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A CORRELATIONAL STUDY BETWEEN HIGH SCHOOL ADMINISTRATORS' PERCEPTION OF THEIR SCHOOL AS A LEARNING ORGANIZATION AND THE PERCENTAGE IN WHICH STUDENTS GRADUATE UNDER THE COVID-19 PANDEMIC

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ABSTRACT

A CORRELATIONAL STUDY BETWEEN HIGH SCHOOL ADMINISTRATORS' PERCEPTION OF THEIR SCHOOL AS A LEARNING ORGANIZATION AND THE PERCENTAGE IN WHICH STUDENTS GRADUATE UNDER THE COVID-19 PANDEMIC

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The COVID-19 crisis put more stress on students graduating from high school during the 2020-2021 school year in a myriad of ways. During regular times, this transition can already be overwhelming, disappointing, and even treacherous for some students (Hollander, 2020). In the uncertain days of COVID-19, the education landscape has been disrupted.

This study examined the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 Pandemic. Given that students may be farther behind than in a typical year due to the loss of three (3) to four (4) months of formalized instruction, high schools across the country needed to redefine their instructional delivery and adapt to the many health and safety requirements under the COVID-19 Pandemic. While the COVID-19 learning interruptions are unprecedented in modern times, there was minimal research on school systems that practice learning organization theory and their ability to adapt during significant change and maintain high graduation rates.

The findings in this study suggest that high schools who adopt the learning organization framework experienced higher graduation rates. This study aligns with Peter Senge's Learning Organizational Theory and implies that when schools practice the five disciplines of a learning organization, a high graduation rate outcome is achieved.

The study provides implications for school practitioners and leaders as the findings provide a basis for change in school districts. The significance that schools with high graduation rates have acquired the necessary knowledge of a learning organization and its five core disciplines is a catalyst for schools worldwide to adopt this practice.

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The COVID-19 crisis put increased stress on students graduating from high school during the 2020–2021 school year in myriad ways. During regular times, this transition can already be overwhelming, disappointing, and even treacherous for some students (Hollander, 2020). In the uncertain days of COVID-19, the education landscape has been disrupted.

The New York State Education Department (NYSED) part 100.5 defines what is required to earn a New York State Regents diploma. Students must meet credit and exam requirements to graduate from High School. All New York State students have access to the local diploma, the Regents diploma, and the Regents diploma with advanced designation. Any diploma type requires the successful completion of the appropriate 22 units of credits. The difference between diploma types lies in the number of assessments the student passed and the required passing score(s).

Problem Statement

In March 2020, 55 million students in the United States were out of school due to the COVID-19 pandemic, and educational systems scrambled to meet the needs of schools and families, including planning how best to approach instruction in the fall of 2021. Virtually all K–12 students in the United States had face-to-face instruction interrupted during the 2019–2020 school year due to the COVID-19 pandemic (Kuhfeld et al., 2020). The majority of school districts provided some remote instruction during the last months of the school year (Lake & Dusseault, 2020a). However, it remains unclear how effective remote learning was, given that most K–12 students and teachers had little experience with online instruction and that significant gaps in technology access exist in

many parts of the country. Additionally, during the extended school closure, many working parents struggled to educate and care for their children (Harris, 2020). In short, extended time out of school will almost certainly affect student achievement, and that impact is hard to estimate given all the unique aspects of COVID-19 on schooling (Kuhfeld et al. 2020).

Statement of Purpose

The purpose of this study is to examine the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic. Given that students may be farther behind than in a typical year due to the loss of three to four months of formalized instruction, high schools across the country needed to redefine their instructional delivery and adapt to the many health and safety requirements under the COVID-19 pandemic. While the COVID-19 learning interruptions are unprecedented in modern times, minimal research is available on school systems that practice learning organization theory and their ability to adapt during significant change and maintain high graduation rates.

Theoretical/Conceptual Framework

In an age where standards and accountability measures are constantly evolving, the goal of every school system is to prepare students for their next level of learning and for life after high school. With constant changes, educational organizations must remain in a state of inquiry and learning to allow for continuous improvement. One of the most significant challenges school systems encountered was the COVID-19 pandemic. School

systems needed to be agile and make many adjustments to ensure student safety as well as student achievement.

Peter Senge (1990) publicized the concept of the learning organization as an organization that facilitates the learning of its members and continually transforms itself to enhance its capacity and create the results it truly desires. Could high schools that perceive themselves as learning organizations maintain a high graduation rate under the COVID-19 pandemic?

Senge et al. (2012) found that schools can be sustainably vital and creative, not by fiat or command or by regulation or forced rankings, but by adopting a learning organization. This means involving everyone in the system to express their aspirations, build awareness, and develop their capabilities together. In a school that learns, people who traditionally may have been suspicious of one another—parents and teachers, educators and local business people, administrators and union members, people inside and outside the school walls, students and adults—recognize their shared stake in each other's future and the future of their community (Senge et al., 2012). Senge et al. (2012) found that it is possible to create organizations that learn through the ongoing practice of five "learning disciplines" for changing the way people think and act together. These disciplines are systems thinking, personal mastery, working with mental models, building shared vision, and team learning.

Significance of the Study

Kuhfeld et al. (2020) produced a series of projections of COVID-19-related learning loss based on estimates from absenteeism literature and analyses of summer learning patterns of five million students. Based on their projections, returning students

were expected to start fall 2020 with approximately 63 to 68% of the learning gains in reading and 37 to 50% of the learning gains in mathematics, relative to a typical school year. However, Kuhfeld et al. (2020) projected that losing ground during the school closures was not universal, with the top third of students potentially making gains in reading. Kuhfeld et al. (2020) concluded that:

> These preliminary forecasts parallel many education leaders' fears: missing school for a prolonged period will likely have major impacts on student achievement. Furthermore, students likely are returning this fall with greater variability in their academic skills. Our learning loss projections imply that educators and policymakers will need to prepare for many students who are substantially behind academically as a result of extended school closures, particularly if many schools remain disrupted throughout periods of the 2020–2021 school year. Similar to the research that found that students took nearly 2 full years to make up lost ground for the loss in instructional time due to Hurricane Katrina (Harris & Larsen, 2019), our COVID-19 learning loss projections provide new evidence on the scope of the long-term educational recovery efforts that will be required. We believe that this study is one in a growing body of important work that leverages prior research to empower school leaders, policymakers, and researchers to make urgent evidence-informed post–COVID-19 recovery decisions. (p. 562)

Could WSBOCES component district high school graduation rates under the COVID-19 pandemic be attributed to schools practicing a learning organization's five disciplines? In this study, the Seven Dimensions of a Learning Organization identified by

Watkins and Marsick (1993), as aligned to Peter Senge's Five Disciplines (1990), is examined to determine if a correlation exists between a high school's administrators' perception as a learning organization and the percentage in which students graduate under the COVID-19 pandemic.

Research Questions

To examine the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic, the following research questions are addressed:

1. What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?
2. To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?
    a. Individual Level
    b. Team or Group Level
    c. Organizational Level
3. To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 Pandemic?

Design and Methods

The methodology of this research study is to investigate whether any correlation exists between a high school's perception as a learning organization and graduation rate under the COVID-19 pandemic. Creswell (2012) maintained that the quantitative approach is used if researchers want to identify a research problem based on trends in the field or the need to explain why something occurs. Creswell said that describing a trend means that the research problem can be answered best by a study. Qualitative researchers seek to establish the overall tendency of responses from individuals and note how this tendency varies among people. Based on the work of Creswell (2012), a quantitative approach is best employed in this study.

This study is set during the COVID-19 pandemic and a time when rigorous New York State Standards and accountability measures ensure high school students are prepared for postsecondary education. School systems that practice a learning organization's five disciplines could allow those schools to change seamlessly in a time of unrest and change and allow for continued success and student achievement. In this case, the graduation rate will not falter.

This quantitative research study includes 20 High Schools located in Western Suffolk County, Long Island. To collect the quantitative data for this study, the researcher employed the Dimensions of a Learning Organization Questionnaire (DLOQ), developed by Watkins and Marsick (1993). This 21-question survey measures the extent to which the school is operating as a learning organization across all levels: individuals, teams/groups, and organizations.

The researcher imported data will from Microsoft Excel to SPSS 26.0 software. The researcher analyzed the data to determine if a correlation exists between a high school's perception as a learning organization and the percentage in which students graduated during the COVID-19 pandemic. The statistical analysis used in this study was a Pearson's Correlation.

Researcher Assumptions/Hypothesis

The purpose of this study is to examine the correlation between a high school's perceived status as a learning organization and the percentage in which students graduated during the COVID-19 pandemic. While these perceptions are evidentiary of the qualities of a learning organization, the percentage in which students graduate reflects student achievement and organizational performance. The researcher employed a quantitative correlational research design to address the research questions and test the hypotheses. A cross-sectional survey was used to provide the researcher with quantitative data pertaining to the degree to which Western Suffolk County High Schools perceived the presence of the qualities of a learning organization in their school.

This study examined the following hypotheses as assumed by the researcher;

Ho: There will be no significant correlation between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 Pandemic.

H_1: There will be a significant correlation between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 Pandemic.

Definitions of Terms

The researcher shaped the following definitions for the purpose of this study. The terms provide the reader with a greater understanding of the study.

Learning Organization: A place where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together (Senge, 1990; Senge et al., 2012).

Systems Thinking: The discipline of seeing wholes; a framework for seeing the interrelationship rather than the things, for seeing the patterns and trends rather than the static moments in time. Systems thinking helps people to better understand interdependency and change and, therefore, equips people with the ability to deal better with complexity (Senge, 1990; Senge et al., 2012).

Personal Mastery: Senge uses this phrase to emulate personal growth and learning. Practitioners of personal mastery continually seek ways to expand their ability to create the results they truly desire. Practitioners also seek a realistic assessment of their current reality (Senge, 1990; Senge et al., 2012).

Mental Models: Deeply held internal images of how the world works. The discipline of working with mental models includes surfacing, testing, and improving our internal pictures of how the world works (Senge, 1990; Senge et al., 2012).

Shared Vision: A force in people's hearts, inspired by an idea but compelling enough to acquire the support of others. People who share a vision are connected, bound together by common aspiration. In organizations, shared vision provides focus and energy (Senge, 1990; Senge et al., 2012).

Team Learning: The process of aligning and developing the capacity of a team to create the results its members truly desire (Senge, 1990; Senge et al., 2012).

CHAPTER 2

The New York State Education Department (NYSED) part 100.5 defines what is required to earn a New York State Regents diploma. Students must meet credit and exam requirements to graduate from High School. All New York State students have access to the local diploma, the Regents diploma, and the Regents diploma with advanced designation. Any diploma type requires the successful completion of the appropriate 22 units of credits. The difference between diploma types lies in the number of assessments the student passed and the required passing score(s).

The COVID-19 crisis put more stress on students graduating from high school in myriad ways. During normal times, this transition can already be overwhelming, disappointing, and even treacherous for some students (Hollander, 2020). In the uncertain days of COVID-19, the education landscape was disrupted. “Creating a sense of urgency” (Kotter, 2014) is identified at the core of cultural change. Kotter (2014) refers to this as the “Big Opportunity” to engage the entire organization. Creating a sense of urgency involves helping organizational leaders understand why the changes are needed and requires supporting evidence to develop a shared vision. Every year, educational institutions are faced with a plethora of factors that require institutions to rethink their culture and practices. Demographic changes, financial pressures, technological advancements, and now a pandemic are catalysts for academic cultural change (Kezar & Eckel, 2002).

In this study, the researcher examines the literature associated with the learning organization and *The Dimensions of a Learning Organization* by Watkins and Marsick and Senge’s five disciplines (the desired state).

Theoretical Framework

The Learning Organization

Learning Organization theory is about empowering people within an organization to create what they hope to create. It is a comprehensive theory used to bring about change and has been successfully applied in the for-profit and not-for-profit sectors of the economy (Senge et al., 1994). A learning organization has a culture that supports learning and innovation by individuals and by the organization. The environment promotes a culture of learning and a community of learners, and it ensures that individual learning enriches and enhances the organization (Marsick & Watkins, 2003).

The central premise of the learning organization theory is that organizations must continually learn and be agile to outperform and outlast competitors. Many scholars ascribe the changing environment to permanent white water, a metaphor used by Vaill (1996) to illustrate the idea of never-ending environmental turbulence requiring leaders and their organizations to acquire and use different skills than those used in previous times.

