ORGANIZATIONAL RESILIENCY: HOW A MIDWEST COMMUNITY COLLEGE MANAGED STUDENT SUCCESS DURING THE COVID-19 PANDEMIC

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ABSTRACT

The COVID-19 pandemic has challenged student success and the ability of colleges to deliver the education students need for the workplace. The purpose of this qualitative dissertation case study was to investigate how the organizational resiliency of a Midwest community college impacted student success during the COVID-19 pandemic by examining the contributions of static and dynamic resiliency characteristics and dimensions. Exploration and analysis of the resilient characteristics and dimensions of student success focus on the key factors of instructional modality, instructor-student engagement, and socioeconomic influences. Conclusions are based on thematic analysis of semi-structured interviews with the college's senior leaders triangulated with information from public documents and a student survey.

The researcher concludes that the college's static resiliency components of solid planning and infrastructural preparation for probable events, a longstanding collaborative commitment to achieving key elements of student success, and effective internal communication processes produced the robust capacity for flexibility and innovation that distinguishes dynamic resiliency. Innovations that accelerated decision processes, faculty and staff encouraged to experiment based on regular feedback, and energetic action on non-academic stresses had positive effects on student success during the COVID-19 pandemic. One result was that for the fiscal year 2021-2022, the college awarded the highest number of degrees in its history to all students and to African American males, with 99 percent of students rating the quality of their education as good to excellent.

DEDICATION

To my wonderful wife, Myrna Gaye, thank you for your support and love in sharing this journey. Both kept me going and enabled me to finish. We did it!

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CHAPTER 1

INTRODUCTION

The COVID-19 pandemic has unsettled the norms of societies around the globe, resulting in an unprecedented level of uncertainty and challenges to the simplest aspects of the United States economy and day-to-day life (Chakraborty, 2020, Marshall et al., 2020; Gurr & Drysdale, 2020). Brock and Diwa (2021) argue that the COVID-19 pandemic changed the complexion of the community college mission and education. This research approaches the study of that complex challenge by investigating the actions the leaders of a purposely selected Midwest community college took in their efforts to mitigate the impact of the COVID-19 pandemic on student success.

Background of the Study

While some have attempted to classify the COVID-19 pandemic as a Black Swan event generated in a chaotic, unstable space, the scholar who coined that phrase, Nassim N. Taleb, rejects applying it to the pandemic (Avishai, 2020) because he had long before cautioned about the disruption to society a pandemic could cause (Taleb, 2010). Even earlier, in May 2009, Alan Johnson, the United Kingdom's (UK) Labor health Secretary, warned that the UK's hospital capacity would be incapable of dealing with a flu-based pandemic theorized to be "50 times deadlier than the swine flu" (Lambert, 2020). Taleb and Blyth (2011) postulated that the complexity of the modern political and economic state reduced volatility and, thus, our system's ability to be sensitive to risk, arguing that suppressed potential for volatility can strain systems to the point of catastrophic failure (Taleb & Blyth, 2011).

In fact, this risk insensitivity was evident in early responses to the COVID-19 pandemic. The Center for Disease Control (CDC), the American College Health Association (ACHA), and

higher education institutions themselves did not anticipate that a pandemic could shut down the national educational face-to-face infrastructure for an extended period of time (Van Noy et al., 2020; Ronkowitz & Ronkowitz, 2021). As is well-known, however, based on the March 16, 2020, recommendation of the President of the United States and the direction of the governors of each state, state and private colleges closed and transitioned to distance learning to complete the semester's instruction (Lapovsky, 2020).

The broader economic picture is highly relevant to the situation community colleges face. In their role of workforce development, these colleges find themselves challenged to balance local economy needs with a macroeconomic perspective of the national workforce needs. In areas where wages are low, institutions such as the subject college must articulate the value-added aspect of education for students' future economic and career development opportunities, especially if those same students do not wish to move away.

Rising unemployment is a community college positive enrollment driver but unemployment rates are dropping to below pre-COVID-19 pandemic numbers.

National Unemployment Rates (%)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	4.0	4.1	4.0	4.0	3.8	4.0	3.8	3.8	3.7	3.8	3.8	3.9
2019	4.0	3.8	3.8	3.6	3.6	3.6	3.7	3.7	3.5	3.6	3.6	3.6
2020	3.5	3.5	4.4	14.7	13.2	11.0	10.2	8.4	7.9	6.9	6.7	6.7
2021	6.4	6.2	6.0	6.0	5.8	5.9	5.4	5.2	4.7	4.6	4.2	3.9
2022	4.0	3.8	3.6	3.6	3.6							

Figure 1. National Unemployment Rates 2018-22
(U.S. Bureau of Labor Statistics, 2022a)

Midwest Unemployment Rate (%) by State					
	Dec 2021	Jan 2022	Feb 2022	Mar 2022	Apr 2022
Illinois	5.1	5.0	4.8	4.7	4.6
Indiana	2.7	2.4	2.3	2.2	2.2
Iowa	2.8	2.6	2.5	2.4	2.4
Kansas	2.8	2.6	2.5	2.4	2.4
Michigan	5.1	4.9	4.7	4.4	4.3
Minnesota	3.0	2.9	2.7	2.5	2.2
Missouri	3.9	3.8	3.7	3.6	3.4
Nebraska	2.3	2.2	2.1	2	1.9
North Dak	0.1	3.1	2.9	2.9	2.8
Ohio	4.5	4.3	4.2	4.1	4
South Dak	2.9	2.8	2.6	2.5	2.3
Wisconsin	3.1	3	2.9	2.8	2.8

Figure 2. Midwest Unemployment Rates, 2021-2022
(U.S. Bureau of Labor Statistics, 2022b)

According to the U.S. Bureau of Labor Statistics (BLS), the unemployment rate as of April 2022 was up slightly since the start of the COVID-19 pandemic. Figures for April 2022 showed an unemployment rate of 3.6 percent (5.9 million people) compared to the February 2020 rate of 3.5 percent (5.7 million people) (BLS, 2022a). The unemployment rate then peaked in April 2020 at just over 14 percent and has decreased gradually for the past two years (BLS, 2022a). The Midwest fared better throughout the current COVID-19 pandemic (BLS, 2022b). The Committee for Economic Development of the Conference Board (CED) stated the COVID-19 pandemic had the most unemployment impact on lower-skilled workers (CED, 2020).

Organizations that failed to plan for stresses on their learning management systems, information technology (IT) infrastructure, and instructional design (ISD) capacity were severely impacted by their lack of preparation and ability to quickly adjust (Ronkowitz & Ronkowitz, 2021). Zemsky et al. (2020) estimate that 40 percent of higher education institutions were already struggling financially. The impact of the COVID-19 virus is projected to only exacerbate that financial stress (Lapovsky, 2020; Weismann, 2020).

The initial belief was that the pandemic would peak and infection rates would reach a manageable treatment level by fall 2020 (Smola, 2020). But the actual situation limited public university offerings beyond online curriculum until fall 2021. Further, the COVID-19 pandemic brought to light socioeconomic issues affecting college students, which had been less publicly visible, such that the severity of such issues was not anticipated at the onset of the COVID-19 pandemic. Accordingly, the pandemic unquestionably hit lower socioeconomic groups hardest (Aucejo et al., 2020; Cruz, 2021; Dua et al., 2020; Mohapatra, 2020; Weismann, 2020), exacerbating the challenges of families already dealing with financial, housing security, and childcare difficulties.

Before the COVID-19 pandemic, the educational nonprofit Lumina Foundation began to advocate for a goal of 60 percent of Americans aged 25 to 65 holding a meaningful educational or economic credential by 2025 (Lumina Foundation, 2021) using student success metrics centered on graduation rates and curriculum completion. See Table 1 for their current goals, attainment rates (percentage of relevant population meeting the standard), and target years.

