school was even more difficult because of the divisive politics involved.

Even the national debates about the effectiveness of masks and whether masks should be mandated ended up impacting virtual learning. Superintendent Ashe, for instance, shared that, anticipating that the Department of Health was about to require masks, "I went ahead and told families that masks would be required." The superintendent went on to say, "Well, you would've thought I'd cut their right arms off or something." As a result of the mask pronouncement, families who refused to wear masks changed their choice of methodology from in-person to virtual. Superintendent Ashe explained that due to logistical issues, this increase in numbers of virtual students made it impossible to support both a virtual and an in-person model. "So there's a certain breakpoint where you don't have enough [teachers] to staff both models...at least for us with our staffing pattern, we couldn't do it anymore." This was one reason that Superintendent Ashe's district ended up being 100% virtual for a while.

"Staying in Lanes:" Relationships with Local School Boards

Given the uniqueness of the pandemic, sometimes there were no precedents regarding who should make which decisions, impacting relationships between the board and the superintendent in some school districts. Superintendent Maple described this phenomenon by saying: "It's hard to describe how politically some of these things work differently in different places. I think for us, it's been a sense of awkward, shared decision-making between the

superintendent, staff, and the board." Nevertheless, Superintendent Maple said that maintaining a strong relationship with the school board was important, giving the advice to "spend time with your board, talking with them, processing. Don't get into ultimatums. Just talk about how to navigate a crisis together."

The amount of school board power over virtual learning plans varied from district to district. In almost all districts, the actual instructional designs were left to the school personnel, though school boards seemed to have the most power over whether to open virtually, hybrid, or in-person. In some districts, this decision was left completely up to the board. For instance, in Superintendent Elm's district, the board insisted they have the right to vote on if and when all cohorts of students would return (a cohort being a group of students, such as "students with disabilities," "English language learners," or "grades kindergarten and first grade"). "Even though I try to get them not to," quipped Superintendent Elm. Part of the reason for this is because whoever makes the decision about when students return tends to receive the most criticism. Superintendent Elm acknowledged that his board "took a lot of heat" when they voted to open the 2020-2021 school year in a virtual format. In describing their relationship with the board during the pandemic, Superintendent Elm explained that "we had an interesting battle as most superintendents do, between what they have authority over and what I have authority over."

Technology Scarcity: Shortages and Infrastructure Needs

The Coronavirus Aid, Relief, and Economic Security (CARES) Act provided districts with plentiful funds for purchasing things like devices for students, but devices were hard to come by for three main reasons: 1) schools across the world were closing doors in favor of virtual instruction, therefore pushing demand for devices to unprecedented levels; 2) the pandemic resulted in temporary closures of the factories that produce such devices; and 3) the

U.S. government imposed sanctions on some Chinese companies that were the biggest producers of these devices (Krass, 2020). In other words, demand increased significantly at the same time supply fell. In August 2020, the three biggest computer suppliers, Lenovo, HP, and Dell, reported being short almost five million laptops compared to the number of orders placed (Gecker & Liedtke, 2020). This shortage impacted the districts in this study in different ways. Superintendent Foxglove, for instance, did not have a district that previously had a 1:1 program (in which each student has access to a personal device), and so they did experience some worry about whether the devices would come on time.

One of the biggest issues for many stakeholders was access to the internet. While nearly all superintendents discussed this issue, rural superintendents were likely to struggle with this issue more than urban or suburban superintendents. Superintendent Knowlton described using the CARES act funding their district received to provide devices to each student and attempt to provide internet to as many families as possible. Even so, Superintendent Knowlton explained that having extremely rural areas meant that:

> In order to have connectivity, you got to have a cell tower. So if you don't have cell tower service, then I can get you all the MiFi devices in the world, and they still don't make any difference in helping you. So we have a myriad of issues where we can see that it's not equitable for every family.

Superintendent Elm described similar circumstances where "even hotspots don't work" because there are no cell towers. "We had to be very creative and we have about 200 kids who come for virtual learning in person every day, um, in our online access center," explained Superintendent Elm of their "in-person" virtual learners.