Table 1

Learning organization Definitions and Authors

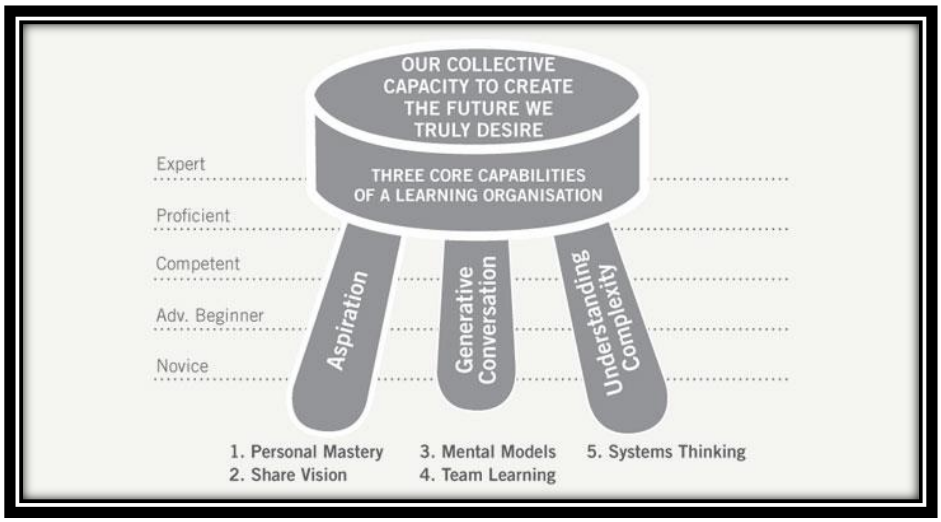
Researchers	Years	Learning Organization Definitions
Senge	1990	An organization where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn
Pedler et al.	1991	An organization that facilitates the learning of all of its members and continually transforms itself to meet its strategic goals
Garvin	1993	An organization skilled at creating, acquiring, and transforming knowledge and at modifying its behavior to reflect new knowledge and insights
Marsick and Watkins	1993	An organization characterized by continuous learning for continuous improvement and by the capacity to transform itself
Nevis et al.	1995	An organization that has woven continuous and enhanced capacity to learn, adapt, and change. Its values, policies, practices, systems, and structures support and accelerate learning for all employees
Gephart et al.	1996	An organization in which learning processes are analysed, monitored, developed, managed, and aligned with improvement and innovation goals
Pedler et al.	1997	An organization that facilitates the learning for all its members and consciously transform itself and its context
Goh	1998	An organization characterized by clarity and support for mission and vision, shared leadership, and involvement. A culture that encourages experimentation, the ability to transform knowledge across organizational boundaries, teamwork, and cooperation
Watkins and Marsick	1998	An organization that emphasizes three keys: system level, continuous learning; created to create and manage knowledge outcomes; which lead to improvement in the organization's performance and ultimately its value
Dowd	1999	A group dedicated to learning and improving forever
Griego et al.	2000	An organization that constantly improves results based on increased performance made possible because it is growing more adroit
Rowden	2001	An organization in which everyone is engaged in solving problems, enabling the organization to continuously experiment, change, and improve and increase its capacity to grow, learn, and achieve its purpose
Lewis	2002	An organization in which employees are continually acquiring and sharing new knowledge and are willing to apply that knowledge in making decisions or performing their work
Armstrong and Foley	2003	A learning organization has cultural facets (visions, values, assumptions, and behaviors) that support a learning environment: processes that foster people's learning and development by identifying their learning needs and facilitating learning and structural facets that enable learning activities to be supported and implemented in the workplace
Moilanen	2005	A learning organization is a consciously managed organization with learning as a vital component in its values, vision, and goals as well as in its everyday operations and assessment

Source: Debora, (2009); Yin and NG; Dima Yusuf [8, 4, 9]

At the heart of Senge's Theory of Learning Organizations is his theoretical underpinning, using five core disciplines: Personal Mastery, Mental Models, Team Learning, Shared Vision, and Systemic Thinking (Senge, 1990). These core disciplines serve as a foundation for understanding the theory and how a practitioner or organization might implement it within an organization.

Figure 1

Three Core Capabilities of a Learning Organization



Note. The three core capabilities of a learning organization represent interdependence. From *The Fifth Discipline: The art and practice of the learning organization*, P. Senge, 1990, Currency Books.

The Core Disciplines: Building the Learning Organization

"Personal mastery" is the phrase Senge (1990) used for the discipline of personal growth and learning. People with high levels of personal mastery continually expand their ability to create the results in life they seek. From their search for continual learning comes the spirit of the learning organization (Senge, 1990). Senge (1990) shared that "Personal mastery is the discipline of continually clarifying and deepening our personal

vision, of focusing our energies, of developing patience, and of seeing reality objectively." This discipline masters personal growth and learning and encourages individuals to take charge of their personal mastery to grow personally and professionally. It inspires them to create their own personal vision and develop a picture of the future. It helps them to focus their energies on what is important to them.

Senge (1990) described personal mastery as involving two underlying activities. First, it continually helps people clarify what is essential to them, and, second, it allows them to see reality more clearly. Senge (1990) called the force between these two activities "creative tension" and said that personal mastery is about how to generate and sustain this "creative tension.' When people develop the capacity to master "creative tension," they expand their abilities to make better choices and can achieve more of the results they care about (Senge, 1990).

People with a high level of personal mastery share several essential characteristics. These individuals have a sense of purpose that lies behind their visions and goals. A vision is a calling for these individuals rather than simply a good idea. They are deeply inquisitive, connected to others and to life itself, yet they do not sacrifice their uniqueness and feel they are part of a more extensive creative process they can influence (Senge, 1990). Personal mastery resonates with the idea of personal calling for those responsible for creating and sharing a vision with others. The calling is like Hillman's (1996) "Acorn Theory" of life in which every being is drawn into a personal calling, an archetype that fulfills a more significant purpose (Hillman, 1996).

Mental models are deeply ingrained assumptions, generalizations, or pictures or images that influence how we understand the world and how we act (Senge, 1990). By

understanding what mental models are and what they mean, we can analyze our thought processes and thus facilitate a move toward change. By stepping back from our own thinking, assumptions are suspended and the facts present themselves with greater clarity. Viewing events bounded by a mental model limits creative thinking, and thought is a powerful system that stands before us and says it is reality (Bohm, 1994). Senge (1990) shared that reflective practice is the essence of the discipline of mental models, as it requires business skills and reflective and interpersonal skills. Since managers are inherently pragmatic, training them in "mental modeling" or "balancing inquiry and advocacy," with no connection to pressing issues, is usually rejected. This may lead people to have "academic" skills they do not use. Furthermore, learning becomes reactive, not generative, without reflective and interpersonal learning skills. Generative learning requires people to surface their mental models and acknowledge them before outside circumstances do so (Senge, 1990).

Shared vision is a force in people's hearts, a force of impressive power compelling enough to acquire the support of more than one person; it is palpable, and people begin to see it as if it already exists (Senge, 1990).

As the name implies, vision is a picture of the organization's future, an idealized design (Ackoff, 1999). This picture or image of the future represents an improved state of being, one more desirable than the organization's existing state of being. It becomes more transparent and more focused as time goes by. The leader might present an initial picture of a lofty ideal of the organization's future state. Still, it remains fuzzy in the minds of employees attempting to understand and implement it. The leader continues to present the vision not as their sole creation but as a clarification of the design collectively expressed

by the participants until it becomes apparent in the minds of those committed to sharing it.

Bernato (2017) described a formula for sustained change capacity through "Future-Based Change Leadership." He shared that organizational-cultural variables are at play whose health contributes to the ability of a school to adapt to the demands of its emerging future. Leaders are obligated to catalyze their stakeholders to collaborate, so they build a self-sustaining organizational capacity to remain faithful to their mission and purpose. In this context, futuring speaks to the uses of a toolkit of forecasting strategies that enable the Futures-Based Change Leader to collaborate with stakeholders to create the preferable future for the systems they harness. This includes lessons from past experiences, current knowledge, and expected trends to sustain preferences (Bernato, 2017).

Commitment is perhaps the most significant aspect of shared vision. It is "commitment" to the vision rather than mere "compliance" with it that best portrays what is meant by a shared vision. It means that people want the vision and are not just working from nine to five to collect a paycheck (Senge, 1990). Commitment means people are "enrolled" in the vision process, a process they themselves stand for and have wholeheartedly bought into.

Team learning is the process of aligning and developing the capacity of a team to create the results its members desire (Senge, 1990). Bohm (1994) distinguished between what he calls discussion and dialogue. Bohm (1994) referred to this as an exchange of ideas in which a thought is expressed and a group member responds. The response is then reacted to by another participant, giving way to yet another participant's response. Yet

another participant reacts to that response and so on and so on. The problem with this style of communication, according to Bohm (1994), is that no genuine communication takes place. Ideas are exchanged, people say things while others listen, but the deeper meaning of those ideas or the real intent of the participants offering those ideas is never uncovered. This lack of authentic communication is a result of the deceptiveness of thought itself. Our mental models get in the way of the understanding we are trying to say to one another. Senge (1990) shared that in "dialogue," there is a free and creative exploration of complex and subtle issues, where members listen to each other profoundly and suspend judgment of others' views. By contrast, Senge shared that in "discussion," different views are presented and defended and a search for the best view to support decisions at that time.

Bohm (1994) explained that for honest communication to occur, assumptions have to be suspended so as not to color the perceptions of the person speaking or the person listening, and dialogue must occur. Jorgensen (2009) referred to this as "Suspending Certainty," stating that if you are certain of your position, you will not hear the ideas of others. This suspension of assumptions has to be authentic and is motivated by trust, in the system of dialogue and between the individuals participating in the process. Bohm (1994) suggested that only from such dialogue can those participating in the group genuinely immerse themselves in the creative process.

Senge (1990) shared that Systems Thinking is a discipline for seeing the wholes and a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static "snapshots." As we enter an "Age of Interdependence" where complex situations can undermine confidence in which organizations may become

paralyzed, systems thinking becomes the discipline for seeing the "structures" that underlie complex situations and discerning high from low leverage change. Senge stated that systems thinking is the fifth discipline, as it is the cornerstone that underlies all of the five learning disciplines. Each discipline establishes a shift in mindset from seeing parts to seeing wholes, from seeing people as helpless and reactive to active participants in shaping their reality, from reacting in the present to creating the future. He said that leaders need to see interrelationships rather than things, processes, and snapshots because they become trapped if they fail to see interrelationships. They need to move beyond blame because there is a tendency to blame others, when, in reality, poorly designed systems cause problems rather than incompetent, unmotivated employees. Senge says that the consequences of leaders lacking systems thinking is devastating because they deal with crisis after crisis. When this happens, deeply committed people become burned out, and cynicism appears in the organization. Just as a stone thrown into a pond sends the water rippling outward from its point of entry, so the effect of human interaction ripples throughout the entire organization (Senge, 1990).

Kontoghiorghes et al. (2005) examined the relationship between learning organization characteristics and change adaptation, innovation, and bottom-line organizational performance. Kontoghiorghes et al. (2005) found the following learning organization characteristics were the strongest predictors of rapid change adaptation, quick product or service introduction, and bottom-line organizational performance: open communications and information sharing; risk-taking and new idea promotion; and information, facts, time, and resource availability to perform one's job professionally.

Kontoghiorghes et al. (2005) used a standard quantitative survey research design and involved the participation of four organizations in the service and manufacturing industries; data collection occurred at the individual level. The prospective participants of this study consisted of the entire population of the information technology division of a large auto manufacturer (300 employees) as well as the case management division of a health care insurance organization (256 employees). This study involved the participation of the entire workforce of two manufacturing facilities of two different organizations (189 and 60 employees, respectively) in the auto parts industry. Kontoghiorghes et al. (2005) used a third-generation 108-Likert-item questionnaire, designed to assess the organization in terms of the learning organization, learning transfer, Total Quality Management (TQM), and sociotechnical system (STS) dimensions and performance indicators.

Kontoghiorghes et al. (2005) determined that the correlational data in conjunction with the results of the regression analyses indicate that the most important learning organization dimensions for change adaptation, quick product or service introduction, and bottom-line organizational performance are those pertaining to the structural, cultural, and information systems of the organization. Kontoghiorghes et al. (2005) concluded that organizational interventions that focus on the organization's structural, cultural, and communication system characteristics would be more likely to produce higher levels of performance, change adaptation, and innovation than those strictly focused on learning and its application. Therefore, this study revealed that if a school system focuses on the structural, cultural, and informational systems within, it may improve student achievement.

The Dimensions of a Learning Organization

Yang et al. (2004) developed and validated a multidimensional measure of the learning organization. Yang et al. (2004) investigated the instrument's construct validity by examining the number of dimensions thought to explain the interrelations among items included in the instrument and examining the relationship between learning characteristics of organizations measured on the instrument and organizational outcome variables.