Midwest States Attainment Goals			
State	**Rate**	**Goal**	**Year**
Illinois	52.2%	60.0%	2025
Indiana	43.6%	60.0%	2025
Iowa	49.6%	70.0%	2025
Kansas	52.4%	60.0%	2020
Ohio	45.5%	65.0%	2025
Michigan	45.5%	60.0%	2030
Minnesota	56.0%	70.0%	2025
Missouri	43.6%	60.0%	2025
Nebraska	52.4%	60.0%	2025
North Dakota	50.6%	65.0%	2025
South Dakota	46.4%	65.0%	2025
Wisconsin	50.1%	60.0%	2027

Table 1. Midwest States Attainment Goals

Adapted from HGM Strategies & Lumina Foundation (2021) and Nebraska's Coordinating Commission for Postsecondary Education, 2022

It is unlikely that these states will meet the goals for student success within the Lumina timeframe. Nationwide, college enrollments have dropped over the last eight years and continue to fall. Total enrollment is below 18 million; another estimated 500,000 students were expected to defer enrollment in the fall, 2021 semester (Chen et al., 2021; Copley & Douthett, 2020). In addition, future enrollment levels are in flux as many students consider enrolling closer to home (Lapovsky, 2020). It has been suggested that four-year college enrollment decline may benefit community colleges, which draw a localized student population (Lowry & Thomas, 2017; Weissman, 2020) but student reluctance to take complete course loads online may be a countervailing de-motivator (O'Neill & Sai, 2014; Forte et al. 2016).

In fall 2020, national participation in distance classes doubled from 36 percent in 2019 to almost 73 percent. In 2020, 30 percent of prospective or current United States community college students canceled or discontinued (referred to as "stopped out") their program of study (Brock & Diwa, 2021). Community college enrollment for spring 2022 semester was down 351,000 students which brings to 827,000 the total reduction in community college enrollment since the beginning of the pandemic (National Student Research Clearing House, 2022). In addition, recent moves by both corporate America and state and federal legislative bodies to raise the minimum wage will further deplete the pool of part-time college student candidates. When minimum wage levels go up, part-time college enrollment goes down as potential students on the margin opt for work instead of pursuing more education (Lee, 2020). Even before the pandemic, scholars estimated that the community college-age student pool had peaked and would begin to decline from 2026 until 2037 (Bransberger et al., 2020; Bransberger & Michelau, 2016).

Jobs for the Future, a think tank of educational professionals, made the case for five key reasons community colleges are critical to economic recovery from the COVID-19 pandemic: (a)

they train first responders and medical personnel; (b) they support workforce development goals; (c) they offer open admission for students to start college and the possibility of attaining a four year degree; (d) they are connected to their local communities; and (e) they have the flexibility to change (JFF, 2020). The path to a four-year degree, however, appears limited at present. On average, only 30 percent of community college students transfer to a four- year institution (Barshay, 2020; Shapiro et al., 2017, 2020). Community college students who do transfer to a four-year institution are also less likely to complete their bachelor's degree than those starting out in a four-year school (Antonelli et al., 2020). One observer has argued that the COVID-19 pandemic has called into question the value of the community college associate degree (Jenkins et al., 2021).

Statement of the Problem

The COVID-19 pandemic has introduced issues with student success. Ronkowitz and Ronkowitz (2021) state that educational organizations failed to anticipate pandemic stresses. Aucejo et al. (2020) found, among other issues, the following indicate a negative impact of the COVID-19 pandemic on student success: (a) enrollment is down (b) graduation delays and (c) students on the lower socioeconomic spectrum have increased negative impacts from the COVID-19 pandemic. Graduation delays adversely impact a student's chance to complete their program, especially for students on the lower end of the socioeconomic spectrum. By failing to complete their programs, students are less likely to compete in the workforce, pay their school debts successfully, and the community suffers due to a lack of a trained, critical skills workforce. This situation indicates a gap in the response of colleges to the impact of the COVID-19 pandemic on student success. This study addresses these issues and assertions by applying the experience of one Midwest community college during the COVID-19 pandemic.

Purpose of the Study

The purpose of this qualitative case study is to examine whether and how the organizational resilience of a selected Midwest community college impacted student success during the COVID-19 pandemic. Its specific focus is on what the college's leaders did, how they modified processes, and seized opportunities to absorb the shock of the COVID-19 pandemic and maintain or enhance student success under conditions of ongoing disruption. The intent is to identify what the college did well and what they did less well.

Significance of the Study

The significance of this study of the ability of one select Midwest community college to mitigate the challenges of the COVID-19 pandemic is that it offers useful empirical and anecdotal evidence about real-time efforts in one case. The evidence and observations may aid the subject community college and others in their planning and preparedness efforts to mitigate the impact of future disruptive events on student success, as well as suggesting methodologies for instituting effective internal communication and innovation pathways. This researcher intends the study to help leaders to identify and reduce gaps in their institutions' organizational resilience through a practical understanding of elements that appear were essential for the ability of the researched community college to mitigate the impact on the COVID-19 pandemic on student success. Those elements are the characteristics of static and dynamic resiliency.

This research may shed light on how an institution's leadership may create its own clear definition of student success to focus efforts to sustain, or improve, student success during times of uncertainty and disruptions to normal operations. The study may also identify areas for inquiry by academic researchers and theoreticians.

Research Question

The onset of the COVID-19 pandemic occurred while the researcher was on a community college staff. The logistics and leadership necessary to transition to exclusive distance education sparked the researcher's curiosity. That led to this examination of the impact of the COVID-19 pandemic on the success of community college students and to the overall research question: "How did the organizational resilience of a Midwest community college impact student success during the COVID-19 pandemic?" After reviewing the literature on resiliency and outlining a broad approach to research, the author added two reference sub-questions to guide data analysis: 1) "Did the college use static resiliency practices? If so, how did they impact student success?" 2) "Did the college use dynamic static resiliency practices? If so, how did they impact student success?"

To answer the question, in this qualitative case study the researcher interviewed and recorded the insights of the college's president, seven senior executives, and two deans; reviewed the results of student, faculty, and employee surveys; and examined available, official documents that shed light on the college's organizational characteristics, commitments, and processes. That is the data on which a thematic analysis is based.

Definitions of Terms

Agility – "The ability to alter and adapt management infrastructure to respond quickly to changing markets, customer preferences or market dynamics" (PricewaterhouseCoopers, 2016, p. 3).

Antifragile – "Gains from the volatility from members of the extended disorder family: [which are] (i) uncertainty, (ii) variability, (iii) imperfect, incomplete knowledge…(v) chaos, (ix) time…(xiii) stressor…and (xvi) unknowledge" (Taleb, 2012, pp. 12-13).

Fragile – related to how a system is broken or damaged under conditions of variability (Ruiz-Martin et al., 2018; Taleb, 2012; Taleb & Douady, 2013).

Organizational resiliency – capability of an organization to absorb and effectively respond to a disruptive event. (Kamalahmadi & Purest, 2016) and seizing opportunities to grow during the interruption (Fiksel, 2006).

Static resilience – characterized by organizational leadership actions and planning programs that minimize an organization's susceptibility to disruptive events (Annarelli et al., 2020). Seven characteristics of static resiliency: (a) "continuous monitoring,(b) anticipation ability, (c) redundancy, (d) simulation, (e) initial vulnerability, (f) minor aspect focus, (g) learning from mistakes" (Annarelli et al., 2020, p. 2).

Dynamic resilience – the impetus to implement actions that ensure the organization recovers from a disruptive event in minimum time. Dynamic resilience has a simpler list of characteristics: (a) internal communication and (b) improvisational capabilities (Annarelli et al., 2020, p. 2).

Static-dynamic resiliency action loop – The speed at which improvisational capabilities are transformed into actionable solutions, communicated and institutionalized into the planning and preparedness processes, and then subjected to tests in the dynamic arena for validation or further refinement.

Assumptions and Limitations

Assumptions

The case study is the ideal method, given that this researcher seeks to answer a "how/why" question about a contemporary issue over which the researcher has no control (Yin, 2018). The researcher assumes also that he has a relevant and practical knowledge base from

extensive experience with organizational resiliency, having implemented successful change management initiatives.

Limitations

This study is bounded by the demographics, economics, political structure, and culture of the Midwest region. Insofar as one of the traditional roles of community colleges is in workforce development (D'Amico et al., 2015), available opportunities in local labor markets would be expected to impact student perseverance and success (Reyes et al., 2019). But they will do so in fluctuating and long-term ways this study cannot address due to its limited duration, March 2020 to the present, and the dynamic character of the COVID-19 pandemic effects on economic conditions.

The research relied on available information about the selected community college and putting that information in perspective given the interview responses and data from student, faculty, and staff surveys. The success of the researcher's project was also dependent on the willingness of the college's leaders to participate and for participants to answer research questions candidly. Interviewee responses were limited by their memory of the events and possibly in what they are permitted to share.

Literature on the impact of the COVID-19 pandemic on community colleges is limited and emerging as the COVID-19 pandemic ages. The same is true for institutional experiences in student success. For example, state-defined or college-defined student success measures may change based on ongoing COVID-19 pandemic experience. This uncertain and fluid situation is likely to affect the ability to replicate the study.