Emotional, Mental, and Logistical Needs of Stakeholders

The pandemic-caused districts to move to a virtual teaching style that was new to many staff and families and added stress to the emotional, mental, and logistical needs of several stakeholders. Several of the superintendents discussed the need for empathy for all stakeholders during this time. For instance, Superintendent Maple explained that at the same time they asked teachers to focus on the "whole child" at the start of the 2020-2021 school year, district leaders also needed "to be cognizant of the whole educator, because our staff has kind of been going through some really tough stuff, not just the trauma of all of this." This superintendent also advised that it was important to "remember everybody's interest in this, because people need the sense that you have compassion and empathy no matter what their perspective is." Some of the most frequently discussed topics around these emotional, mental, and logistical needs of stakeholders included fears both of the virus and of technology changes, trust between internal and external stakeholders, the tension of balancing different stakeholders needs, and the emotions of superintendents themselves.

Intentional Responses to Unintentional Influences

Superintendents may not have been able to control the unintentional influences on learning designs, but they were able to take intentional actions as a response to those unintentional influences.

Leveraging Relationships to Overcome Obstacles

The level of trust between schools and families is a crucial factor in predicting the level of collaboration that occurs between these two groups (Tschannen-Moran, 2001). This trust is needed for both internal district relationships and external relationships with families, communities, and other districts.

Strengthening Internal Relationships

During the summer of 2020, school districts had to make decisions regarding the design of their learning plans for the 2020-2021 school year. Frequently, districts developed committees made of various stakeholders in order to develop these plans. Superintendent Foxglove, for instance, recalled having over 50 people on their district's return plan, including principals and teachers. Superintendent Larch similarly discussed the importance of developing these relationships around leadership by meeting every day for about six months with senior leadership, including Saturdays and Sundays.

Superintendent Ironwood also talked about using internal stakeholders to overcome obstacles related to training both staff and families.

> We had someone from the central office who just kind of took it by the horns, and she literally just made visits [to families], socially distanced visits. … She went on-site [to schools] and did training, and worked with teachers, and she actually spoke on the phone [to families].

In this case, the success that this person had working with both families and teachers translated into a long-term strategy of establishing an actual help line that families could call and have someone walk them through helping their student with virtual learning.

Growing Community & Business Relationships

In some cases, relationships were also used to overcome families' lack of internet. As Superintendent Dogwood explained, "Well, first thing we did, we just bought some hotspots to put out in the community, whether it was at a local fire department, whether it was local places of worship, or so forth, to partner with, and so we put six of those out in the county, in the community." Superintendent Ashe described a program between the district and a local

university in which the university would help provide resources to train families on how to use devices. In other words, education moved from a responsibility of just the local educational agencies to a responsibility in which the whole community needed to participate. Superintendent Cypress also discussed how their district worked with the community to help solve internet issues:

> The county contacted me, the county administrator and board of supervisors. Of course the county received a lump sum of money too, and their procedure was a little different than what schools had to go through to be awarded the grant money. They just got theirs all upfront. It wasn't like they had to write in what they were using it for like schools did. So they reached out and said, "Can you survey your families, or do you already know how many families do not have internet where we could buy WiFi spots for individual families?" And that was a tremendous help.

It is important to note that even with the community's help, Superintendent Cypress pointed out that some of her community still had to have lessons downloaded onto flash drives due to lack of cell phone tower coverage.

Communicating Purposefully with All Stakeholders

Many superintendents discussed the importance of effective communication with both internal and external stakeholders during the pandemic. Enabling communication structures help stakeholders carry out their duties and responsibilities (Hoy & Sweetland, 2001), and can also help prevent other organizations (such as the media or social media) taking control of the narrative (Rim & Ferguson, 2020). The superintendents discussed the need for frequent and effective communication with different groups of stakeholders.