Watkins et al. (1996) used a separate scale during instrument development to measure each of the seven dimensions of a learning organization. According to Yang et al. (2004), three stages of field testing were conducted in the instrument development process to ensure the reliability and content validity of the scale. At each of the stages, managers and human resource developers from different organizations filled out the scale with regard to the learning organization dimensions as reflected in their organization or workgroup. A total of 48 subjects participated in the first stage and responded to the first version of the instrument; 71 subjects participated in the second stage and returned surveys in the second version; 191 subjects participated in the third stage. All of the responses were coded and analyzed using the SPSS program. Item analysis procedures were performed at each stage. Reliability testing enabled the revision of each version of the instrument into the final form. Analysis of internal consistency (as reflected by Cronbach's alpha) for each scale identified items with low item-total correlations. These items were replaced or revised in later versions with an overall eye toward content validity. The field tests continued until acceptable reliability and content validity were achieved (Yang et al., 2004).

The primary sample Yang et al. (2004) used for construct validation comes from an ongoing instrument development and validation data set. A total of 836 subjects consisted of a nonrandom sample from multiple organizations. The subjects' roles in the organization included senior management (19%), middle management (37%), supervisory (12%), nonmanagement (technical professional; 24%), and nonmanagement (hourly employee; 8%). Their educational experiences ranged from high school (10%) to associate degree (11%), undergraduate degree (39%), and graduate degree (40%).

Yang et al. (2004) concluded that the present study showed strong evidence of construct validity for the scale measuring dimensions of the learning organization. The seven-factor structure proposed by Watkins et al. (1996) fits the data reasonably well and, as a result, will provide a useful framework for other researchers to study learning dimensions. The results showed evidence of internal consistency and the construct reliability of the dimensions of the learning organization. The DLOQ will provide a useful tool for researchers to assess the dimensions of the learning organization. These findings are critical as the DLOQ will measure a building leader's perception of their district as a learning organization. This will be the independent variable to determine if a relationship exists between a building leader's perception of their district as a learning organization and student performance.

Pokharel and Choi (2015) conducted a study to evaluate the Dimensions of Learning Organization Questionnaire (DLOQ) framework from the perspective of public sector organizations. Pokharel et al. (2015) utilized performance indicator data after organizational learning inspired intervention in a semi-autonomous network of public sector organizations. Pokharel et al. (2015) share that despite the study's limited scope, it

moves a step forward toward bridging the gap of empirical studies of public sector organizations and contributes to literature establishing a causal relationship between learning organizations and organizational performance.

Pokharel et al. (2015) used confirmatory factor analysis and structural equation modeling (SEM) to examine the relationships between dimensions of learning organizations and organizational performance. The performance data was collected over 50 monthly observations from September 2001 through March 2006, with four missing observations. Pokharel et al. (2015) conducted a pretest of the survey instrument for its validity and then modified the instrument to fit the population from which samples were drawn. To specify an analytical model, Pokharel et al. (2015) modified a separate scale to measure each of the seven dimensions of a learning organization that Watkins et al. (1996) proposed. Respondents were asked to rate each question about how things were in their organizations on a 6-point Likert-type scale that ranged from "strongly disagree (1)" to "strongly agree (6)."

Pokharel et al. (2015) thought that a learning organization is a multidimensional construct and tested the factor structure of the dimensions of learning organizations. The findings support the seven-factor structure proposed by Watkins et al. (1996). This structure provides a useful framework for other researchers to study learning dimensions and their relationships with other organizational performance variables. The results show evidence of internal consistency and construct reliability of the dimensions of learning organizations. Developing a valid instrument for analyzing a learning organization is an ongoing process; however, this research shows considerable convergent validity of the

dimensions of the learning organization and will be used in my study to determine if a relationship exists between a learning organization and student achievement.

Khamis (2012) examined academic staff's perceptions of the characteristics of a learning organization within higher education: in this instance, the International Islamic University Malaysia (IIUM). The study also examined the relationship between the characteristics of a learning organization and satisfaction with performance in teaching and research activities.

Khamis (2012) utilized a survey method with a sample of 400 academicians with a return rate of 214 (53.5%). Khamis (2012) used Watkins and Marsick's (1996) learning organization questionnaire to measure the learning organization's characteristics and collect data for the study. Khamis (2012) selected academic staff as the sample for this study, using a simple random sampling method. The simple random sampling method is a procedure used to obtain a greater degree of representation from the population while decreasing a probable sampling error. A total of 400 (44.4%) academicians were selected to participate in the study, and the return rate of the completed questionnaire was 214 (53.5%) respondents (Khamis, 2012).

Khamis (2012) used two instruments to achieve the purpose of this study. The first instrument, DLOQ, measured the characteristics of a learning organization; this instrument was developed by Watkins and Marsick (1996) and psychometrically tested by Watkins and Marsick (2003) and Yang et al. (2004). This survey instrument has seven dimensions with 43 items that describe the characteristics of a learning organization. Respondents were required to rate each item on a six-point Likert scale that ranged from "Almost never" to "Almost always."

The second instrument Khamis (2012) used was a self-rated measure of satisfaction with academic performance activities in teaching and research. The source of the second instrument was the literature of performance for academic staff in institutions of higher learning. The satisfaction with performance measure, which included teaching and research activities, was developed to suit the academic environment because this is the most frequently measured outcome of academic staff in institutions of higher learning. Academic staff in this study were required to rate each item on a six-point Likert scale that ranged from "Strongly dissatisfied" to "Strongly satisfied."

This study aimed to examine the characteristics of a learning organization in a higher learning institution. It also examined the relationship between learning organization and satisfaction with teaching and research activities (Khamis, 2012). Khamis (2012) found that the identification of the seven dimensions of a learning organization in this study supports the construct validity of the learning organization's original instrument, as developed by Watkins and Marsick (1996). These findings further solidify the use of the DLOQ developed by Watkins and Marsick (1996), which the researcher will utilize to survey administrators' perceptions as a learning organization.

Weldy and Gillis (2010) studied the perceptions of managers, supervisors, and employees from different organizations relevant to the seven dimensions of a learning organization (LO) and the two dimensions of knowledge and financial performance.

The research design developed by Weldy and Gillis (2010) consisted of a self-report questionnaire to evaluate perceptions on the dimensions of the learning organization. They contacted 38 local organizations to solicit participation in the study; however, 31 were eliminated due to small size, lack of multiple organizational levels, or

lack of initiatives to transition to a learning organization. Four were willing to participate in the remaining seven firms, including two service and two manufacturing firms. Weldy and Gillis (2010) collected data from managers, supervisors, and employees relevant to their perceptions of the dimensions of the learning organization and organizational performance. A total of 950 questionnaires were distributed in the four organizations (based on the number of members), and 176 instruments were completed and returned. However, 33 surveys were discarded due to missing or incomplete data resulting in 143 usable surveys for an overall response rate of 15%.

Weldy and Gillis (2010) used the DLOQ developed by Watkins and Marsick (1996) to examine the dimensions of the learning organization in their sample. The DLOQ measures respondents' perceptions on seven learning organization dimensions and two performance dimensions. The DLOQ has been tested for validity and reliability and has progressed through several stages of development with continual revisions by Watkins and Marsick (1997) to improve the reliability and validity of the instrument. The DLOQ contains 55 items and uses a six-point rating scale with anchors from "almost always" to "almost never." The instrument measures dimensions of a learning organization on seven scales and measures performance on two scales Wendy et al. (2010).

According to Weldy and Gillis (2010), the results indicated variations in the perceptions of organizational members from different levels relevant to the adoption of both the dimensions of a learning organization and the resulting performance of the company. The results suggested that managers have the highest perception of the organization for several dimensions, followed by supervisors and employees. Because

employees scored the organization significantly lower than supervisors on system connections, this possibly means that employees were less likely to assume that technology systems were in place to allow access to information and sharing of learning. Weldy and Gillis (2010) felt this is a critical component since transitioning to a learning organization requires members from all levels have access to shared learning with other members of the system. In addition, Weldy and Gillis (2010) were aware that they only surveyed four organizations, and the response rate was 15%.

This study reaffirmed that if a researcher chooses to utilize the DLOQ as an instrument to measure administrators' perception as a learning organization, the sample and return rate must be high. It also states that multiple levels of administrators should be surveyed.

The Learning Conversation

Jorgensen (2009) described "A Learning Conversation" as a conversation with the outcome of generating learning for participants. While attending the Dialogos Project at MIT, Jorgensen engaged a group about Senge's writings on dialogue in the Fifth Discipline. The five Learning Conversation Guidelines was an outgrowth of this dialogue. It shows respect for the practice and has further taught us how to hold space for conversation (Jorgensen, 2009). Jorgensen explained that learning conversations go through phases with an energy that ebbs and flows. Participants feel inspired, surprised, touched, uncomfortable, quiet, satisfied, angry, confused, and more at different times during the conversation. Leaders engage in learning conversations to develop common understanding and shared meaning (Jorgensen, 2009).

Listen Deeply for Understanding

Jorgensen (2009) shared that listening deeply is to listen from a place of peace, focus, caring, and learning. It is listening without judgment or blame, without thought of what to say in response because of trust that the listener will know what should be said when it is time to speak. Deep listening, listening for understanding, takes practice and comes from a place deep within the listener that bridges the separation from one another and recognized interdependence (Jorgensen, 2009).

Speak from the Heart

Speaking from the heart is to give voice to the thoughts inside the listener, such as questions, concerns, reflections, wonderings, and observations. Speaking from experiences and sharing, not to fill a silence but to further a conversation. This requires speaking honestly, avoiding defensiveness, blame, or judgment. Speaking from the heart lends transparency to the system and allows one to share what is in their heart in a way that deepens learning and the learning of others (Jorgensen, 2009).

Suspend Certainty

The practice of suspending certainty is suspending belief in ones' idea or position. It is the ability to suspend the need to be right or hold the correct answer, position, or solution and acknowledge ones' truths are not everyone's truths and that truth is a moving target (Jorgensen, 2009). Jorgensen thought that if one is certain of their position, one will not hear the ideas of others, and what may be construed as listening is not. In this state, the listener judges what is heard as being right or wrong and decides how to use what is said to further ones' position because the listener already has the answer. Practicing the ability to suspend certainty means accepting that making mistakes is part of learning.

Hold Space for Difference

Avoiding or ignoring problems will not make them go away. Leaders often have difficulty embracing conflict, as it creates memories of pain, humiliation, or even being on the losing end of a conflict. Holding space for difference in conversations allows individuals to acknowledge all voices respectfully, seek new ideas, and hear from those who might not otherwise speak. This is an opportunity to look for ideas that oppose one's own ideas with the intent of learning how one can think and do differently. Holding space for difference embraces differing viewpoints as opportunities for learning; it replaces the word "but" with the word "and" because the word "but" in a conversation negates everything that came before (Jorgensen, 2009).

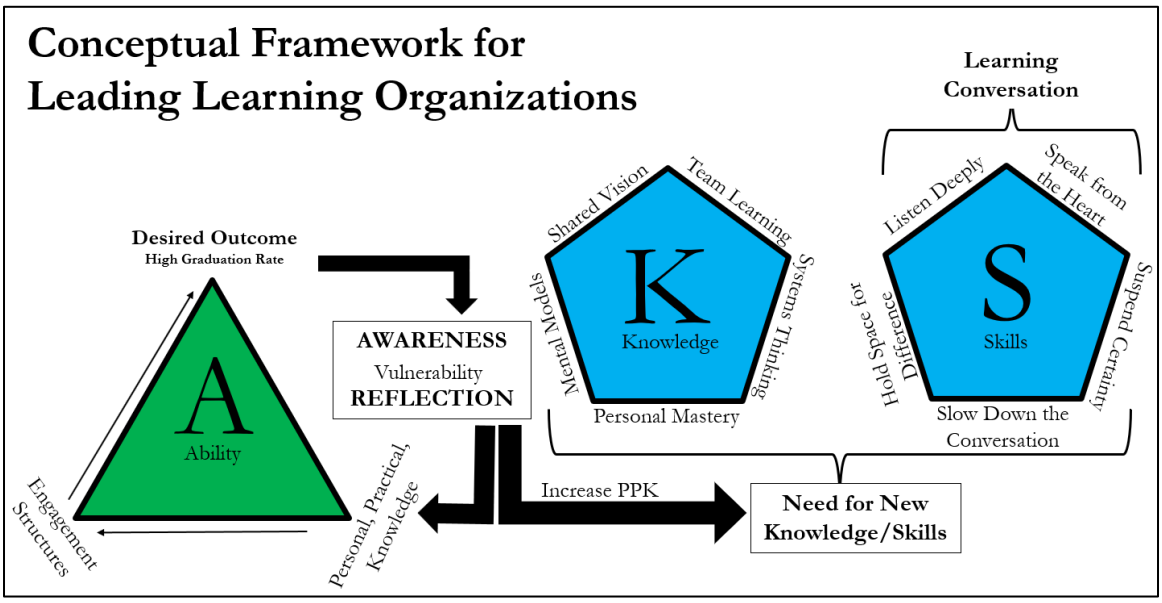
Slow Down the Conversation

Proceeding through conversations with the intent to generate learning, listening deeply to others, and seeking diverse ideas takes time and a safe space. Slowing down the conversation means enabling silence to digest the previous speaker's words and acknowledging other people's thoughts and ideas as significant. Slowing down the conversation means taking time to reflect on the words of others and sharing with the speaker what resonated with the listener and giving voice to that reaction. The silence in slowing down a conversation should be embraced to deepen common understanding.