In addition, the research depended on interviews of 10 senior staff at a Midwest community college. The locale and small sample of the examined population may preclude

generalization, particularly outside the Midwest region since lived experience is different for all colleges and universities. However, the same COVID-19 pandemic issues that challenged student success at the researched college occurred throughout Midwest, the US, and other colleges worldwide, so its experiences and responses may provide insights relevant within that broader context.

Organization

This dissertation is in five chapters. Chapter 1 introduces the regional, economic, and COVID-19 context of the study, particularly as it relates to education, and provides overviews of its rationale, research question, research agenda, goals, and limitations.

Chapter 2 is a literature review organized around the two main concepts of this dissertation: student success and organizational resilience. After discussion of the few broad studies done early in the COVID-19 pandemic, the student success section considers accepted success indicators, their critiques, and the continuing difficulty of measuring success. This section is further divided into bodies of literature that have bearing on the three most important factors contributing to student success: learning modalities, student-instructor engagement, and socioeconomic considerations. The final section presents the concept of organizational resiliency, with some attention to the allied concept of enterprise risk management (ERM), as it is presented in the literature and related to leadership. This chapter concludes with scholarship that has attempted to describe and qualitatively evaluate static and dynamic resiliency, two guiding ideas this researcher used to construct research questions.

Chapter 3 carefully outlines the methodology used in this qualitative study, beginning with its context, sampling approach, and three data sources: interviews with 10 senior leaders at the college, a student survey completed during the first year of the COVID-19 pandemic, and the college's public documents. It then details the collection and analysis of data, from the protocol

for conducting interviews through procedures for NVivo deductive auto-coding and the researcher's descriptive, inductive themes found in the interviews and corollary materials. This provided the basis for thematic analysis.

Chapter 4 focuses on the themes and patterns found in the data provided by leaders discussing the college and their actions related to student success, as well as that of the student survey and the college's public documents. It analyzes the key themes identified in each of the 11 open-ended questions that together invited interviewees to talk about the major topics in the literature— student success, instructional modalities, instructor-student engagement, and socioeconomic influences—and what processes leaders undertook to address these fields of action both before and during the COVID-19 pandemic. A summary of their actions and accomplishments ends the chapter.

Chapter 5 looks more deeply at the findings presented in Chapter 4, placing them in the context of the characteristics and dimensions of static and dynamic resiliency. It presents an overview of the college's overall resiliency performance on student success, discusses both practical and theoretical implications of the research, and recommends some areas for future research.

CHAPTER 2

LITERATURE REVIEW

This research examines how the leaders and faculty of an educational organization modified their processes in response to the stresses of the COVID-19 pandemic. Broadly speaking, the relevant literature comprises writings on higher education and organizational resilience published within the last five years unless a source is a seminal work, a primary source for other current sources or presented in the Doctor of Business Administration course work from January 2017 to the present. References cited are from journals, articles, and e-books available through the Franklin University Library, libraries with which Franklin University has reciprocal agreements, and books written by subject matter experts available through the commercial market. While the focus of this research is one Midwest community college, the literature review includes work from many countries, adding a useful worldwide perspective on the impact of the COVID-19 pandemic on post-secondary educational institutions.

The researcher made queries to EBSCO, Google Scholar, and ERIC. Additionally, he cross-checked source references for additional merit and validation of secondary source assessments of a primary source. Keywords were: COVID-19, higher education, social media, e-learning; disaster response, resilience, competitive advantage, online teaching, distance learning, coronaviruses, community college, systems thinking, leadership, adaptive systems, COVID-19 and education, organizational resilience and community colleges, learning modality and COVID-19.

This researcher's purpose is not to address the fine points of educational theory but to use relevant theory to guide inquiry into how organizational resiliency works in an era of complexity, uncertainty, and paradigm disruptions caused by the COVID-19 pandemic. What

was originally thought to be a temporary health emergency is still ongoing. Fall 2022 is the third fall semester colleges are dealing with pandemic challenges.

The literature review is organized around the main dissertation question of the relation between organizational resiliency and student success. Marshall et al. (2020) succinctly summarized COVID-19 pandemic-era stresses on student success: (a) issues of socioeconomic equity; (b) technology infrastructure and access: (c) instructors' teaching proficiency in the online environment; (d) state and local contributions to revenue; and (e) health and safety of students, staff, and faculty. Accordingly, this thematic literature review is segmented into sub-themes of learning modality, instructor-student engagement, and socioeconomic considerations. Both the opening student success section and closing organizational resiliency section focus broadly on these key concepts in the literature. The literature provides the conceptual basis for this study's open-ended interview questions as well as the thematic analysis of all data.

Pre- and Early COVID-19 Pandemic Overviews

Generally speaking, pre-COVID-19 pandemic research centered on improvements to enhance student acceptance and student academic success by fine-tuning existing modality technologies and teaching self-regulation and efficacy to students. The literature sought to tie instructional modality and student preference to three factors: student engagement, learning effectiveness, and benefits and deficiencies outside the classroom. Tying together the first two factors in their journal article on student support strategies for those "suddenly online," Mollenkopf and Gaskill (2020) highlight their discovery that instructor contact is just as important as the quality of instructional system materials. These researchers argue that engagement based on students' prior experience and knowledge stimulates self-regulated learning.

This literature search identified three general articles on response to the COVID-19 pandemic. Aucejo et al. (2020) conducted a quantitative examination of its impact on college students. In late April 2020, they surveyed approximately 1,500 Arizona State University (ASU) undergraduates. The researchers picked ASU due to its size and the transferability of the findings to other U.S. public universities. Their purpose was to analyze the following: (a) enrollment and graduation decisions, (c) concentration and curriculum choices as well as study habits, (d) distance learning experiences, (e) current and future jobs and expectations in the labor market. The researchers also collected data in order to compare students' pre-pandemic insights with those during the COVID-19 outbreak.

Aucejo et al. (2020) found the following: (a) enrollment is down. (b) students are studying less time and less engaged, (c) grade point averages are down, (d) graduation delays, (e) students on the lower end of the socioeconomic spectrum have increased negative impacts from the COVID-19 pandemic while honors students were not affected by the pandemic. This finding is discussed further below.

A paper presented by Akinwumi and Itobore (2020) used a general concept of organizational resilience to provide an observational narrative summary of how the Nigerian education system initially responded to the COVID-19 pandemic. They delineated a litany of systemic problems. The already tenuous situation with Nigeria's education system, exacerbated by chronic underfunding and bureaucratic inefficiency, worsened due to the COVID-19 pandemic. Nigeria already had 10 million children not attending school for various reasons and the COVID-19 pandemic outbreak caused more to go without school (Akinwumi & Itobore, 2020). Although they did not differentiate between higher education, secondary, and elementary schools, the researchers characterized a lack of resilience in the system, which requires fixing.

The shortfalls included a disrupted class year, lack of planning, a lack of distance learning application and infrastructure, televising school classes in a nation where many families do not have a television. Akinwumi and Itobore opine that the education system's job is to develop human capital and conclude that in order to do so; the system must become resilient and responsive to students across the complete socioeconomic spectrum.

Raby (2020) addresses the seventy-year role of community colleges in educating international students for participation in a worldwide economy, noting that 36 percent of all U.S. community colleges offer international student programs. She identifies international programs as a preferred source of revenue to offset decreases in state and federal contributions to tuition revenues but opines that in the post-COVID-19 educational marketplace, further assistance cuts will exacerbate the revenue gap felt as international student numbers decline. Among her recommendations for continued community college success are: (1) student recruitment promoting the value of a global rather than just local perspective; (2) skepticism about focusing on student recruitment as a revenue source; (3) understanding that student success is directly influenced by institutional engagement with students (Raby, 2020). Raby's comments on recruitment of international students during the COVID-19 pandemic are speculative in nature but her assertions about institutional emphasis as critical to student success are not only borne out in this literature review but are also relevant to conclusions in Chapters 4 and 5 of this dissertation.

Student Success

There is no settled definition of student success and thus no broad agreement on how to measure it. On one hand, academia's typical definition of student success focuses on traditional measures such as degree completion, student persistence, learning, student satisfaction, and post-

graduation success (Alyahyan & Düştegör, 2020; Kuh et al., 2006). On the other hand, York et al. (2015) offers an alternative resulting from their thematic analysis of the definition derived by Kuh et al. (2006) combined with their own research. They ultimately define student success as "… academic achievement, attaining learning objectives, acquisition of skills and competencies, satisfaction, persistence and post-college performance" (York et al., 2015, p. 5). In their view, reliance on traditional measures of student success such as GPA results, degree completion, etc. skews the body of knowledge because those measures vary greatly between institutions, fail to consider socioeconomic factors affecting students, and are of questionable validity for the purposes of generalization (York et al., 2015).