Superintendents were likely to cite the media and social media as both a tool for and a barrier against controlling the narrative. For instance, Superintendent Birch described how the use of social media by teachers from other nearby school districts influenced a delayed timeline in bringing back students, therefore lengthening the amount of time spent in virtual learning for most students. Superintendent Ashe also talked about how a local news outlet picked up a story about an email from a staff member asking for more cleaning supplies, but spun the story to make it seem as if the district was not prepared for teaching and learning during the pandemic. Superintendent Dogwood explained, "Everybody airs their concerns on social media, they contact board members, or staff or whatever. And then all that comes to me," but further explained that, "but I don't lead the school district [based] on Facebook, or social media."

Reinforcing the Mission

One significant finding from this study was how many superintendents talked about how the pandemic and virtual learning either strengthened, added to, or changed the mission of their organizations as they saw it. In Superintendent Maple's district, for instance, they found that the pandemic reinforced their mission, which focused on developing collaboration from the top-down and the bottom-up. Superintendent Nogalito also found it helpful that they had the opportunity to hire most of their leadership team, allowing the district to come "into the pandemic with the benefit of a pretty common set of core values."

Articulating District Philosophies

Having a district philosophy for teaching and learning helped undergird the process of creating a virtual learning plan. For instance, Superintendent Hazel explained that their district's pre-pandemic philosophy centered around building relationships with students, and this carried into their virtual learning designs. "We always talk about philosophy and our philosophy was,

let's build relationships. Let's just get content second and relationships first," explained Superintendent Hazel. Superintendent Maple's district found that their "top-down, bottom-up" mission statement helped them weather the pandemic by developing "a sense of a very tight-knit, kind of interdependent group that nobody's moving here while somebody else is moving over here."

Staying True to Personal Philosophies

Superintendent Dogwood discussed the importance of owning leadership decisions. "I make the decisions, and we just go with it. And I just kind of own them, and I try to give people enough notice and so forth." Superintendent Knowlton expressed a similar philosophy: "I believe in making a plan and then sticking to the plan." Superintendent Maple, on the other hand, saw his role as facilitating collaboration within their district, saying that, "I think we have a real time approach here, a real together approach. And so my role is always just trying to stimulate that and make sure that that's how we're operating."

Rethinking "Teaching and Learning"

One consequence of the pandemic and the closing of schools in favor of virtual instruction has been what Superintendent Dogwood called a need to "rethink school, if we want people to see the value of a public education." The institutional logics that fit a pre-pandemic education model based on in-person learning in brick and mortar buildings did not, in many instances, work for virtual learning. Superintendent Nogalito also discussed the need for schools to "fit the kid" rather than the other way around. This superintendent said that one of the benefits of the pandemic was that:

> Not only are we having to innovate, but we're forced to ask some questions that we really should have asked probably 20 or 30 years ago. Like, Why do we...? What do grades

mean? Why do we average grades? What is the point of this midterm exam? What makes us think that all of the eight year olds should move together to third grade for no other reason than because they turned nine? … I think we've just always made kids squeeze themselves into the traditional box, and now we're going to have to do the opposite.

Similarly, Superintendent Knowlton knew that their community had many working parents, who may or may not have had access to the internet due to a lack of cell phone towers and internet providers. For that reason, Superintendent Knowlton knew that learning could no longer be defined as being in a classroom for six and a half hours a day, and instead required the district to "define what meaningful intervention and meaningful contact was throughout the course of the day" by working "to set things up with families individually." In fact, Superintendent Knowlton saw the pandemic as an opportunity to "rethink or reimagine what some of the learning could look like" and " think beyond the brick and mortar" in order to better meet the needs of students and families.

Implications for Practice

Findings showed that districts sought to plan equitable virtual learning experiences for all students based on unintentional influences and district responses. We found that learning plans emerged as a result of the feedback between unintentional influences (politics, availability of resources, and needs of stakeholders) and district leaders' intentional responses (leveraging relationships, communicating purposefully, and reinforcing the educational mission). See Figure 1 for a visual representation.