The Conceptual Framework

Figure 2

Conceptual Framework for Leading Learning Organizations



Note. The conceptual framework of this study combines the work of authors on the subjects of The Learning Organization and Learning Conversations to combine theory (knowledge) and Practice (skills). From *The Fifth Discipline: The art and practice of the learning organization*, by P. Senge, 1990, Currency Books and *Oracle of the Obvious: Secrets of Common Sense Leadership*, by R. Jorgensen, 2009, Jorgensen Learning Center.

This framework is built on the premise that the learning organization is a theory or culmination of knowledge of the five disciplines in a learning organization, while the Learning Conversation is a process, practice, or activity. This study conceptualizes Jorgensen (2009) to represent the process or practice that needs to take place when applying the knowledge of the five disciplines described by Peter Senge (1990) in *The Fifth Discipline: The Art and Practice of the Learning Organization.* Educational leaders have the "ability" to create structures based on their personal, practical knowledge with

the intent of the desired outcome. For this study, the conceptual framework is an outline for leaders to reflect on their personal, practical knowledge of Senge's five disciplines (knowledge) and Jorgensen's learning conversations governed by a set of guidelines (skills). An educational leader's "knowledge" and "skills" determine their "ability" to develop structures leading to the desired outcome.

Jorgensen (2009) described his work as a discipline and putting a set of principles into action. These include listening deeply for understanding, speaking from the heart, suspending certainty, holding space for difference, and slowing down the conversation. Through the practice of these skills, leaders learn a new way of thinking, speaking, and being.

Peter Senge (1990) suggested that a learning organization is one in which its members continually expand their capacity to create the results they desire. From a cognitive and normative perspective, Senge's work provides five disciplines that aim to create the learning organization by shifting the thinking of the organization's membership. These five disciplines include Personal Mastery, Shared Vision, Mental Models, Team Learning, and Systems Thinking.

CHAPTER 3

Method

The researcher looked to answer the following research question in this study, which will focus on building level administrators in twenty high schools in Western Suffolk County, Long Island:

Research Questions

To examine the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented and the percentage in which students graduate under the COVID-19 pandemic, the following research questions were addressed:

1. What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?
2. To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?
    a. Individual Level
    b. Team or Group Level
    c. Organizational Level
3. To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic?

Hypothesis

The purpose of this study is to examine the relationship between high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 pandemic. While these perceptions are evidentiary of the qualities of a learning organization, the percentage in which students graduate "graduation rate" is reflective of student achievement and organizational performance. The researcher used a quantitative correlational research design to address the research questions and test the hypotheses. The researcher used a cross-sectional survey to provide the researcher with quantitative data pertaining to the degree to which high schools perceive the presence of the qualities of a learning organization in their school.

This study examines the following hypotheses as assumed by the researcher:

Ho: There will be no significant correlation between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 Pandemic.

H_1: There will be a significant correlation between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 Pandemic.

Population

The population for this study comprises building administrators from the population of Western Suffolk County High Schools; the sample will include eighteen School Districts consisting of twenty High Schools located in Western Suffolk County, Long Island. The twenty high schools consist of twenty building principals and fifty-five

assistant principals. Demographic information for building administration for each high school population is found in the table below.

Table 2

Sample Population

School	Number of Building Principals	Number of Building Assistant Principals
School A	1	2
School B	1	1
School C	1	2
School D	1	3
School E	1	3
School F	1	3
School G	1	2
School H	1	4
School I	1	3
School J	1	2
School K	1	2
School L	1	3
School M	1	5
School N	1	2
School O	1	4
School P	1	3
School Q	1	3
School R	1	5
School S	1	2
School T	1	1
TOTAL	20	55

Sample

The sample of this study is twenty building principals and fifty-five assistant principals from twenty high schools located in Western Suffolk County, Long Island. Administrators will electronically take The Dimensions of a Learning Organization Questionnaire (DLOQ). I will solicit volunteers and select participants randomly from this list of volunteers. The number of administrators sampled will be based on the total high school building administration population in each district. See the table below for sample details.

Table 3

Percent of Sample Population

School	Number of Building Administration Surveyed	Percent of Sample Population
Building Administration	75	100%

The only criteria for this sample population is working in a district high school that engages in learning organization methods. As a correlational-predictive study, only administrators who complete The Learning Organization survey are included in data analysis.

Procedure

I sought a sample of seventy-five building administrators for this study, which accounts for 100% of the sample. I asked participants to provide relevant demographic information (age, years in district, years in current position) while maintaining their confidentiality. I asked participants to complete a survey, which was available on Google

Forms for one week. The survey demonstrated a high school's perception of itself as a Learning Organization.

Data Source

The Dimensions of a Learning Organization Questionnaire (DLOQ) was designed in 1997 by Watkins & Marsick. The DLOQ was developed to identify learning activities in organizations and has been widely used to determine the characteristics of a learning organization (Watkins & Marsick, 2003). Redding (1997) reviewed multiple assessment tools of learning organizations and concluded that the framework developed by Watkins et al. (1996) was one of the few that addressed all learning levels (individual, team, and organizational) (Yang et al., 2004).

One of the most critical issues is the lack of a practical and validated measurement tool (Yang et al., 2004). Little was understood about how to effectively measure the learning culture as a supportive system for organizational learning process until the Dimensions of Learning Organization Questionnaire (DLOQ) came into being (Yang et al., 2004, p. 662).

The development of the DLOQ by Watkins and Marsick was influenced by Senge and systems thinking and organizational generativity (Sharifirad, 2011). Sharifirad (2011) suggested that Watkins and Marsick created the DLOQ to identify the learning activities in organizations. The DLOQ has two versions, with one full version with 43 measurement tools for researchers who want a comprehensive assessment and information of the learning culture to analyze where to intervene and make decisions for the betterment of the organization (Leufvén et al., 2015). The second version is an abbreviated form and contains 21 of the 43 items but "still possesses construct validity

and reliability". I used the shorter version. I measured the dimensions on a 6-point Likert scale (Appendix C), ranging from almost never to almost always. The researcher used this questionnaire to capture a snapshot of the school districts' perceptions of them as learning organizations.

Validity and Reliability

According to Leufvén et al. (2015), the DLOQ with 21 items was considered the most appropriate survey because of its ease of completion, non-loss to follow up, comprehensiveness, depth, validity, and the important attributes that it analyzes in relation to a learning organization. In The Dimensions of Learning Organization Questionnaire (DLOQ), Sharifirad (2011) suggested that "the instrument has been widely employed to determine the characteristics of a learning organization" (p. 663). Sharifirad (2011) stated that research studies have been conducted to test the validity and reliability of the dimensions of the learning organization in several cultural contexts, including the USA, Columbia, China, Taiwan, and Korea. These studies have verified the applicability of DLOQ.

DLOQ has been a participant with some other aspects of management literature in some research to address applicability to the overall organizational circumstances that lend valid factor constructs of measures, including leadership, organizational commitment, organizational creativity, job satisfaction, learning transfer, and so on in educational and business settings (p. 666).

Correlations in this study were statistically significant ($p < 0.0001$), and Cronbach's coefficient alpha reliability estimates for the dimensions or a learning organization have proved acceptable (Sharifirad, 2011).

Research and Design

Permission and Consent

The researcher is the Executive Director of Instruction in the Commack School District. The researcher identified twenty WSBOCES component districts consisting of seventy-five building administrators to participate in the survey. He did this by first reaching out to the superintendent of schools, asking permission to survey administrators building-wide. Upon receiving consent, the researcher emailed all administrators in the district, asking for volunteers to participate in the survey. In the email, participants were informed of the study and that there was no risk in participation. The administrators were informed that the survey was voluntary and that all data collected would remain anonymous and confidential.

Data Collection

The researcher is an employee in one of the eighteen districts where the data was analyzed. By clicking on the link to the survey, the high school administration will need to consent to participate in the survey. Once the building administrators consented, a link guided participants to a Google Form, where they answered 21 questions, including their administrative role, years in position, gender, and level of education. No personal data, such as name, address, phone number, or email address were collected to preserve anonymity. Participants had one week to complete the survey. Administrators were given reminders through email. After the survey closed, I exported the responses to the survey questions to Excel. Subsequently, the Excel document was transferred to SPSS, and once again data was checked for accuracy.

Data Analysis

I imported data from Excel to SPSS 26.0 software for purposes of analysis. I analyzed the data in which school building administrators were sampled to determine if a correlation existed between Western Suffolk County High School's perception as a learning organization and the percentage in which students graduate "Graduation Rate" under the COVID-19 pandemic. The statistical analysis used in this study was a Pearson's Correlation and a Multiple Regression. I analyzed the strength and direction of the relationship between the High School's Perception as a Learning Organization with three levels (Individual, Team, Organization) and actual graduation rates.

The Pearson's Correlation was used to (a) determine whether an association or correlation between two or more variables exists; and (b) if such an association or correlation exists, measure the strength and direction of the association/correlation. In addition to "association" and "correlation," this study has questions that measure associations/correlations using the words "relationship," "examine," and "explore."

The Pearson product-moment correlation was used to determine the strength and direction of a linear relationship between two continuous variables. The test generates a coefficient called the Pearson correlation coefficient, denoted as *r* (i.e., the italic lowercase letter r). This coefficient measures the strength and direction of a linear relationship between two continuous variables. Its value can range from -1 for a perfect negative linear relationship to +1 for a perfect positive linear relationship. A value of 0 (zero) indicates no relationship between two variables. This test is also known by its shorter titles, the Pearson correlation or Pearson's correlation, which are often used interchangeably (Laerd, 2018).

Laerd (2018) stated that when analyzing data using a Pearson's correlation, part of the process involves checking to make sure that the data can actually be analyzed using a Pearson's correlation. This is necessary because it is only appropriate to use Pearson's correlation if your data "passes" five assumptions required for Pearson's correlation to yield a valid result. The first two assumptions of a Pearson's correlation relate to the study design and variables. This includes having two continuous variables that are paired. The other three assumptions relate to Pearson's correlation itself and can be tested using SPSS Statistics. These three assumptions are:

- Assumption #3: A linear relationship must exist between the two variables. The best way of checking this assumption is to plot a scatterplot and visually inspect the graph.
- Assumption #4: No significant outliers should exist. Outliers are data points within a sample that do not follow a similar pattern to the other data points. Pearson's correlation coefficient, *r*, is sensitive to outliers, meaning that outliers can have an exaggerated influence on the value of *r*. This can lead to Pearson's correlation coefficient not having a value that best represents the data as a whole. Therefore, it is best if there are no outliers or that they are kept to a minimum.
- Assumption #5: To run inferential statistics (null hypothesis significance testing), the researcher will need to satisfy the assumption of bivariate normality.

Laerd (2018) shared that a multiple regression can predict a continuous dependent variable based on multiple independent variables. As such, it extends simple linear

regression, which is used when in cases with one continuous independent variable. Multiple regression can determine the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained.

Table 4

Research Questions Aligned to Survey Questions

Research Questions	References	Survey Questions
What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?	Kuhfeld et al. (2020). Lake and Dusseault (2020a).	22
To what extent do high school administrators perceive themselves as a Learning Organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)? Individual Level Team or Group Level Organizational Level	Yang et al. (2004). Pokharel & Choi (2015).	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21
To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented and the percentage in which students graduate under the COVID-19 pandemic?	Senge et al. (2012). Senge, (1990).	

CHAPTER 4

The purpose of this study is to examine the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic. Given that students may be farther behind than in a typical year due to the loss of three to four months of formalized instruction, high schools across the country needed to redefine their instructional delivery and adapt to the many health and safety requirements under the pandemic. While the COVID-19 learning interruptions are unprecedented in modern times, minimal research covers school systems that practice learning organization theory and their ability to adapt during significant change and maintain high graduation rates. In this chapter, I present the results from this quantitative study. The quantitative data was collected through the Dimensions of a Learning Organization Survey (DLOQ) as well as 2021 graduation data filtered through the New York State Education Department Data Site. Educational institutions report the data to the State Education Department throughout the school year and are available for verification by districts until the close of the state data warehouse in August. District superintendents certify that the data is accurate each September. The data was formatted in a Microsoft Excel document and inputted by the researcher to SPSS 27.0 software, where it was analyzed. In this chapter, the researcher provides the findings from the data analysis for each research question.