Administrators in various state departments of higher education also diverge in their definitions of student success and thus in the funding models that rely on them. The Performance-Based Funding (PBF) model uses key student persistence indicators to allocate higher education funds to two and four-year state institutions based on achieving predetermined student success measures. Two mainstay student persistence indicators used to denote student success are hours completed in a specified period of time and degree completion (Ortagus et al., 2020; Rosinger et al., 2021).

Thirty-three states currently use PBF, including 10 of 12 Midwest states (Rosinger et al., 2021). Only 30 states have PBF mechanisms for two-year colleges and 23 of them use equity metrics. Of the 12 Midwest states, seven have PBF in place and five of those seven used an equity metric as of 2020 (Rosinger et al., 2021). Unfortunately, PBF measures for community college students may lack inclusivity (Ortagus et al., 2020; Rosinger et al., 2021). States with PBF mechanisms allocated an average of 1.7 percent of their general funds to two-year colleges

during the period of this study. Allocations range from less than 5 percent to greater than 20 percent (Ortagus et al., 2020; Rosinger et al., 2022).

Ortagus et al. (2020) opine that improvements made to PBF have not positively impacted student success and some resulted in negative impact. Additionally, recent studies have shown that long-accepted PBF measures of mathematics and English developmental course completion delay degree completion and detract from student persistence (Cullinan & MDRC, 2020). In addition to relying on PBF hours completed in a specified period of time and degree completion measures, many community colleges are adding equity performance indicators if they are not already included in their individual state's PBF scorecard. Those equity measures may include "racially minoritized, low income-levels, adult learners, and "academic unprepared students" (Rosinger et al., 2021, p. 7),

As noted above, there is significant state-by-state variation in student success measures. Ohio and North Carolina are good examples of the range of differences. The Ohio Department of Education follows the Lumina target discussed in Chapter 1, setting a goal for 65 percent of Ohio adults aged 25 to 65 to have "a degree, certificate, or other workforce credential of value in the workplace by 2025" (Ohio Department of Higher Education, n.d., p. 1). Currently, the U.S. national average is only 51 percent of adults aged 24 to 65 have advanced degrees or credentials, while the Ohio average is 49 percent (Gallup & Lumina Foundation, 2022; Ohio Department of Higher Education, n.d.). Given only two out of five community college students complete their program in six years and considering Ohio's projected decline of 22 percent in college aged population, Ohio's goal of attaining 65 percent by 2025 is most likely unattainable (Barnett et al., 2020; Copley & Douthett, 2020).

By comparison, North Carolina tracks the performance of their community colleges in the following areas: (1) basic skills student progress; (2) student success rate in college-level English courses; (3) student success rate in college-level math courses; (4) first year progression; (5) curriculum student completion; (6) licensure and certification passing rate; and (7) college transfer performance (North Carolina Community College System, 2020). In 2020, 57 out of 58 community colleges in the state did not meet excellence levels for all seven areas. North Carolina's attainment average of Lumina's goal is currently 52 percent (Lumina Foundation, 2021; North Carolina Community College System, 2020).

Whether in North Carolina, Ohio or nationwide, it is clear that a number of factors can undermine attainment of a variety of student success goals and measures. Cullinan and MDRC (2020) discovered that placing students in developmental math and English often inhibits their continued participation in college This research brings into question both the usefulness of using development course completion as a measure of student success and introduces the possibility that some student success measures are countervailing factors to achieving others. In this case, math and English developmental courses appear to inhibit student success by delaying student progress and thus program completion, demotivating them to continue either due to financial reasons or life events. Cullinan and MDRC (2020) research resulted in an alternate success predictor: overall high school grade point average. They found that students with a 2.5 high school grade point average (GPA) were more likely than students with lower GPAs to pass college-level math and English if directly placed in the courses (Cullinan & MDRC, 2020).

A systemic lack of emphasis on learning as a measure of student success was brought up by York et al. (2015), affirmed by Alyahyan and Düştegör (2020) and examined by Barnett et al. (2020). The Barnett researchers conclude that community college governing bodies are overly

focused on satisfying the needs of their external stakeholders and adopting the wrong student success measures, and specifically, leave out student learning as a measure of success. They advocate for taking students as stakeholders in their education, not just their job placement records. The researchers espouse a three-pronged, student-centric approach for community colleges: a framing vision for student success, evidence-based practices, and a student focused culture (Barnett et al., 2020).

Other advocates of a student-centric, holistic approach to student success argue that it is even more critical due to the impact of the COVID-19 pandemic on student mental health (Copeland et al., 2021; Johns & Hawkes, 2020; Son et al., 2020). Zheng et al. (2020) highlight the critical need for students to be motivated and supported by parents, instructors, and other authority figures to help overcome challenges engendered by distance learning. One example is the disruption to the mental health of college students caused by the COVID-19 pandemic. The fact that college-age students maladapted at a higher rate than the general population has underscored the critical need for dynamic student mental health support programs (Munsell et al., 2020; Son et al., 2020; Surya, 2021).

Wilson et al., (2019) studied 227 Canadian first year college students and found self-efficacy had a positive correlation to GPA. While Antonelli et al. (2020) agree, they also state that goal setting, time management, study strategies, and authority figure motivation are also keys to student success. Applying a similar logic, during the spring 2020 semester, The Ohio State University School of Education taught 430 undergraduates how to instruct fellow students on self-regulation, including a regimen advocated by Antonelli et al. (2020) along with active learning, test taking, and resilience. The research showed that students appreciated, and their

self-regulation thrived when instructors displayed a caring attitude and personally engaged the students (Hensley et al., 2020).

Instructional Modality

This literature review focuses on face-to-face, online, and blended learning modalities. In 2012, online instruction encompassed only 26.7 percent of the Midwest college student population (Integrated Postsecondary Education Data System -IPEDS, 2022). In 2019, Midwest community colleges taught and average of 37 percent of students online. This figure spiked to 100 percent for a short period of time in 2020 until the Midwest online student population settled back to 67.7 percent before the end of the year (IPEDS, 2022). In other words, while during the previous ten years, online instruction grew only 10 percent, the COVID-19 pandemic brought a three-fold increase in distance education in a single year.

Pedro and Kumar (2020) conclude that all aspects of online teaching, course development, and educational support are replete with gaps in knowledge and rife with potential areas for further research. Some scholars argue that non-linear thinking is a prerequisite for meeting the educational challenges posed by crisis events (Drysdale & Gurr, 2017; Gurr & Drysdale, 2020; Marshall et al., 2020). This topic is further explored in Chapter 5

Pre-COVID-19 Pandemic Modality Scholarship

A number of pre-COVID-19 pandemic studies focused on instructional modalities shed light on student preferences, faculty perceptions, and student success with online and in-person learning. One prophetic study, Mackey et al. (2012), foresaw that blended learning would provide “academic resilience in times of natural disaster, civil emergency, and crisis” (p. 122). Giving the example of a series of severe earthquakes that hit the Canterbury region of Australia in 2010 and 2011, the authors concluded with four elements critical to sustaining an academic

program's resilience: pre-planned and resilient internal communication channels, staff pre-trained on use of blended learning, students prepared for autonomous online learning, and accessible supporting information technology for alternative learning formats (p. 131).

O'Neill and Sai (2014) examined student preferences regarding the two modalities in a pre-COVID-19 pandemic qualitative study of a group of 48 sophomore students in an educational psychology course at an urban, four-year college. At that time, their literature review failed to disclose any adverse impact on student success when students switched from face-to-face to online instruction. However, after drilling down deeper, O'Neill and Sai found that responding students viewed the availability of in-person extra help and classroom exposure as reinforcing their self-regulation. Students preferring face-to-face instruction valued a knowledgeable instructor, while students preferring online courses rated organization and flexibility as their highest preferences. O'Neill & Sai also found that online students had a course completion rate 10 to 20 percent lower than face-to-face students. The researchers outlined next steps: to examine the cost-benefit of further switching from brick-and-mortar to virtual classrooms and investigate the online tools available to offer students blended options (O'Neill & Sai), which might be advisable to satisfy student demand for face-to-face interaction in a distance environment. However, they did not look at other options to make online courses themselves more appealing to the student population.