Figure 1
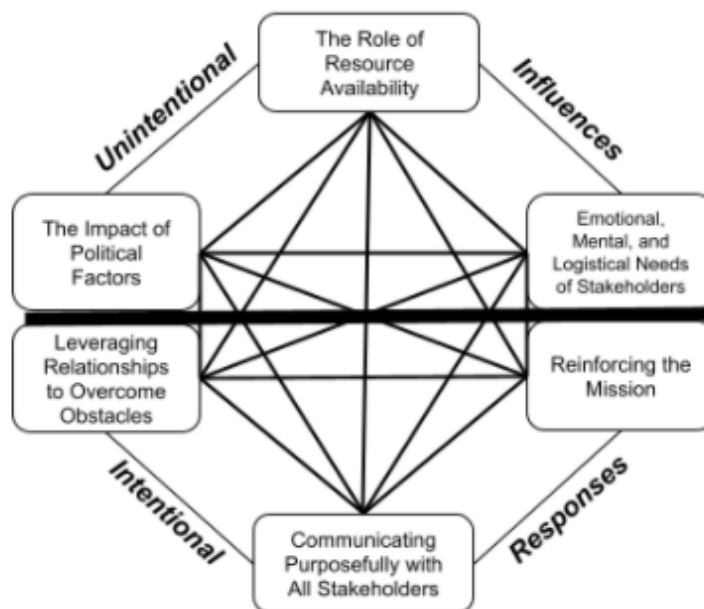
Communication and Narrative Control

Communication was mainly used as an intentional influence when creating virtual learning designs, with district leaders needing to determine how, when, and with whom to communicate. The pandemic made communication even more difficult because students were not all attending virtual lessons, parents were frequently trying to work from home while also supervising their children's learning, and circumstances changed frequently as COVID-19 case numbers fluctuated and more was learned about the virus. Nevertheless, communication remained essential because there was no more "business as usual" and stakeholders needed to be kept informed about new developments and decisions from the district. Stakeholders frequently received these updates through the media outlets and social media.

Superintendents discussed the importance of needing to maintain control of the messages that were given to stakeholders using these venues. Superintendents described social media as a

particularly useful method of communication to reach stakeholders, but frequently pointed out that it could also hinder communication. In some cases, superintendents used social media streaming platforms specifically to combat misconceptions that had been spread on those same social media platforms. Using social media in this way allowed district leaders to maintain narrative control rather than allowing social media to drive judgments about district-level decisions (Rim & Ferguson, 2020). Similarly, social media could be used by district leaders as a way to regain narrative control when the news media "spun" stories about the districts in a certain way.

The Importance of Relationships

Superintendents frequently discussed the importance of growing all relationships, both internal and external, in the attempt to rethink how teaching and learning could continue during a pandemic in which students could not physically attend school. Internal relationships were strengthened as superintendents brought together teachers, administrators, and other district personnel to design their virtual learning systems. Superintendents also cultivated external relationships with businesses and community organizations. Business relationships were used to obtain the laptops and hotspots that were needed for students to participate in virtual learning from their homes. The need for internet access also facilitated relationships between schools and other community organizations. In some instances, localities were able to use state or government provided funds to purchase hotspots, and other organizations boosted their WiFi signals to provide internet access to nearby families. School systems also worked closely with local health departments to make and communicate decisions regarding the opening of schools and mitigation strategies. Frequently, these internal and external relationships made virtual learning either possible or run more smoothly.

Politics vs. Policies

The study revealed that politics had a greater impact than policies; policies were rarely mentioned by superintendents as influencers. Politics at the national, state, and local levels were all discussed frequently as influences on the virtual learning designs. National political influences included beliefs about the virus and responses to racial tensions. State-level politics could be seen in how superintendents responded to official and unofficial mandates from the Virginia Department of Education. Lastly, another big influence was the politics between superintendents and their school boards regarding who would determine when a district would engage in virtual learning and when it would engage in hybrid or in-person learning.

Equity vs. Accountability

Pre-pandemic, accountability values frequently drove many instructional decisions. This study revealed, however, that during the pandemic, superintendents were far more focused on the value of equity when designing virtual learning. This may be because the VDOE announced after the closure of schools on March 13, 2020 that the state Standards of Learning (SOL) end-of-year assessments would not be given; the VDOE also decided to waive state accreditation requirements (Lane, 2020a). It further became apparent that many of the school districts would open virtually for the 2020-2021 school year, and the VDOE announced that while students would need to take the SOL assessments in the Spring of 2021, state accreditation would again be waived, both for the 2020-2021 and 2021-2022 school years. Without data for the 2019-2020 school year, there would be no data to use as comparison for growth purposes (Lane, 2020b). Districts and teachers suddenly found themselves without the longtime guiding value of accountability.