Research Questions

In this chapter, I provide the findings in regard to the relationship between a high school administrator's perception of their school as a learning organization, the

instructional models implemented, and the percentage in which students graduate under the COVID-19 Pandemic; the following research questions will be addressed:

1. What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?
2. To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?
    d. Individual Level
    e. Team or Group Level
    f. Organizational Level
3. To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 Pandemic?

Ho: No significant correlation will exist between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 Pandemic.

H_1: There will be a significant correlation between a high school administrator's perception of their school as a learning organization and the percentage in which students graduate under the COVID-19 pandemic.

Results

RQ1: What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?

In March 2020, 55 million students in the United States were out of school due to the pandemic, and educational systems scrambled to meet the needs of schools and families, including planning how best to approach instruction in fall 2021. Virtually all K-12 students in the United States had face-to-face instruction interrupted during the 2019-2020 school year due to the pandemic (Kuhfeld et al., 2020). The majority of school districts provided some remote instruction during the last months of the school year (Lake & Dusseault, 2020a). However, it remains unclear how effective remote learning was, given that most K-12 students and teachers had little experience with online instruction and that significant gaps in technology access exist in many parts of the country. Additionally, during the extended school closure, many working parents struggled to educate and care for their children (Harris, 2020). In short, extended time out of school will almost certainly affect student achievement and that impact is hard to estimate given all the unique aspects of COVID-19 on schooling (Kuhfeld et al. 2020).

On Monday, July 13, 2020, Governor Andrew Cuomo announced that school districts in New York would follow plans to reopen for in-person schooling in September of 2020.

While Districts had been instructed to prioritize efforts to return all students to in-person instruction, many Districts also planned for remote/distance learning as well as a model that combines in-person instruction and remote learning. Parents/guardians had the choice to remain in the remote learning model. Districts collected information from their

parents/guardians to gauge the number of students who would not return to in-person instruction. Districts took the necessary steps to establish instructional models to ensure continuity of instruction for those students unable to attend school. Students, staff, and family's health and safety were top priorities. The instructional models identified by Western Suffolk High Schools incorporated recommendations and guidance from the Centers for Disease Control and Prevention (CDC) and the New York State Department of Health (NYSDOH).

During the pandemic, the researcher identified instructional models implemented in Western Suffolk County, Long Island. To determine what instructional models were used and their impact on graduation rate, the researcher included a question on the survey that Western Suffolk County high school administrators filled out.

22. What instructional model was used during the 2020-2021 school year under Covid-19?

1. Every day in-person instruction
2. Every other day in-person instruction with live streaming into the classroom on an offsite day
3. Every other day in-person instruction without live streaming into the classroom on an offsite day
4. Every other day in-person instruction with a separate full remote program for students unable to attend school
5. Every day in-person instruction with a separate full remote program for students unable to attend school

Depicted below are the responses to the survey question demonstrating the instructional model used under the pandemic for the sample of this study.

Table 5

Instructional Models Implemented Under COVID-19 by School

School	Instructional Model Implemented under COVID-19 Pandemic
School A	2
School B	2
School C	4
School D	4
School E	2
School F	2
School G	2
School H	2
School I	2
School J	2
School K	2
School L	2
School M	2
School N	2
School O	2
School P	2
School Q	2
School R	2
School S	2
School T	2

The data above reveals few variations between the High Schools in Western Suffolk, Long Island. Eighteen of the 20 high schools followed an instructional model in which every other day in-person instruction was provided with live streaming into the classroom on offsite days. This instructional model allowed schools to maintain the integrity of their master schedule with reduced capacity in school. Districts were required to space students six feet apart in every classroom and learning space. To accomplish this task, high schools implemented a hybrid model in which half of the students were at

home while half the students were in class. Students at home streamed into the classroom following their schedule and listened to the lesson. Two of the high schools provided every other day in-person instruction with a separate full remote program for students unable to attend school.

RQ2: To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?

The Learning Organization Survey used in this study was "an attempt to collect data from members of a population to determine the current status of that population with respect to one or more variables" (Gay & Airasian, 2003, p. 592). In this study, High School Building Administration completed The Dimensions of a Learning Organization Questionnaire (DLOQ), designed in 1997 by Watkins and Marsick. The DLOQ was developed to identify learning activities in organizations and has been widely utilized to determine the characteristics of a learning organization (Watkins & Marsick, 2003). Redding (1997) reviewed multiple assessment tools of learning organizations and concluded that the framework developed by Watkins and Marsick (1996) was one of the few that addressed all learning levels (individual, team, and organizational) (Yang et al., 2004).

One of the most critical issues is the lack of a practical and validated measurement tool (Lim and Morris, 2006; Yang et al., 2004). Little is known about how to effectively measure the learning culture as a supportive system for organizational learning process until the Dimensions of Learning Organization Questionnaire (DLOQ) came into being (Yang et al., 2004, p. 662).

The development of the DLOQ by Watkins and Marsick was influenced by Senge and systems thinking and organizational generativity (Sharifirad, 2011). Sharifirad (2011) suggested that Watkins and Marsick created the DLOQ to identify the learning activities in organizations. There are two versions of the DLOQ, with one full version with 43 measurement tools for researchers who want a comprehensive assessment and information of the learning culture to analyze where to intervene and make decisions for the betterment of the organization (Leufvén et al., 2015). The second version is an abbreviated form and contains 21 of the 43 items but "still possesses construct validity and reliability" (p. 2). For purposes of this study, I used the shorter version. The dimensions were measured on a 6-point Likert scale (Appendix C), ranging from almost never to almost always. The researcher used this questionnaire to capture a snapshot of the school districts' perceptions of them as learning organizations.

This study included perceptions of influence at several levels: organizational, group, and individual. Thus, there can be concern about what self-report responses on perceptions of the contextual characteristics measures. One of the potential issues in this study is the unit of analysis. However, what matters are the perceptions and their relation to organizational learning and learning organization. Like much social science research, we believe the levels of analysis for some subdimensions in this study can be justified in that it is the psychological meaning of environmental events that largely influences individual behavior (Woodman, 1993). Watkins and Marsick (1993) contended that learning occurs at three distinct levels within a learning organization, individual, team, and organization, all of which are interdependent on each other. Furthermore, all three levels are encouraged and maximized in a learning organization (Marquardt, 1996).

Individual Learning

The initial stage of the learning organizational level is the individual level. This level is crucial within an organization, as it forms the foundation for team and organizational learning. According to Senge (1990), "Individual learning does not guarantee organizational learning. But without it, no organizational learning occurs" (p. 236). Within this level, Watkins and Marsick (2003) asserted that "learning takes place when disjuncture, discrepancies, surprises or challenges act as triggers that stimulate a response" (p. 20). Using their cognitive and affective understanding of the meaning of the initial trigger, individuals select a strategy or action. After the individual has identified a plan or strategy, it is implemented and either works or does not work. Dependent on the plan's outcome or design, the cycle is repeated (when the plan does not work, it is repeated until it works). At this distinct level, the individual actions are determined by factors such as skills, knowledge, and authority. In education, individuals are given occasions to participate in a variety of professional development and growth opportunities. The number of opportunities can vary from district to district based on funding and priority.

Team and Group Level

Team and groups play an integral component in organizational learning and are interrelated. Marquardt (1996) identified characteristics that make learning at the team level successful. They include work teams and groups that must think and learn as an entity. They must learn how to create and capture learning, and team and group learning should occur every time the team/group interact. Marquardt (1996) contended that within team and group levels, learning is self-managed with a free flow of ideas. To ensure that

a team or group is successful, there should be a level of comfort to discuss negative and positive experiences as a learning opportunity. Within education, teams/groups are overwhelmingly evident and can be identified as Administrative Council, Faculty, Professional Learning Committees (PLC), grade levels, departments, and more.

Organizational Level

Learning at an organizational level is slightly different, although the individual and team levels have an influence. At this level, learning is a collective experience resulting from interactive and interdependent processes (Marsick & Watkins, 2003). Unlike the individual level, learning is triggered by organizational triggers, such as environmental jolts or surprises, a new competitor, market downturns, new technology, customer dissatisfaction, or new demands (Marsick & Watkins, 2003). Within education, examples of organizational triggers that may prompt learning are political influence, funding, community and/or societal influences, and student performance.

Depicted below are the scores for each of the twenty Western Suffolk County high schools based on the Dimension of a Learning Organization Questionnaire (DLOQ) results. The researcher disseminated the DLOQ to 75 high school administrators, which was completed by 30 administrators across 20 high schools.

Table 6

DLOQ Total, Individual, Team and Organizational Scores by School

School	Total Score	Individual	Team	Organizational
School A	81	21	11	49
School B	92	28	14	50
School C	112	34	15	63
School D	106	32	16	58
School E	89	26	15	48
School F	94	31	11	52
School G	103	29	15	59
School H	102	29	15	58
School I	100	29	15	56
School J	102	31	15	56
School K	89	27	11	51
School L	99	28	17	54
School M	95	26	14	55
School N	90	24	11	55
School O	96	26	14	56
School P	102	28	15	59
School Q	98	27	15	56
School R	91	27	15	49
School S	84	23	12	49
School T	71	19	9	43

RQ3: To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic?

The researcher examined whether a high school administrator's perception as a learning organization was related to graduation rate. The researcher recruited 75 administrators from 20 high schools in Western Suffolk County, Long Island. The researcher investigated whether an association existed between a high schools' perception as a learning organization and its graduation rate by running a Pearson's correlation. The

rationale for choosing the Pearson Correlation was to determine the association between two continuous variables. The research question was: To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization and the percentage in which students graduate under the COVID-19 pandemic? I chose the alpha level of .05 to test for significance. Before running the correlation, the data was screened. There were no missing values in the data and no coding errors.

Next, I ran the assumption tests. The two variables were on a continuous scale. Table 7 depicts the descriptive statistics for the study.

Table 7

Descriptive Statistics DLOQ and Graduation Rate

		DLOQScore	GradRate
N	Valid	20	20
	Missing	0	0
Mean		94.8000	91.1500
Median		95.5000	93.0000
Mode		102.00	96.00
Std. Deviation		9.42338	7.80873
Variance		88.800	60.976
Range		41.00	36.00
Minimum		71.00	63.00
Maximum		112.00	99.00

Figure 5 below depicts that there was a linear relationship between the two variables, as evident in the scatterplot. The two variables were homoscedastic, as the variances were the same at all levels of the valued variable. The scatterplots demonstrated that value points were similarly above and below the line of fit to show that the variances were the same. Each variable was normally distributed as demonstrated by the histograms in Figure 3 and Figure 4.

Figure 3

Histogram of DLOQ Total Score

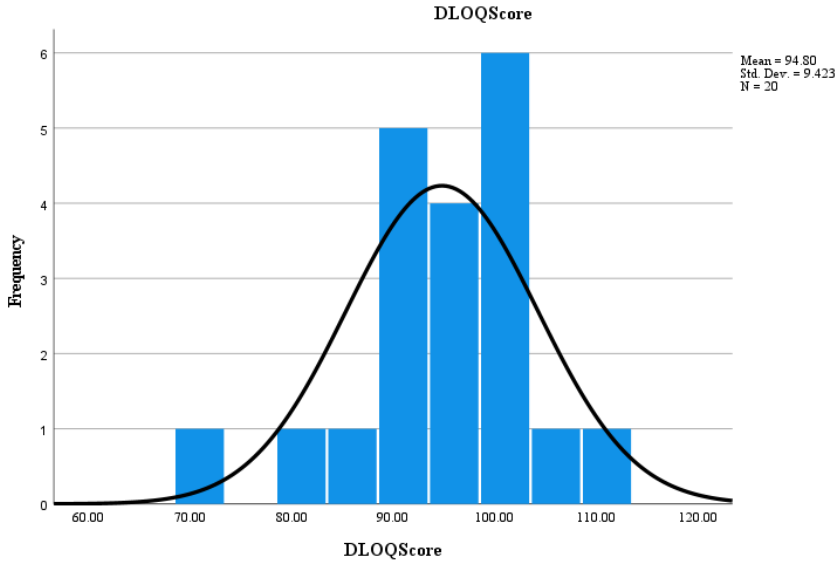
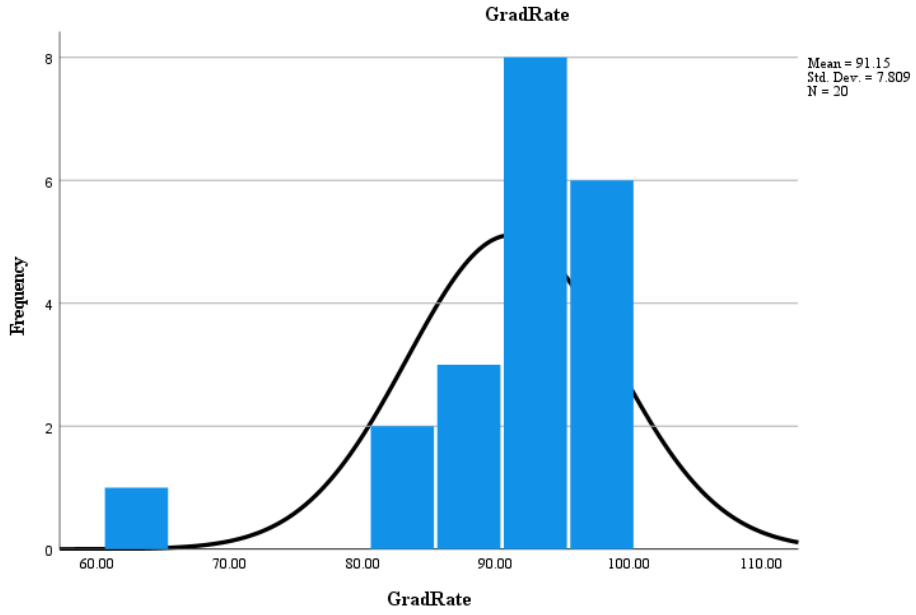