Another pre-COVID-19 pandemic look at online learning by Yilmaz (2017) focused on faculty rather than student perceptions. This second qualitative case study of instructors compared the success of distance learning students and face-to-face students at a public university in Turkey. Yilmaz reported that the most severe deficiencies noted on online assessments were the degree of cheating on exams and plagiarism in assignments. The

instructors also identified students' lack of personal engagement as inhibiting their overall performance and degrading the validity of online final exams. The instructors interviewed recommended alternate methods of measuring student success, focusing on "high-order thinking skills" as a way to mitigate the tendency to cheat or use plagiarized internet passages (Yilmaz, 2017, p. 470). Simply put, Yilmaz concluded that students learn better when they participate in groups engaged in team learning, which in and of itself reduces plagiarism. While Yilmaz is on track with the issue of the ease and degree of online cheating his research only scratches the surface of how the peer-to-peer learning resident in team learning enhances student engagement.

Shea and Bidjerano (2018) examined past student success data in the state of New York to postulate the most effective face-to-face to distance course mix for student success. Their data came from records of 45,557 students in 30 community colleges in the State University of New York. They found that students in colleges with higher program completion rates (a PBF student success metric) tolerated a higher ratio of online to face-to-face classes. Students enrolled in colleges with a high graduation rate could tolerate a 60/40 online to face-to-face mix. Students in schools with mid-level completion rates can tolerate 40/60 online to face-to-face mix while schools with low rates were only able to tolerate a range of 10/90 percent mix of online to face-to-face. They did not investigate the question of how student preference impacted the results. In an investigation of online study and degree completion, Shea and Bidjerano (2018) found that students have a lower probability of earning their degree if they have more than a 60/40 split of face-to-face to online courses. However, given the necessity for community colleges to continue relying on the use of distance learning to cope with COVID-19 pandemic concerns, these findings should be revisited in light of similar research undertaken after 2021 but likely not yet published.

Modality Scholarship during the COVID-19 Pandemic

Dogar et al. (2020) conducted a qualitative study on the effects of the COVID-19 pandemic at COMSATS University (CUI), Islamabad, Pakistan on students enrolled in distance learning and found both pluses and minus for the students. Their research focused on three questions: (a) reasons why students were not willing to take online courses; (b) student issues with home-based study; and (c) technical system difficulties. The researchers identified three negative aspects of distance learning. First, social media exacerbated student anxiety about taking online classes. Second, lack of both instructor-student and peer-to-peer interaction degraded the communication normally found in face-to-face settings. Third, students living in rural areas lacked internet connectivity, laptops, or other devices to connect and effectively participate online. In addition, students felt it unfair to pay online fees equal to those for face-to-face classes. On the other hand, Dogar et al. found positive student reactions to the freedom of asynchronous learning and to transportation cost savings. Their study was informational only but did make a recommendation that the university continue to work on the issues identified, train stakeholders on online education, and increase learning management system LMS capacity.

Hanif et al. (2020) examined the question of student preferences for face-to-face versus online classes, querying first year dental students and professors at the Islamic International Dental College in Pakistan. The sample was 63 students. Ninety-one percent preferred classroom instruction, with 86 percent (59 students) feeling that classroom instruction encouraged active participation and 90 percent (62 students) citing more engagement. While students had their questions answered promptly, some students felt less motivated to engage in online classes. As to instructors, 75 percent approved of online teaching, but some felt there were various tools used in the classroom were not available in the online modality. While underperforming students

made headway over time, the researchers concluded that more innovative and proactive tools were needed to enhance student distance learning (Hanif et al., 2020).

Al-Nofaie (2020) conducted a qualitative case study in the hope of understanding student acceptance of a virtual language learning environment (VLLE) during the COVID-19 pandemic. The subjects were 25 undergraduate seniors at Saudi Arabia's Taifa University, who were studying English as a foreign language (EFL) using Blackboard. While finding that face-to-face classes are more engaging and provide the students' desired socialization, the researcher also found that despite technological limitations, online exam anxiety, lack of socialization, and asynchronous classes, accompanying applications can improve cognitive skills such as analysis and evaluation. The Blackboard platform also enabled more frank online classroom discussions. Al-Nofaie (2020) concluded that Taifa EFL students preferred asynchronous learning, which he characterized as contrary to previous studies. Citing the fact that Chinese students prefer asynchronous over face-to-face language classes while other groups favor attending face-to-face, he suggested that preference for asynchronous or synchronous learning is location-specific, an assertion contradicted by Salceanu (2020). Al-Novae argues that the university must find a way to reduce the socialization deficit inherent in current pedagogical VLLE strategy.

Kelly et al. (2020) conducted a qualitative case study at Edith Cowan University in Western Australia from March through April 2020 as the university quickly transitioned to a virtual campus. Before the COVID-19 pandemic, the university had been transitioning to adding online delivery, a change that made the transition to a completely virtual system less difficult. The authors focus on the university's efforts on three student support initiatives: (a) video guides to online learning; (b) videoconference appointments with librarians and advisors; and (c) peer-to-peer guides for online learning. The overarching finding was that faculty, staff, and students

required additional familiarity and practice with digital-based learning. The researchers recommended that including student feedback early on would result in more student-friendly products. Of note was the observation that students from the lower end of the socioeconomic spectrum had difficulty funding the technology needed for distance learning and faced inadequate space at home for studying. However, the rapid deployment of the initiatives precluded institutional review and approval of methodology and data collection on (a) student access, (b) student success impact, (c), and student feedback (Kelly et al., 2020). The absence of approval for their data collection limits their results to anecdotal value as lacking technical scholastic rigor. The researchers concluded that their observations were useful contributions to existing knowledge for responding to and beyond the COVID-19 pandemic. Their assertions proved accurate but the researched college case study observations, discussed in later chapters.

In his study of the Romanian higher education system, Salceanu (2020) recommends enhanced pedagogical emphasis on distance learning methods, techniques, and technology. He found that to varying degrees, 99 percent of students felt switching to online from face-to-face instruction was an acceptable response to mitigate the spread of COVID-19. Close to four out of five (76 percent) students reported no difficulties adjusting to using online platforms. But the remainder had issues with the platforms, internet service, or using internet-based learning (Salceanu, 2020).

The relevance of some of testing has also been brought into question by the growing trend of community colleges eliminating developmental math and English education requirements, perceived as barriers to student success. Community colleges are choosing to integrate the demonstration of math and English proficiency relevant to specific academic pathways to reduce the timeframe to program completion and thus increase student persistence.

Two scholars also looked at testing during the pandemic in the context of instructional modalities. Gallagher (2020) argues that the COVID-19 pandemic caused colleges to critically re-evaluate testing methods and admissions tests to eliminate barriers to student success. The study recommends: (a) a re-evaluation of English language proficiency testing; (b) increasing the number of assessments accepted for admission of international students; and (c) re-evaluation of the value-added provided by commercial testing partners.

In an investigation of online testing, Barra et al. (2020) conducted a quantitative case study on a student-initiated automated assessment tool used for the final exam of 312 engineering students in the Bachelors of Telecommunications Engineering at Universidad Politecnica de Madrid. The tool was initially proposed by Gordillo (2019) and although it was automated, operationalizing it took instructor time (average of 50 minutes). The selected student sample consisted of all third-year engineering students taking the same mandatory core course in programming from seven instructors. The course's face-to-face teaching had been suspended halfway through the course in March 2020. The institution's challenge was to develop an automated assessment tool to support timely, meaningful, and manageable student learning assessment on the final exam, which met the European Higher Education Area examination criteria. The Barra et al. study found that not only was the tool fair, but it also aided student learning. In addition, post-exam, instructor-led online tutorials provided demonstrations and comprehensive feedback on the exam’s problem solutions (Barra et al., 2020).

Modality Suggestions for the Future

Seke (2020), Chandler et al. (2020) and Anderson (2020) propose some positive, if general and speculative, implications of the COVID-19 pandemic for higher education modalities. Seke characterizes the pandemic as a catalyst for continuing the education revolution

that began in 2001 with the Apple iPod. Similarly, Chandler et al. (2020) suggest that the pandemic accelerated a shift in teaching and learning modalities. They characterized the shift from face-to-face communication to online teaching as confusing and tumultuous for both teachers and students due to novelty and lack of hardware, social interaction, and online skillsets. Chandler et al. call for new teaching skill development and propose innovative approaches that use feedback loops, gamification, and experimental curriculum for virtual education. Along similar lines, Anderson (2020) suggests that instructors use resilient collaboration to address the accelerated changes in technology, how best to use technology, and how to overcome deficiencies in the ability of traditionally unserved racial minorities to take advantage of learning technologies. Gertha-Taylor (2019) defined "resilient collaboration"… [the set of characteristics that] allows systems and partners to continue to work together on shared goals over time despite disruptions" (p. 4).