Equity, meanwhile, became an issue of concern during virtual learning because even if

districts provided devices and hotspots, some areas lacked the necessary cell phone towers or other internet infrastructures. The result was that while some students could participate in synchronous virtual learning using online video platforms, other students had limited interactions with teachers and instead completed work via paper packets or flash drives loaded with asynchronous lessons. Several superintendents mentioned worries about populations of students who also simply did not participate in school when the brick and mortar classrooms closed down. As the impacts of the pandemic continue to be understood, it may be that equity will be the dominant value for a while to come.

The (Mostly Absent) Role of Isomorphism

We originally expected isomorphism, or the tendency for institutions to act like one another, to influence how districts designed their virtual learning. However, to our surprise, superintendents discussed the importance of tailoring learning plans to meet the needs of the district. According to Superintendent Elm "most of the time [superintendents are] too busy to really get in each others' business." And another superintendent said, "You can have neighboring cities and yet, they're so different." It may be that if another long-term crisis necessitates similar virtual learning, isomorphism will begin to take a greater role as more best practices and institutional logics are developed.

Conclusion

The study provides important base-level of information for understanding the influences on virtual learning designs during the COVID-19 pandemic. As the leaders of school districts, superintendents' perspectives were used to gather information regarding an overall understanding of the districts. There were unintentional influences that impacted how districts designed virtual learning, including politics, the availability of resources, and the needs of

stakeholders. District leaders were able to respond to these unintentional influences through leveraging relationships to overcome obstacles, communicating purposefully with all stakeholders, and reinforcing the mission of education. These influences acted upon one another and the sum of each influence and its interactions combined to create the whole virtual learning experience. Lack of equity regarding internet access was the pervading theme for all superintendents, and this issue needs to be addressed in order to ensure that virtual learning is accessible by all students. Furthermore, this inequity needs to be solved before districts can turn their attention to developing best practices for virtual teaching pedagogies. Equitable access to virtual learning could provide more flexibility for students and staff in a way that makes public education a better fit for all.

References

Belgrave, L. L. & Seide, K. (2019). Coding for grounded theory. In A. Bryant & K. Charmaz (Eds.), *The Sage Handbook of Current Developments in Grounded Theory* (pp. 167-185). Sage.

Benoit, W. L. (1997). Image repair discourse and crisis communication. *Public Relations Review, 23*(2), 177-186.

Charmaz, K. (2014). *Constructing Grounded Theory* (2nd ed.). Sage.

Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review, 10*(3), 163–176. https://doi-org.proxy.lib.odu.edu/10.1057/palgrave.crr.1550049

Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Sage.

Delobelle, A. (1975). Feedback, cybernetics, and sociology. *Diogenes, 23*(91), 70-105.

DiMaggio, P. J., & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective action in organisational fields. American Sociological Review, 48(2), 147–160.

Ditlea, S. (1997, February 13). Applying complexity theory to business management. The New York Times. https://archive.nytimes.com/www.nytimes.com/library/cyber/week/021397complex.html

Fowler, F. C. (2013). Policy studies for educational leaders: An introduction. Pearson Education.

Gardner, W. L., & Cogliser, C. C. (2009). Meso-modeling of leadership: Following James G. (Jerry) Hunt's lead in integrating micro- and macro-perspectives of leadership. The Leadership Quarterly, 20, 493–500.

Gear, C., Eppel, E., Koziol-Mclain, J. (2018). Advancing complexity theory as a qualitative

    research methodology. *International Journal of Qualitative Methods, 17*(1), 1-10.