Figure 4

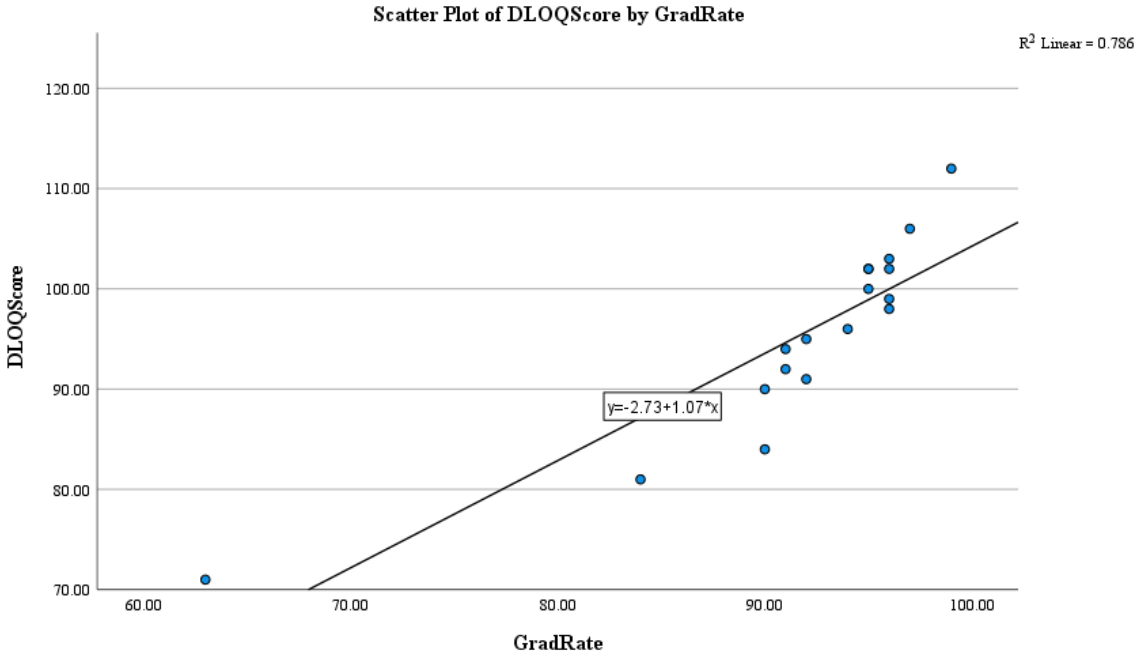
Histogram of Graduation Rate



Lastly, there were no significant outliers, evidenced by the scatterplot in Figure 5.

Figure 5

Scatterplot of Total Score on Graduation Rate



In the above scatter plot, high schools that perceive themselves as a learning organization have significantly higher graduation rates. Schools looking to raise their graduation rates should strongly consider investing in the theory and ultimately the practice of a learning organization.

The Pearson Correlation was conducted and there was a strong, positive correlation between a school administrator's perception as a learning organization and graduation rate, as shown in Table 8. The result was statistically significant, $r(28) = .887$, $p = .005$, with an effect size of $r^2 = .50$, which is considered large. With the significant results, the null hypothesis was rejected.

Table 8

Summary of Correlation of Total Score on DLOQ and Graduation Rate

Variable	Total Score
Graduation Rate	.887**

Note. **$p < .01$

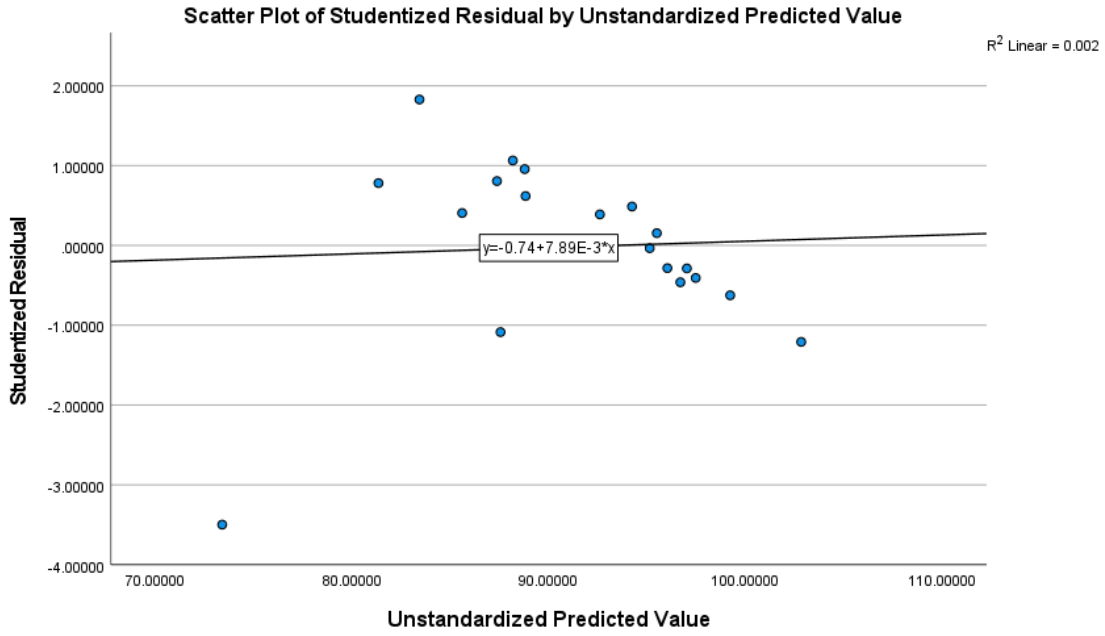
The data analysis indicates that high school administrators who perceive their school as a learning organization utilizing the Total Score on the DLOQ had higher graduation rates under the COVID-19 pandemic. In this study, the researcher looked deeper into the survey results.

To build on the Pearson Correlation analysis, the researcher used a multiple regression analysis for the dependent variable graduation rate to examine if the three levels (individual, team, and organizational) in the DLOQ are a predictor of high graduation rates. According to Fraenkel et al. (2019), "multiple regression is a technique that enables researchers to determine a correlation between a criterion variable and the best combination of two or more predictor variables" (p. 328). In this analysis, the criterion variable was the dependent variable (Graduation Rate) and the predictor variable was comprised of the three levels (individual, team, organizational) within the DLOQ.

Prior to running the multiple regression analysis, I conducted the assumption tests. The relationship between the independent and dependent variables was linear, as demonstrated with scatterplots (Figure 6).

Figure 6

Scatter Plot of Studentized Residual by Predicted Value for Graduation Rate



There was homoscedasticity, as assessed by visual inspection of a plot of studentized residuals versus unstandardized predicted values (Figure 6). No multicollinearity was in the data. When viewing the collinearity statistics in the SPSS output, the VIF scores were well below 10 (Individual = 2.580, Team = 1.823, and Organizational = 2.352). The tolerance scores were above 0.2 (Individual = .388, Team = .549, and Organizational = .425). Therefore, the multicollinearity assumption was met. The values of the residuals were independent, as noted by the Durbin-Watson statistic, which was close to two (Durbin-Watson = 2.077). The variance of the residuals was constant, which was identified by the plot showing no signs of funneling clearly indicated in Figure 6, which suggests the assumption of homoscedasticity was met. The values of the residuals were normally distributed, evinced by the histogram (see Figure 7) and P-P

plot (see Figure 8). Finally, there were no influential cases of biasing or outliers evident in the data, verified by calculating Cook's Distance values, which were all under 1.00.

Figure 7

Histogram of Regression Standardized Residuals for Graduation Rate

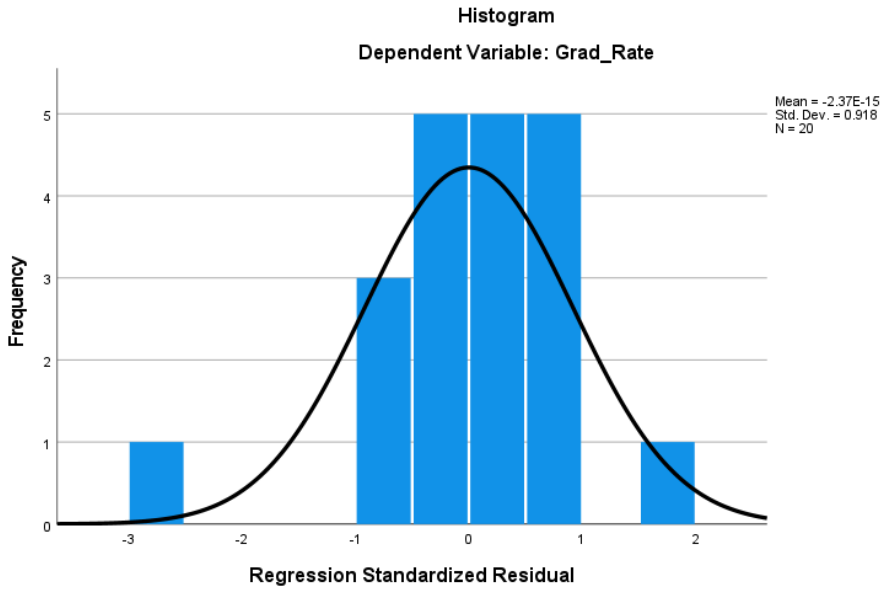
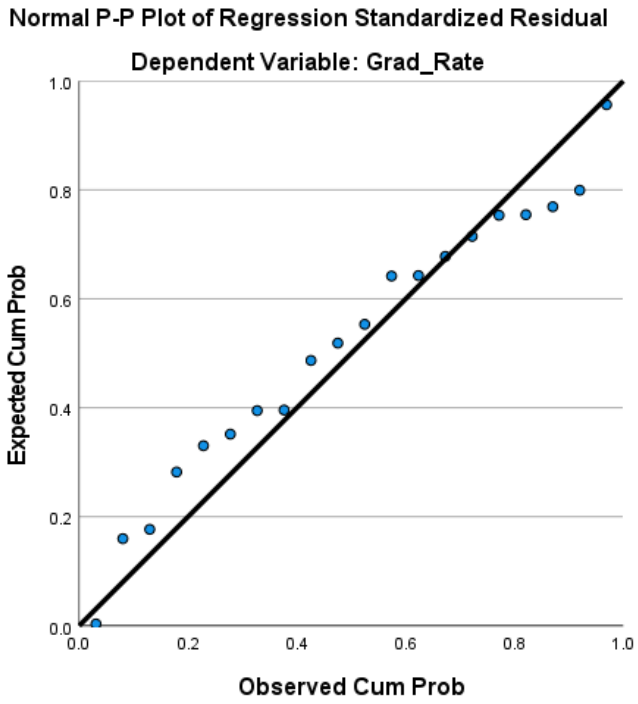


Figure 8

P-P Plot of Regression Standardized Residual for Graduation Rate



I ran the multiple regression analysis using SPSS and the correlations of three independent predictor variables within the DLOQ (individual, team, organizational) were significantly correlated with the dependent variable, Graduation Rate, $F(3,16) = 20.941$, $p < .001$, and indicated that the model accounted for approximately 79.7% of the variance of Graduation Rate ($R^2 = .797$, adjusted $R^2 = .759$). The Individual Level did not contribute to the dependent variable (Graduation Rate), which was (β = .207, p =.268). Team Level (β = .322, p = .050) and Organizational Level (β = .480, p = .013) did add a statistically significant prediction to the model. Organizational Level received the strongest positive weight in the model and provided the unique contribution of $sr^2 = .097$ or 9.7%, as is shown in Table 8. In addition, Team Level also contributed a positive weight in the model and provided the unique contribution of sr2 = .056 or 5.6%, as is

shown in Table 8. Results predict that Graduation Rate were equal to the regression equation of: Predicted $Z_{GraduationRate} = 0 + (.480) * (Z_{OrganizationalScore}) + (.322) * (Z_{TeamScore})$. The null hypothesis was rejected. Students' Graduation Rates were significantly predicted by Organizational and Team Levels within the DLOQ. Organizational Level ($p = .013$) and Team Level ($p = .050$) significantly contributed to the prediction of Graduation Rates.