Hirsch and Allison (2020) consider solutions to the issues with platforms, internet service and internet-based learning Salceanu (2020) identified. They make content a priority over technology in combating the deceleration of learning progress following the switch to distance learning and while they opine that the need for a high-quality curriculum is paramount but proficient teachers are a must in delivering that content. Thomashow (2014) proposes that flexibility and innovation in the curriculum should be complemented by co-curricular activities instead of relying exclusively on online classes.

Al-Ghazali's (2020) review of the literature leads him to advocate online self-access learning for language students with little or no teacher interface, using Herrera-Diaz's definition of self-access as the "organization of learning material and equipment made available and accessible to students without necessarily a teacher present" (Al-Ghazali, 2020, p. 115; Herrera-

Diaz, 2012, p. 117). Given the stressors the COVID-19 pandemic places on students, Al-Ghazali argues that the educational establishment should allow more flexibility in curriculum development and assessment design. He favors using assessments such as team projects and case studies versus memorization-based tests. Like other scholars, Al-Ghazali recommends training students on the latest technology and platforms used in online education. Last, McCafferty et al. (2020) suggests that existing classroom space and infrastructure will need to be redesigned and reconfigured to maximize capacity and flexibility, even with increased online instruction. They also observed that physical layouts for face-to-face courses require advanced air quality and HVAC plants.

While all the reviewed studies address salient instructional modality issues, none focus on the possibility that a worst-case scenario might force sole reliance on distance learning. This oversight is not due to a lack of forewarning. The HIN1 outbreak in 2009 had already challenged educators to conduct classes while operationalizing processes to help stop the spread of the contagion (Ronkowitz & Ronkowitz, 2021). The lessons learned by Hensly (2020) and Makey et al. (2012), as supplemented by Gertha-Taylor (2019) and Anderson (2020), seem to validate the need for a more holistic view on integrating instructional modality with instructor-student engagement informed by the perspective of current socioeconomic realities rather than continuing to return to timeworn instructional modality paradigms.

Instructor-Student Engagement

Most of the student engagement literature reviewed here precedes the COVID-19 pandemic and thus may not reflect all the dynamics of engagement given the various hybrids of pandemic learning modalities. Jenkins et al. (2021), however, echo the work of Bailey (2015) and Kinzie and Kuh (2017) by agreeing that current instructor-student engagement practices are

inadequate. Finding that the level of instructor-student engagement was even lower for online students, Jenkins et al. (p. 1) point to a need for "program organization and design, new student onboarding, remediation, and academic support, ongoing student advising, teaching and learning."

Weismann (2020) takes a different position, asserting that student engagement concerns with online curriculum are well addressed by technology, both before and after the COVID-19 pandemic. In his view, the issues of concern not addressed by technology are food and housing security, non-instructional barriers which community colleges should address through community partnerships (Weismann, 2020). To some degree, his position points to gaps in the body of knowledge about the integration of instructional modalities, instructor-student engagement, and socioeconomic conditions.

There were a number of student engagement works presented before 2020. The Guided Pathways approach was initially proposed in *Redesigning America's Community Colleges: A Clearer Path to Student Success* (Bailey et al., 2015). Its formula for engendering student success emphasizes and operationalizes student engagement. Currently, 400 community colleges use this approach to guide their student success efforts (Columbia University, 2021). Bailey et al. (2015) criticize the "cafeteria style, self-help" nature of community colleges, where little effort is devoted to helping students complete their programs (p. 15). They recommend that community colleges proactively guide students toward program completion from onboarding to creating institutional linkages with four-year, baccalaureate granting institution to facilitate transfers after associate degree completion. Kinzie et al. (2017) similarly call for a "re-envisioned framework" for student success (p. 24). They propose a five-step plan designed to improve success through ensuring students remain on track for completion (Kinzie et al. (2017). The authors take

essentially the same controlled environment approach with student learning and program completion at the center of strategy**.** Their drivers for success appear in Figure 3. Jenkins et al. (2021) combine the thinking of Bailey and Kinzie to arrive at their own student engagement recommendations for the five areas of practice they defined. Those areas were: "Program organization and design, new student onboarding, remediation and academic support, ongoing student advising, teaching and learning" (Jenkins et al., 2021, p. 1).

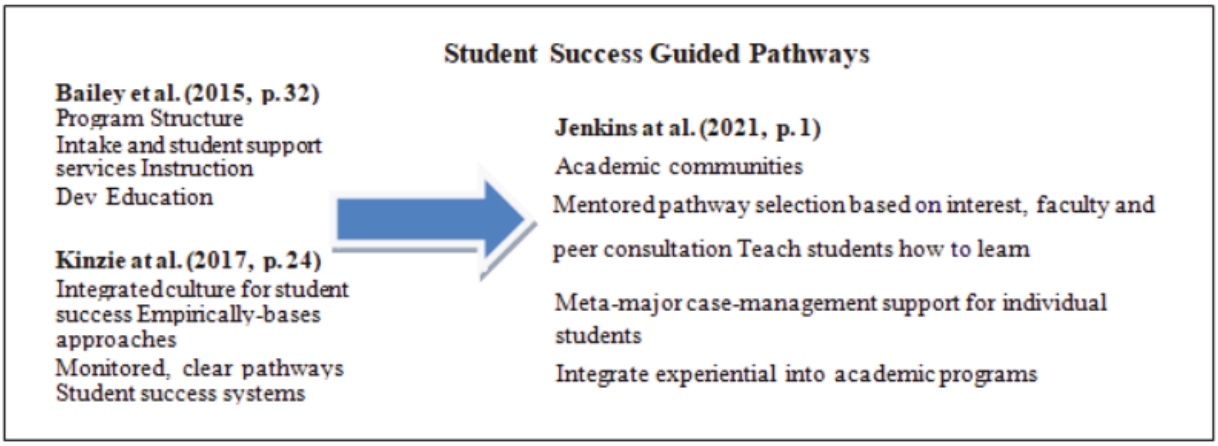

Figure 3. Guided Pathways Evolution

As was noted in earlier discussion, Thomashow (2014) proposes that curricular flexibility and innovation should be complemented by co-curricular activities outside of online classes. Jenkins et al. (2021) point out that neither Bailey et al. (2015) nor Kinzie et al. (2017) address the benefits of active learning, which builds applied learning into the curriculum, an idea originally implied by Thomashow (2014). In addition to integrated active learning and faculty development, Jenkins et al. recommend as a future goal exporting the best practices of community college guided pathways programs to K-12 schools, with particular emphasis on students at the lower end of the socioeconomic spectrum.

One observer, Kahu (2013), explicitly rejects the linear focus of the behavioral psychological, socio-cultural, and holistic perspectives he identifies in prevailing student engagement frameworks. He posits, the behavioral perspective centers on student behavior and instructor practices. His psychological perspective is based on the student's psyche and experiences over time. The socio-cultural perspective centers on the interaction between the student experiences with the institution. Finally, his holistic perspective centers on the overall students perceptions of themselves and their college experiences (Kahu, 2013, pp. 759-764). Kahu advocates integrating the four perspectives into a before-during-after explanation of student engagement, which he describes as a "conceptual framework of engagement, antecedent and consequences" (p. 766).

Further, referencing earlier work by Zepke (2011), Kahu (2013) proposes that complexity theory provides a framework for understanding the distinct nature of each of the four perspectives listed above and how an "institution's actions and student experiences interact" (p. 768). Thomashow (2014) applies similar concepts when he broadly proposes that flexibility and innovation (features closely associated with resiliency) in curriculum should complement co-curricular activities outside of stand-alone online classes. Thomashow, a former college president, offers ideas on student engagement based on two tenets of student learning leading to post-college career success. The first is that colleges must "design interesting, innovative and career-oriented programs that could successfully recruit, retain, graduate, and place…students" (Thomashow, 2014, p. 155). The second is that "schools with innovative faculty members who are adaptive, flexible, and anticipatory, and who have the capacity and willingness to implement creative new programs, will gain a strategic advantage in the higher education marketplace" (p. 156). Additionally, both Kahu and Thomashow presciently argue that actions necessary for

effective student engagement are closely linked to socioeconomic issues facing community colleges and their students, an assertion proving to be especially true during the ongoing COVID-19 pandemic, as noted in the next section and elsewhere in this dissertation.