Gecker, J., & Liedtke, M. (2020, August 22). U.S. faces back-to-school laptop shortage. The

    Washington Post. https://www.washingtonpost.com/health/ap-exclusive-us-faces-back-

    to-school-laptop-shortage/2020/08/22/13281908-e4eb-11ea-82d8-

    5e55d47e90ca_story.html

Gilgun, J. F. (2019). Deductive qualitative analysis and grounded theory: Sensitizing concepts

    and hypothesis-testing. In A. Bryant & K. Charmaz (Eds.), *The Sage Handbook of*

    Current Developments in Grounded Theory (pp. 107-122). Sage.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for*

    qualitative research. Aldine Transaction.

Gray, B., & Purdy, J. (2018). Collaborating for our Future: Multistakeholder partnerships for

    solving complex problems. Oxford University Press.

Gray, J. A., & Summers, R. (2015). International professional learning communities: The role of

    enabling school structures, trust, and collective efficacy. International Education Journal:

    Comparative Perspectives, 14(3), 61–75.

Gray, J., Kruse, S., & Tarter, C. J. (2016). Enabling school structures, collegial trust and

    academic emphasis. Educational Management Administration & Leadership, 44(6), 875–

    891. https://doi-org.proxy.lib.odu.edu/10.1177/1741143215574505

Gray, J. A., & Summers, R. (2016). Enabling school structures, trust, and collective efficacy in

    private international schools. International Journal of Education Policy & Leadership,

    11(3), 1–15. https://doi-org.proxy.lib.odu.edu/10.22230/ijepl.2016v11n3a651

Grumadaite, K. (2020). Sustainable emergence of regional tourism clusters: The approach of

    complexity theory. International Conference on Tourism Research.

    DOI:10.34190/IRT.20.038

Hazy, J. K. (2018). Complexity and its implications in advanced leadership development.

    Complexity, Governance, & Networks, 3(10), 59-79.

Hoy, W. K., & Sweetland, S. R. (2001). Designing better schools: The meaning and measure of

    enabling school structures. Educational Administration Quarterly, 37(3), 296-321.

    https://doi-org.proxy.lib.odu.edu/10.1177/00131610121969334

Israel, G. (2005). The science of complexity: Epistemological problems and perspectives.

    Science in Context, 18(3), 479-509.

James, E. H., & Wooten, L. P. (2006). Diversity crises: How firms manage discrimination

    lawsuits. Academy of Management Journal, 49(6), 1103-1118.

Krass, P. (2020, October 12). How deep is the Chromebook shortage—and when might it end?

    Tech Provider Zone. https://www.techproviderzone.com/devices/how-deep-is-the-

    chromebook-shortage-and-when-might-it-end

Lane, J. (2020a, April 24). State Superintendent promises swift action on waivers for students,

    teachers and schools: Also rules out fall testing for diagnostic purposes. *Virginia*

    Department of Education. https://www.doe.virginia.gov/news/news_releases/2020/4-24-

    20-state-covid-waivers.docx

Lane, J. (2020b, July 6). Guidance on graduation requirements, awarding of credits, and

    continuity of learning. *Virginia Department of Education.*

    http://www.doe.virginia.gov/support/health_medical/office/covid-19-grad-credits.shtml

Leonard, H. B., & Howitt, A. M. (Eds.). (2009). Managing crisis: Responses to large-scale
    emergencies. CQ Press.

Lichtenstein, B. B., & Plowman, D. A. (2009). The leadership of emergence: A complex systems
    leadership theory of emergence at successive organizational levels. The Leadership
    Quarterly, 20(4), 617-630.

Mendes, M., Gomes, C., Marques-Quinteiro, P., Lind, P., & Curral, L. (2016). Promoting
    learning and innovation in organizations through complexity leadership theory. Team
    Performance Management, 22(5), 301-309.
    doi:http://dx.doi.org.proxy.lib.odu.edu/10.1108/TPM-02-2016-0004

Morgan, G. (2006). Images of Organization. Sage Publications, Inc..

Murray C. J., & Piot, P. (2021, March 3). The Potential future of the COVID-19 pandemic: Will
    SARS-CoV-2 become a recurrent seasonal infection? JAMA.
    doi:10.1001/jama.2021.2828

Nunn R. J. (2007). Complexity theory applied to itself. Emergence: Complexity and
    Organization. doi: 10.emerg/10.17357.c80f303c7ca64abf8155dc6c45e03161.