Table 9

Summary of Multiple Regression Analysis for Variables Predicting Graduation Rates

	Graduation Rate			
Variable	*B*	*SE B*	*β*	sr^2
Individual Score	.448	.391	.207	
Team Score	1.183	.559	.322**	.056
Organizational Score	.778	.280	.480**	.097
R^2	.797			
F	20.941***			

Note. ** $p < .05$, *** $p < .001$.

Summary

The analysis results suggested that staff that perceives their school as a learning organization is more likely to have a higher graduation rate. There is a statistically significant difference in the predictor variables. The two levels, Team and Organizational Level in the DLOQ, are a statistically significant predictor of Graduation Rate than the Individual Level. I discuss the findings in the next chapter.

CHAPTER 5

The purpose of this study was to examine the relationship between a high school administrator's perception of their school as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic. While the COVID-19 learning interruptions are unprecedented in modern times, minimal research considers school systems that practice learning organization theory and their ability to adapt during significant change and maintain high graduation rates. This research study supports adopting a learning organization framework and practice. In this chapter, I discuss the implications of each research question which build upon one another. The first two research questions are the pillars for the third research question that supports the notion of adopting a learning organization framework leads to high graduation rates.

Implications of Findings

This study set out to answer three research questions guided by implications and connections to the theoretical and conceptual framework.

1. What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic?
2. To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?
    g. Individual Level
    h. Team or Group Level

i. Organizational Level

3. To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization, the instructional models implemented, and the percentage in which students graduate under the COVID-19 pandemic?

The first research question was: What instructional models have Western Suffolk County high schools implemented to ensure the success of their students under the COVID-19 pandemic? The first research question was developed with Peter Senge's learning organization theory in mind. Peter Senge and a team of researchers at the Sloan School of Management of MIT suggested a new organizational culture of continuous change and learning or, in other words, to build learning organizations. These organizations are capable of generating and sharing knowledge. As a result of the pandemic, districts were forced to change their high school instructional models. This came as a shock to many schools that have not had to change in decades. Is it possible that districts that perceived themselves as a learning organization could adapt to change and design an instructional model to support the graduation rate? When conducting an analysis of this question, 18 out of the 20 high schools implemented the same instructional model during the pandemic. Therefore, the instructional models designed by high schools were not a valid independent variable in determining a significant impact on the graduation rate.

The second research question was: To what extent do high school administrators perceive themselves as a learning organization, as defined by The Dimensions of the Learning Organization Questionnaire (DLOQ)?

This study provided for the collection of data to determine the perception of each high school as a Learning Organization. The Dimensions of a Learning Organization Questionnaire (DLOQ), developed by Watkins and Marsick (2003), was employed to collect the quantitative data for this study. This is a 21-question survey that measures the extent to which the school is operating as a learning organization across all levels; individuals, teams/groups, and organizations. The DLOQ provided a useful tool to assess the dimensions of the learning organization. These findings are critical, as the DLOQ measures a high school administrators' perception of their school as a learning organization. This independent variable was used to determine if a relationship exists between a high school administrators' perception of their school as a learning organization and student performance (Graduation Rate). The DLOQ ranges from a low score of one, "rarely or never," to six, "almost always true." The highest possible score on the 21-question survey is 126. The Learning Organization scores for the high schools varied, with the lowest score being 71 and the highest score 112.

Weldy and Gillis (2010) sought to study the perceptions of managers, supervisors, and employees from different organizations relevant to the seven dimensions of a learning organization (LO), and the two dimensions of knowledge and financial performance.

The research design developed by Weldy and Gillis (2010) consisted of a self-report questionnaire to evaluate perceptions on the dimensions of the learning organization. A total of 38 local organizations were contacted to solicit participation in the study; however, 31 were eliminated due to small size, lack of multiple organizational levels, or lack of initiatives to transition to a learning organization. Four were willing to

participate in the remaining seven firms, including two service and two manufacturing firms. Weldy and Gillis (2010) collected data from managers, supervisors, and employees relevant to their perceptions of the dimensions of the learning organization and organizational performance. A total of 950 questionnaires were distributed in the four organizations (based on the number of members) and 176 instruments were completed and returned. However, 33 surveys were discarded due to missing or incomplete data resulting in 143 usable surveys for an overall response rate of 15 percent.

Weldy and Gillis (2010) used the DLOQ developed by Watkins and Marsick (1997) to examine the dimensions of the learning organization in their sample. The DLOQ measures respondents' perceptions of seven learning organizations and two performance dimensions. The DLOQ has been tested for validity and reliability and progressed through several stages of development with continual revisions by Watkins and Marsick (1997) to improve the reliability and validity of the instrument. The DLOQ contains 55 items and uses a six-point rating scale with anchors from "almost always" to "almost never." The instrument measures dimensions of a learning organization on seven scales and measures performance on two scales Wendy et al. (2010).

According to Weldy and Gillis (2010) the results indicated variations in the perceptions of organizational members from different levels relevant to the adoption of the dimensions of a learning organization and the resulting performance of the company. The results suggest that managers have the highest perception of the organization for several dimensions, followed by supervisors and employees. Because employees scored the organization significantly lower than supervisors on system connections, this possibly means that employees were less likely to assume that technology systems were in place to

allow access to information and sharing of learning. Weldy and Gillis (2010) felt this is a critical component since transitioning to a learning organization requires members from all levels have access to shared learning with other members of the system. In addition, Weldy and Gillis (2010) were aware that they only surveyed four organizations, and the response rate was 15%. It was critical based on this research to have a strong response based on the sample size. The sample size was seventy-five high school administrators across twenty high schools. In this study, forty percent of the sample size completed the survey, which is a strong return sample.

After analyzing the results of the survey, there is a significant revelation. The study revealed that there was a stronger correlation at the Organizational and Team levels in the DLOQ responses. Learning at the organizational and team levels depends mostly on a positive propensity to teamwork and good communication between the organization members. When reviewing the literature on learning organizations and the DLOQ, it becomes obvious that its various dimensions need to be considered simultaneously and in an integrated manner. Systems theory conceives learning organizations as comprising inter-dependent building blocks at the individual, group, organizational, and global levels. The dimensions and propensities detected at various levels necessarily combine, interact, and co-evolve to shape the disciplines of an advanced learning organization. The main implication here is that the visible progress detected in one or more dimensions needs to be complemented with equal progress in other dimensions to foster a complete effective learning cycle and obtain the overall capabilities of an advanced learning system. In this study, the correlation between a learning organization and graduation rate

becomes more significant going from individual to group to organizational as supported by the predicted values of each variable.

The third research question was: To what extent does a relationship exist between a high school administrator's perception of their building as a learning organization and the percentage in which students graduate under the COVID-19 pandemic?

After analyzing the data, the results of the Pearson's Correlation revealed a significant relationship between a staff that perceives their school as a Learning Organization and Graduation Rate during the pandemic. High schools that perceive themselves as a Learning Organization with a high total score on the DLOQ resulted in higher graduation rates. High schools that had a high individual, team, and organizational score on the DLOQ also led to high graduation rates; however, schools with a high Total Score on the DLOQ were the most significant and had the strongest correlation.

Senge (1990) calls systems thinking the fifth discipline given in his vision it is the conceptual cornerstone underlying all the five learning disciplines. All the disciplines are concerted by a shift of mind from seeing parts to seeing wholes, from seeing people as reactive to active participants in modeling their reality, from reacting to the present to shaping the future. According to Senge (1990), the essence of the systems thinking discipline is related to a shift of mind, which consists of seeing interrelations instead of linear cause/effect chains and processes of change instead of snapshots. He argues that reality is made up of circles, while we see right lines. It is at this point that our limitation as systemic thinkers begins. One of the reasons for this fragmentation of our thought comes from our language. Language models perception. What we see is what we are prepared to see. If we want to see systemic interrelations, only an inter-relational

language made up of circles can conduct us to that. Without such a language, our traditional ways to see the world produce fragmented visions and counterproductive actions (Senge, 1990).

Systemic thinking principles are not significant in themselves, but because they represent a more effective way to think and act. Integrating them into our behavior requires what David McCamus, Chair and CEO at Xerox Canada, calls a "peripheral vision": the ability to see the world at a wider angle and not in a lens (a tubular vision) such that we can be conscious of how our actions are interrelated with other domains. For example, Federal Express (FedEx) has experienced systemic thinking in a pilot project. Its customers have noted that it is more open, collaborative, and able to resolve strategic questions. On the other hand, according to Senge et al. (1994), a good systemic thinker, particularly in an organizational context, can see four levels operating simultaneously: (1) the events; (2) the behavioral schemes; (3) the systems; and (4) the mental models (Fillion et al., 2015). In this study, the correlation became stronger as we moved from individual to team, and ultimately the strongest correlation is at the organizational level.

Relationship to Prior Literature

Fillion et al. (2015) shared that we are living in a world characterized by an increasingly accelerated shift of change. Indeed, our environments are increasingly complex, interdependent, fleeting, unstable, and unforeseeable. This shift of change of growing complexity is continually accelerating. Thus, this new context requires greater adaptation capabilities, relegating to us the responsibility of our learning. It is asking for the creation of a culture of continuous change and learning. In this changing mind of an organizational learning culture, at the end of the 1980s, business management academics

and senior managers began to discuss the notion of the learning organization. Trying to reach this objective, in 1987, Peter Senge and a team of researchers at the Sloan School of Management at MIT suggested a new organizational culture of continuous change and learning or, in other words, to build learning organizations. These organizations can generate and share knowledge. Senge's view of building learning organizations is articulated around five fundamental disciplines: systems thinking, personal mastery, mental models, shared vision, and team learning.

In connection with the theoretical framework that guided this study, the findings suggest that when a school's staff perceives their school as a Learning Organization, the school has higher graduation rates. Senge et al. (2012) maintained that it is possible to create organizations that learn through the ongoing practice of five "learning disciplines" for changing the way people think and act together. Senge et al. (2012) said that schools can be sustainably vital and creative, not by fiat or command or by regulation or forced rankings, but by adopting a learning organization. According to Senge (1990), learning organizations are organizations where people continually expand their capacity to create the results they desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people continually learn how to learn together. The basic rationale for such organizations is that in rapid change, only those who are flexible, adaptive, and productive will excel. For this to happen, it is argued that organizations must "discover how to tap people's commitment and capacity to learn at all levels" (Senge, 1990, p. 4). Senge (1990) sees leaders as special people who set the direction, make critical decisions and energize the troops as deriving from a profoundly individualistic and non-systemic worldview. Senge sees leaders as designers, stewards,

and teachers in a learning organization. They build organizations where people continually expand their capabilities to understand complexity, clarify vision, and improve shared mental models and are responsible for learning. Learning organizations will remain a "good idea" until people take a stand for building such organizations. Taking this stand is the first act of leadership, the start of inspiring (literally "to breathe life into") the vision of the learning organization.

Schein (1985) said that a leader's ability is linked to culture formation. Building the organization's culture and modeling its evolution is the unique and essential leader function (Senge, 1990, p. 10). In the learning organization, the three critical roles of leaders identified by Senge (designers, stewards, and teachers) have qualifications in how the latter has contributed to building organizations in the past. Each role takes a new sense in the learning organization and requires new abilities and tools (Senge, 1990).