Socioeconomic Influences

While the COVID-19 pandemic widely affected student success, learning modalities, and instructor-student engagement, the impact weighed heaviest on students at the lower end of the socioeconomic spectrum (Aucejo et al., 2020; Cruz, 2021; Dua et al., 2020). A number of studies affirm that and call for educational institutions to address the issues that the COVID-19 pandemic has brought dramatically to the surface.

The 2020 Aucejo et al. ASU survey discussed earlier determined that honors students were 50 percent less likely to delay graduation. The statistical analysis showed that 55 percent of lower-income students delayed graduation for health and economic reasons but only 13 percent of honors students made the same decision related to the same circumstances. Based on that, Aucejo et al. opined that college students in elite private colleges were also less affected by COVID-19 pandemic stressors than typical public college students. These researchers recommend that policy decision-makers address economic and health-related COVID-19 pandemic stressors to lessen student success gaps for students in public colleges.

Mohapatra (2020) also emphasizes the psychological and economic impact of the COVID-19 pandemic in a job market where only 46 percent of graduating seniors are employed. They cite business shutdowns that meant withdrawn job-offers for soon-to-graduate college seniors and parents assuming debt payment for students without a source to repay their loans. In addition, students in rural areas and on the lower end of the socioeconomic spectrum lack internet access and computer hardware. Recommending government economic support for free

Wi-Fi networks in outlying villages and proficiency training for online teachers, Mohapatra describes those actions as in the best interests of "all stakeholders in higher education" (p. 6). Those remedial actions do not address graduates' dismal prospects for obtaining not only work but work they desire or trained for in college. Salceanu (2020), examining the implementation of distance learning in Turkey in response to the COVID-19 pandemic, concurred with Mohapatra's (2020) findings vis-à-vis socioeconomic inequality and the need for increased teacher training in online teaching. Kelly et al. (2020), writing about Australian students, echoed the difficulty funding learning technology and added inadequate study space at home, an issue also presented by Maloney and Kim (2020) and Salceanu (2020).

While the above studies focused on students, Cuaton (2020) conducted a three-pronged case study on the impact of COVID-19 on Philippine higher education institutions, which highlights (a) lack of teacher proficiency, (b) inadequate infrastructure, and (c) higher expenditures to support students at lower socioeconomic levels. Cuaton advocates for financial support to increase program resiliency related to pandemics, pandemic contingency planning, and teacher proficiency and infrastructure to meet pandemic strains on higher education but does not offer practical recommendations to mitigate problems.

Organizational Resilience

The origin of the word resilience is the Latin word "resiliere." The Romans characterized resilience as "bouncing back" (Hosseini et al., 2016). Holling (1973) first applied the term resilience to an ecological observation, then applied it to the field of management, observing that random events in nature are replicated in the human world and that instability introduces "resilience and capacity to persist" (Holling, 1973, p. 15). Von Bertalanffy (2008) follows a similar logic pathway extrapolating observations in nature to management, using biological

systems to think about organizational systems. In fact, “organism” has the same linguistic Greek and Latin roots as “organization” (Wren & Bedeian, 2009, p. 462). The concept of resilience was not widely researched until approximately 2000. For the period 2000 to 2013, publications on resilience climbed from an average of two to 60 per year with a rapid rise starting in 2008 (Linnenluecke, 2017).

The related field of enterprise risk management (ERM) examines business, financial, and operational risks, defining the last as “loss resulting from inadequate or failed internal processes, people, and systems or from external events” (Lam, 2014, p. 241). The traditional ERM framework is today seen as fraught with logic fallacies based on linear thinking and assumptions of a stable business environment (Fiksel, 2015). In that view, the success of an organization’s ability to respond to disruptions is largely determined by its effectiveness in dealing with the interaction between internal and external forces, e.g., subsystems or systems (Kamalahmadi & Parast, 2016). The literature suggests that in the face of the increasing complexity of global economy and society, reductionist and linear thinking are incompatible with ensuring an organization’s competitive sustainability (Dekkers, 2015; Senge, 2006; Senge et al., 2014). Pennock and Rouse (2016) advocate viewing an organization as a system to ensure correctly identifying the "underlying issues, so the right approach is applied to the right problem" (p.28). In fact, Davis et al. (2015) advocate using systems thinking for community colleges due to the global economy's complexity and uncertainty. Akmansoy (2018) introduces some concepts of chaos theory to characterize the educational landscape as one of both risk and reward. Citing the “butterfly effect,” Akmansoy posits that small errors in the present can cascade into larger ones in the future. He also suggests that correctly assessing the root cause of disruption (which is

outside the purview of college leaders) allows an organization to seize the opportunities presented by chaos (Akmansoy, 2018; Akmansoy & Kartal, 2014).

Lam (2003) opines that at the top of the ERM priority list are ways to effectively deal with ever-changing linkages in the global economy, technology advancements, and economic system and corporate restructuring. As Woods and Wreathall (2008) argue, although surplus resources or capacity may appear inefficient, those same resources may be a source of adaptive capacity (resilience) when the organization is under stress. Chapters 4 and 5 will validate this concept in the findings and conclusions later in this paper.

Defining Resilience: Characteristics and Components

The value of resilience is widely affirmed as a competitive advantage and the cornerstone of a successful competitive strategy (Ponomarov & Holcomb, 2009; Stolz, 2004) and as critical to survival (Annarelli et al., 2020; Blades, 2017; Nguyen et al., 2016). Some management experts suggest that an organization base its strategic plan on the resiliency to adapt to changes in consumer demand and disruptions (Fiksel, 2015; Kamalahmadi & Parast, 2016). Jaaron and Backhouse (2014) also argue that an organization's strategy must align with organizational resiliency if it is to be competitive.

There is no clear consensus on how to precisely define resiliency or how to measure it (Fiksel, 2006, 2015; Hillmann & Guenther, 2021; Morales-Allende et al., 2017; Serfilippi & Ramnath, 2018). The problem is easily stated: it is difficult to measure what is not explicitly or uniformly defined (Ruiz-Martin et al., 2018). Ruiz-Martin and Taleb (2012) describe the antifragile stage of resilience as one where the organization seizes new opportunities; others, such as Fiksel (2006), consider seizing opportunities as merely resilient. Standard definitions of resilience tend to align with the concept of absorbing the stressful event or condition and

returning to the initial state of equilibrium (Bhamra et al., 2011; Kamalahmadi & Parast, 2016; Patriarca et al., 2018). Kamalahmadi and Parast (2016) write that organizational resilience is best described as the capability of the organization to absorb and effectively respond to a disruptive event. Witmer and Mellinger (2016) see it as ensuring that an organization can respond to disruptive change and sustain its existence, explicitly citing historical funding cuts as drivers necessitating resiliency be "a process, not an outcome" (p. 255).

However, Witmer and Mellinger (2016), along with Fiksel (2006, 2015), Kamalahmadi et al. (2016), and Appe (2019) expand the definition of resilience to include seizing growth opportunities while under duress. Likewise, Serfilippi and Ramnath (2018) describe resiliency as the ability to adapt, improvise, and overcome to emerge from the disruptive event as a better organization. Citing Bhamra et al. (2011) and Caniëls and Baaten (2019) stress learning from and adapting to changing circumstances and specifically characterize learning organizations as resilient. Using a systems approach to defining the concept, Fiksel (2006) sees organizational resilience as the ability of an organization to ride out disruption by changing and by seizing opportunities to grow during the disruption. Citing Vogus and Sutcliffe (2007), Barasa et al. (2018) define organizational resilience as the quality which allows an organization to change itself to a stronger and more competitive state to meet the stress of a disruptive event. Blades (2017) opines that resiliency is “both an attitude and a journey” (p. 671), saying that resilient organizations choose to either “bounce back or bounce forward” in response to disruptions (p. 671).

Many of these views resonate with Taleb's (2012) concept of antifragility, seizing opportunities to become better off than before the stressor event. Fiksel (2015), for instance, reflect antifragility in the characteristic of growing while reacting to an event. Ruiz-Martin et al.

(2018) align their understanding of organizational resilience with Taleb's concept in their maturity model of resilience (MMOR), which has four stages: (a) fragile, (b) robust, (c) resilient, and (d) antifragile.