Rim, H., & Ferguson, M. T. (2020). Proactive versus reactive CSR in a crisis: An impression
    management perspective. International Journal of Business Communication, 57(4) 545–
    568.

Ruff, R. R. (2019). State-level autonomy in the era of accountability: A comparative analysis of
    Virginia and Nebraska education policy through No Child Left Behind. Education Policy
    Analysis Archives, 27(6), 1-28.

Scudellari, M. (2020, August 5). How the pandemic might play out in 2021 and beyond. Nature.
    https://www.nature.com/articles/d41586-020-02278-5

Sellnow, D. D., Lane, D. R., Sellnow, T. L., & Littlefield, R. S. (2017). The IDEA Model as a

best practice for effective instructional risk and crisis communication. Communication

Studies, 68(5), 552–567. https://doi-

org.proxy.lib.odu.edu/10.1080/10510974.2017.1375535

Sellnow, D. D., Johansson, B., Sellnow, T. L., & Lane, D. R. (2019). Toward a global

understanding of the effects of the IDEA model for designing instructional risk and crisis

messages: A food contamination experiment in Sweden. Journal of Contingencies &

Crisis Management, 27(2), 102–115. https://doi-org.proxy.lib.odu.edu/10.1111/1468-

5973.12234

Seyfried, M., Ansmann, M., & Pohlenz, P. (2019). Institutional isomorphism, entrepreneurship

and effectiveness: The adoption and implement of quality management in teaching and

learning in Germany. Tertiary Education and Management, 25,115-129.

Shoup, J. R., & Studer, S. C. (2010). Leveraging chaos: The mysteries of leadership and policy

revealed. Rowman & Littlefield Education.

Siemens, G., Dawson, S., & Eshleman, K. (2018, October 29). Complexity: A leader's

framework for understanding and managing change in higher education. Educause

Review. https://er.educause.edu/articles/2018/10/complexity-a-leaders-framework-for-

understanding-and-managing-change-in-higher-education#fn2

Termeer, C. J., Dewulf, A., Breeman, G., Stiller, S. J. (2015). Governance capabilities for

dealing wisely with wicked problems. Administration and Society, 47(6), 680-710.

Thompson, D. S., Fazio, X., Kustra, E., Patrick, L., & Stanley, D. (2016). Scoping review of

complexity theory in health services research. BMC Health Services Research, 16(87).

https://doi.org/10.1186/s12913-016-1343-4

Tschannen-Moran, M. (2001). Collaboration and the need for trust. Journal of Educational
    Administration, 39(4), 308-331.

Uhl-Bien, M., & Marion, R. (2009). Complexity leadership in bureaucratic forms of organizing:
    A meso model. The Leadership Quarterly, 20(4), 631-650.

Urquhart, C. (2019). Grounded theory's best kept secret: The ability to build theory. In A. Bryant
    & K. Charmaz (Eds.), The Sage Handbook of Current Developments in Grounded
    Theory (pp. 89-106). Sage.

Watts, W. (2020). How the 2020 hurricane season could end up rivaling the worst on record.
    MarketWatch. https://www.marketwatch.com/story/how-the-2020-hurricane-season-
    could-end-up-rivaling-the-worst-on-record-11598544359

Wooten, L. P. & James, E. H. (2008). Linking crisis management and leadership competencies:
    The role of human resource development. Advances in Developing Human Resources,
    10(3), 352-379. doi: 10.1177/1523422308316450.

Wu, J. H., Hoy, W. K., & Tarter, C. J. (2013). Enabling school structure, collective
    responsibility, and a culture of academic optimism toward a robust model of school
    performance in Taiwan. Journal of Educational Administration, 51(2), 176–193.
    https://doi-org.proxy.lib.odu.edu/10.1108/09578231311304698

Yong, E. (2020, July 15). America should prepare for a double pandemic. The Atlantic.
    https://www.theatlantic.com/health/archive/2020/07/double-pandemic-covid-flu/614152/