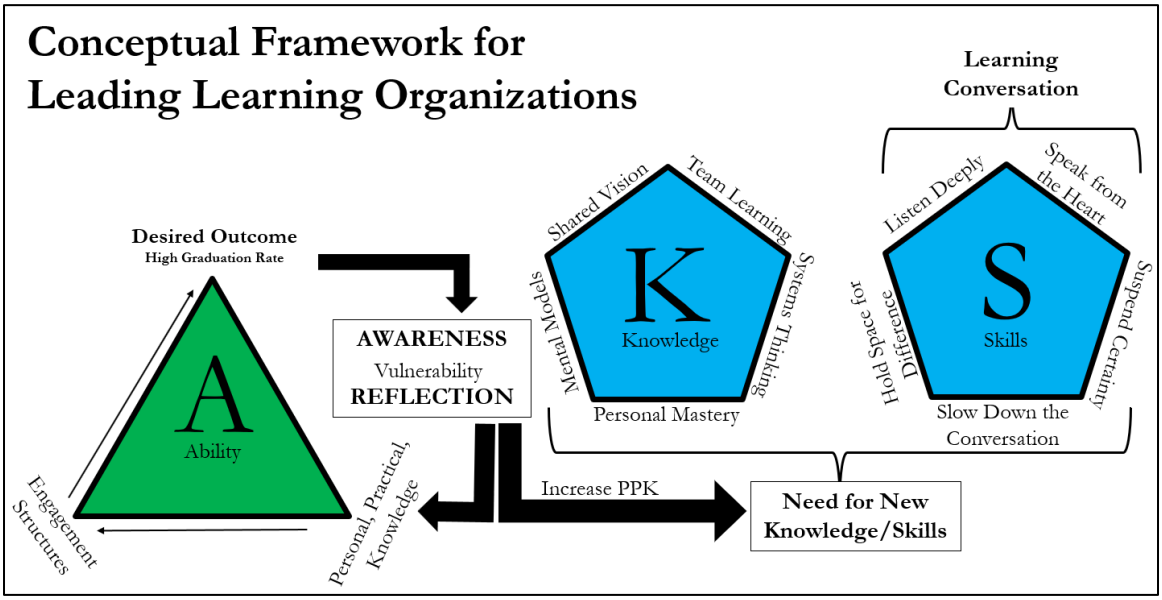
To summarize, leaders of learning organizations have to create and manage creative tension, especially around the gap between vision and reality. Mastery of such tension allows for a fundamental shift. It enables the leader to see the truth in changing situations (Smith, 2001). It is critical for the development of new leaders to lead from their heart; it requires Genuine Leadership. Senge's theory and five core disciplines are only as good as the leader who can deliver them. A new style of leader will emerge from an understanding/knowledge of the five disciplines combined with the skillful Genuine Leadership style necessary to build trusting relationships.

In this study, I investigated learning organization theory, as proposed by Senge (1990). However, it is critical that we integrate Senge's five core disciplines into practice and better manage the individual and organizational knowledge and the organizational

behavior of people within an educational system. This study demonstrated increased graduation rates in line with Senge's learning organization theory. However, further consideration is needed for what that looks like in practice. The conceptual framework in this study suggests that high schools that practice the five disciplines of a Learning Organization may see higher graduation rates.

Figure 9

Conceptual Framework for Leading Learning Organizations



This study conceptualized the work of Jorgensen (2009) to represent the process or practice that must take place when applying the knowledge of the five disciplines described by Peter Senge (1990) in *The Fifth Discipline: The Art and Practice of the Learning Organization*. Educational leaders each have the ability to create structures based on their personal, practical knowledge with the intent of the desired outcome. In this case, the desired outcome was high graduation rates, and this outcome was achieved in this study.

Limitations of the Study

Based on the literature review, limited research exists as to whether educational organizations are true learning organizations. An assumption exists that all educational organizations are learning organizations by nature because teaching and learning is their core business. However, the empirical evidence challenges this assumption; therefore, a clear demarcation between the labeling of an educational institution as a learning organization and the practice of a true learning organization should be made (Khamis, 2012). Pokharel et al. (2015) found evidence that confirms that the organizational level (particularly the system connection) positively impacts organizational performance and has a mediating effect on the relationships between the individual/group levels of learning organization characteristics and organizational performance. One limitation of this study is the small sample from each high school. The population for this study comprises building administrators from high schools; the sample included eighteen school districts consisting of twenty high schools located in Western Suffolk County, Long Island. The twenty high schools consisted of twenty building principals and fifty-five assistant principals. With the highest number of high school administrators being five in one high school, I recommend increasing the sample size to extend to the high school teachers as well as the high school administration. This will allow for a more robust sample of individuals filling out the DLOQ to ensure a well-rounded depiction of each school as a learning organization.

Recommendations for Future Practice

For becoming a learning organization, the organization and its members must understand what to put into practice in everyday life and "how" to do it. According to our

observations in the literature, that is not at all the case, actually. Much work remains in this direction. For example, systemic thinking is an extremely difficult discipline to understand, master, and put into practice. It is not for nothing that Peter Senge considers this discipline so important that he referenced it as the "cornerstone" of the five disciplines. On the other hand, most organizations have great difficulty establishing links and understanding systemic thinking. As a result, they choose the easier option to apply only some of its principles they understand more easily and accept.

Schein (1985) stated that a leader's ability is directly linked to culture formation. Building the organization's culture and modeling its evolution is the unique and essential leader's function (Senge, 1990, p. 10). In the learning organization, the three critical roles of leaders identified by Senge (designers, stewards, and teachers) have qualifications in how the latter have contributed to building organizations in the past. Each role takes a new sense in the learning organization and requires new abilities and tools (Senge, 1990).

To summarize, leaders of learning organizations have to create and manage creative tension, especially around the gap between vision and reality. Mastery of such tension allows for a fundamental shift. It enables the leader to see the truth in changing situations (Smith, 2001). It is critical for the development of new leaders to lead from their heart; it requires Genuine Leadership. Senge's theory and five core disciplines are only as good as the leader who can deliver them. A new style of leader will emerge from an understanding/knowledge of the five disciplines combined with the skillful Genuine Leadership style necessary to build trusting relationships. Genuine Leadership is the ability to speak from the heart without judgment and ego while embracing the ability to

lead a shared vision, establish personal mastery, enroll in team learning side by side with every individual as a big-picture systems thinker.

Recommendations for Future Research

In this study, the research revealed a strong correlation to those high schools with high scores on the Dimensions of a Learning Organization Questionnaire and a high graduation rate. To address the gap in the lack of research on public schools and the correlation between those that perceive themselves as a learning organization with a high graduation rate, this study may further the development of schools as learning organizations, which may impact the graduation rate. This research will further the knowledge in the field, demonstrating the practice of a learning organization in a school system and its strong correlation with a high graduation rate. A future research study may include additional student performance measures other than graduation rate inclusive of assessments.

Conclusion

The findings in this study suggest that high schools that adopt the learning organizational framework experienced higher graduation rates. This study aligns with Peter Senge's Learning Organizational Theory and implies that when schools practice the five disciplines of a learning organization, a high graduation rate outcome is achieved.

The study provides implications for school practitioners and leaders, as the findings provide a basis for change in school districts. The significance that schools with high graduation rates have acquired the necessary knowledge of a learning organization and its five core disciplines is a catalyst for schools worldwide to adopt this practice.

Although additional research should be conducted to examine a teacher's perception of their school as a learning organization in addition to a high school administrator's perception, according to the findings in this study, by adopting a learning organizational framework, schools gain higher graduation rates. Staff perceiving their school as a learning organization relative to a high score on the DLOQ is a significant predictor of high school graduation rate.

APPENDIX A: IRB CERTIFICATION OF COMPLETION

Certificate of Completion

ST. JOHN'S UNIVERSITY

fhi360
THE SCIENCE OF IMPROVING LIVES

THIS ACKNOWLEDGES THAT

Jordan Cox

HAS SUCCESSFULLY COMPLETED
THE IRB COURSE IN THE PROTECTION OF HUMAN SUBJECTS

OCTOBER 27, 2020

APPENDIX B: RELIABILITY ESTIMATES FOR THE MEASURES IN THE DLOQ

Table 10

Reliability Estimates for the Measures in the DLOQ

	Initial Measurement		Refined Measurement	
	Coefficient Alpha	Reliability Under CFA	Coefficient Alpha	Reliability Under CFA
Continuous learning	.81	.90	.71	.84
Dialogue and inquiry	.87	.91	.78	.87
Team learning	.86	.93	.79	.87
Embedded system	.81	.89	.75	.85
System connection	.84	.90	.75	.84
Empowerment	.80	.88	.68	.83
Provide leadership	.87	.94	.83	.93
Financial performance	.74	.84	.70	.79
Knowledge performance	.77	.86	.64	.78

APPENDIX C: LEARNING ORGANIZATION SURVEY

	Please carefully respond to each survey item below.	Almost Never 1	2	3	4	5	Almost Always 6
	Individual Level						
1.	In my organization, people help each other learn.	○	○	○	○	○	○
2.	In my organization, people are given time to support learning.	○	○	○	○	○	○
3.	In my organization, people are rewarded for learning.	○	○	○	○	○	○
4.	In my organization, people give open and honest feedback to each other.	○	○	○	○	○	○
5.	In my organization, whenever people state their view, they also ask what others think.	○	○	○	○	○	○
6.	In my organization, people spend time building trust with each other.	○	○	○	○	○	○
	Team or Group Level						
7.	In my organization, teams/groups have the freedom to adapt their goals as needed.	○	○	○	○	○	○
8.	In my organization, teams/groups revise their thinking as a result of group discussions or information collected.	○	○	○	○	○	○
9.	In my organization, teams/groups are confident that the organization will act on their recommendations.	○	○	○	○	○	○
	Organization Level	Almost Never 1	2	3	4	5	Almost Always 6
10.	My organization creates systems to measure gaps between current and expected performance.	○	○	○	○	○	○
11.	My organization makes its lessons learned available to all employees.	○	○	○	○	○	○
12.	My organization measures the results of the time and resources spent on training.	○	○	○	○	○	○
13.	My organization recognizes people for taking initiative.	○	○	○	○	○	○
14.	My organization gives people control over the resources they need to accomplish their work.	○	○	○	○	○	○
15.	My organization supports employees who take calculated risks.	○	○	○	○	○	○
16.	My organization encourages people to think from a global perspective.	○	○	○	○	○	○
17.	My organization works together with the outside community to meet mutual needs.	○	○	○	○	○	○
18.	My organization encourages people to get answers from across the organization when solving problems.	○	○	○	○	○	○
19.	In my organization, leaders mentor and coach those they lead.	○	○	○	○	○	○
20.	In my organization, leaders continually look for opportunities to learn.	○	○	○	○	○	○
21.	In my organization, leaders ensure that the organization's actions are consistent with its values.	○	○	○	○	○	○

22. What instructional model was used during the 2020-2021 school year under Covid-19

a. Every day in-person instruction

b. Every other day in person instruction with live streaming into the classroom on offsite day
c. Every other day in person instruction without live streaming into the classroom on offsite day
d. Every other day in person instruction with a separate full remote program for students unable to attend school
e. Every day in-person instruction with a separate full remote program for students unable to attend school

APPENDIX D: LEARNING ORGANIZATION RUBRIC 6 POINT SCALE

6 Point Scale					
1	2	3	4	5	6
Almost Never					Almost Always

APPENDIX E: PERMISSION LETTER TO UTILIZE THE DLOQ

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The Dimensions of the Learning Organization Questionnaire (the DLOQ): A Nontechnical Manual

Karen E. Watkins and Judy O'Neil

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APPENDIX F: REQUEST FOR RESEARCH LETTER

Dear Principal,

My name is Jordan Cox, and I am a Doctoral Student in the Educational Leadership Doctoral Program at St. John's University. I am working on a study that explores the relationship between Western Suffolk BOCES Component District high schools' perception as a learning organization. In addition, this study will further explore the instructional models implemented and the percentage of students' "Graduation Rate" under the COVID-19 pandemic. While the COVID-19 learning interruptions are unprecedented in modern times, there is minimal research on school systems that practice learning organization theory and their ability to adapt during significant change and maintain high graduation rates.

If you agree to participate, you will be asked to complete a survey: the Dimensions of a Learning Organization Questionnaire (DLOQ), developed by Watkins and Marsick. This is a 21-question survey that measures the extent to which the school is operating as a learning organization across all levels: individuals, teams/groups, and organizations. The survey should take approximately 5-10 minutes to complete.

I do not anticipate any risks with your participation in this study. As a result of your participation, researchers and practitioners will benefit from the information gathered as it will assist educational leaders in the field as we explore the relationship between schools that perceive themselves as a learning organization and graduation rate.

Participation and any data inclusive of your name obtained during the study in the survey will remain confidential. Your name and school will not be included in any forms, transcription, data analysis, or summary reports. This consent form is the only document

identifying you as a participant, it will be stored securely in the office of the Principal Investigator available only to the Principal Investigator. Data collected will be destroyed at the end of the legally prescribed time frame, which is three years. The aggregated results of this study may be published in academic venues to inform educational researchers and practitioners.

I do not anticipate any risks with your participation in this study. If you have any questions regarding the survey, please feel free to contact the Principal Investigator, Jordan Cox at jordan.cox19@my.stjohns.edu or my faculty supervisor, Dr. Anthony Annunziato, annunzia@stjohns.edu. If you have questions concerning your rights as a human participant, you may contact the University's Human Subjects Review Board at St. John's University, specifically Dr. Raymond DiGiuseppe, (718) 990-1955, or digiuser@stjohns.edu.

Your signature acknowledges receipt of a copy of the consent form as well as your willingness to participate in the online virtual focus group interview.

_____
Printed Name of Participant

_____ _____
Signature of Participant Date

Jordan F. Cox

Principal Investigator

_____ _____
Signature of Investigator Date

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