There are also many opinions on the key characteristics and components of organizational resilience. Eckardt (2018) proposes that an organization's antifragility has progressive stages based on the company's, experience, efficiency, and proficiency. Reinmoeller and Van Baardwijk (2005) suggest that an organization's ability to maintain its competitive standing by reinventing itself through innovation is a key resiliency characteristic. Buliga et al. (2016) also stress innovation but couple it with leader's approach to risk as determinative of how much resiliency an organization possesses. Annarelli et al. (2020) emphasize reinvention and innovation as keys to resiliency. Patriarca et al., (2018) propose that the foundation of any organization's resiliency is its ability to monitor, respond, learn, and anticipate its surroundings. In a similar vein to Caniëls and Baaten's (2019) position that learning organizations, in particular, are resilient, Nguyen et al. (2016) posit that organizational resiliency is a learned characteristic; similarly, Mousa (2020) asserts that organizational learning has a direct impact on organizational resilience. Jaaron and Backhouse (2014), however, claim that organizational resilience relies on the organization's collective individual resilience. They also question the manager's role, stating that managers should be supporter and not controllers, much like Kovacs & Corrie's (2017) concept of a leader's primary role as facilitating innovation and flexibility.

Resilience and Leadership

Marshall et al. (2020) studied how higher education leaders in Barbados and Canada responded during the early COVID-19 pandemic crisis when face-to-face instruction ceased across all educational institutions in both countries. In addition to their cogent description of

stressors noted at the beginning of the Student Success section of this chapter, they draw some specific conclusions about the keys to leaders' ability to ensure student success during a crisis: (1) clear direction; (2) effective communication; (3) collaboration; and (4) practicing adaptive leadership. They define clear direction as responsive strategic direction flexible enough to adapt to change quickly. Drysdale and Gurr (2017) characterized the educational landscape of adaptive leadership as volatility, uncertainty, complexity, and ambiguity (VUCA) and argued that educational leaders must be open-minded, agile, and resilient to navigate these challenges. In later work, Gurr and Drysdale (2020) note that their framework is not the last word on educational leadership but affirm that change management acumen is a critical skill for successful educational leadership "through uncertain times" (p. 29), a position with which Marshall et al. (2020) concur. In a similar vein, Kovoor-Misra (2020) observes that change is a challenge best met with "balancing speed and mindfulness, operational continuity and change, and innovation and efficiency" (p. 157).

Resilience in Theory and Application

Two significant resilience theories move toward frameworks for examining resilience. Blades (2017), using systems theory, suggests that organizations traditionally segment post-disruption goals into one of three areas: (a) uni-equilibrium, (b) multi-equilibrium, or (c) beyond-equilibrium. Like the more traditional definitions of resilience, the uni-equilibrium state's goal is to return to previous, pre-disruption operations activity. The multi-equilibrium state may be a mix of operational goals such as cash flow to meet expansion targets. If this is the case, the expansion goal will not succeed if lack of cash flow limits the expansion, either whole or in part. Blades cautions against the multi- approach, citing a strategy of applying multiple, simultaneous resilience actions that may conflict with an organization's competitive advantage strategy. Thus,

he concludes that the holistic-focused, beyond-equilibrium resilience goal of seizing new opportunities while meeting the disruption's challenges is the best course of action. Field (2018) describes this result as a shift to the left. Finally, Blades argues that a systems approach requires organizational leadership that provides clear and concise communication across organizational silos. While the literature speaks to holistic executive leadership, it seems to have nothing to say about integrating the resulting organizational culture and ERM.

In their 2020 article in *Sustainability,* 'A framework to evaluate the effects of organizational resilience on service quality,' Annarelli et al. (2020) offer a more streamlined resilience segmentation. They propose two types of resilience, static and dynamic. Static resilience is characterized by organizational leadership actions, practices, and planning programs that minimize an organization's susceptibility to disruptive events. These static resiliency practices enable the system to recover back to its original equilibrium state, while dynamic resiliency practices aim at establishing a new equilibrium more conducive to the new system state (see also: Butler, 2018; Mithani, 2020). In a variation on static and dynamic resilience types, Barasa et al. (2018) coined the functional terms planned and adaptive resilience. Planned resilience functions to prepare for future disruption while adaptive resilience functions deal with continual and severe stressors. They also conclude that resilience is a characteristic of a complex adaptive system. Stolz (2004) suggests that the ability to successfully manage change is a by-product of the organization's embedded resiliency, an idea similar to static resiliency. The author of the present study adopts the Annarelli et al. terminology of static and dynamic resiliency.

An important aspect of the Annarelli et al. framework is that while static resilience tends toward linear thinking and dynamic resilience thinking is nonlinear and adaptive, dynamic, and static resilience are not mutually exclusive. Earlier, Rose (2007) had also opined that static and

dynamic are not mutually exclusive. That research showed the organization's static resiliency characteristics enable the agility and flexibility of the organization's dynamic workings. In general, organizational resiliency follows dynamics proposed by Annarelli et al. (2020), Argyris (1976), Rose (2004; 2007), Kovacs and Corrie (2017), and Senge (2006). That literature indicates that an organization's resiliency is an ongoing, iterative process comprised of static and dynamic actions in a continuous learning loop.

Gilbert and Yearworth (2016) arrive at a similar position in their case study on the merits of using a mechanistic versus a complex adaptive systems approach to an IT implementation project. They conclude that linear thinking worked well when the problem was in a stable environment and that a complex adaptive system approach would be suitable under uncertainty, although they did not prove the second conclusion. Gilbert and Yearworth recommend further study to consider how reductionist, linear thinking may complement a complex, adaptive systems approach. Cavanagh and Lane (2012) proposed a tri-dimensional landscape of highly predictable (linear thinking), complex (non-linear thinking), and chaos (low predictability and low consensus for courses of action), although they did not consider that two or all three conditions might be concurrently active. Kovacs and Corrie (2017) quoted and built on the research of Cavanaugh and Lane by focusing on the complex adaptive space they described as "self-organizing" and the “zone of creativity and innovation” (p. 77). While Kovacs and Corrie (2017) did not deny the importance of an organization's linear thinking realm, they championed the role of a leader as one who fosters flexibility and innovation throughout the organization. Like Cavanaugh and Lane, Kovacs and Corrie failed to consider the situation of a multi-faceted problem that requires a unique and integrated approach applying both linear and non-linear thinking to resolve the

issue or attain the goal. Further, both outlined discrete leadership methods for each studied landscape dimension without an integrated view for complex situations.

Building up their theoretical framework, Annarelli et al. (2020) define the characteristics of each type of resilience. Static resilience encompasses: “(a) continuous monitoring, (b) anticipation ability, (c) redundancy, (d) simulation, (e) initial vulnerability, (f) minor aspect focus, (g) learning from mistakes" (p. 2). Patriarca et al., (2018) offer a similar but less refined perspective, stating that the foundation of any organization’s resiliency is its ability to monitor, respond, learn, and anticipate its surroundings. Annarelli’s dynamic resilience implements recovery actions that ensure the organization recovers from a disruptive event in minimum time through just two key characteristics: (a) internal communication and (b) improvisational capabilities (p. 2).

Barasa et al. (2018) suggests that while static resilience focuses on using internal capabilities to deal with disruptions while dynamic resilience uses an external—or an environmental—focus to take adaptive action. Mithani (2020) adds that dynamic resilience fosters the design of solutions to deal with persistent threats. He points out the virtual absence of research on the disruptive impact of life-threatening events such as terrorist attacks, natural disasters and—now most relevant—pandemics, an absence the work of Marshall et al. (2020) and Drysdale and Gurr (2017) begin to redress.

Applying their theoretical framework to a single-case, qualitative study, Annarelli et al. (2020) review and assess a large European service company's response to a disruptive event. Their method evaluates the firm’s static and dynamic resiliency characteristics on seven dimensions: (a) adaptability, (b) reliability, (c) agility, (d) effectiveness, (e) flexibility, (f) recovery level, and (g) recovery time. The researchers found shortfalls in the characteristics of

anticipation ability and focus on minor aspects in the dimensions of adaptability, flexibility, and recovery time. The characteristic of redundancy fell short on the dimensions of agility and recovery time. The characteristic of simulation was weak on adaptability and agility. Overall, the organization's performance was either poor or inadequate on the resilience dimensions of adaptability, agility, flexibility and recovery time. Although the researchers conclude that their single case study lacks transferability to other economic sectors, it can still be a basis for thinking about and improving organizations dealing with resilience issues or actual disruptions (Annarelli et al., 2020).

Summary

Inequality of access, the maturity of distance and blended learning modalities, instructor proficiency, and the pros and cons of online learning—whether asynchronous, synchronous, or blended—appear as common topical threads throughout every region in the world. The COVID-19 pandemic has exacerbated these challenges in the context of the complexity and uncertainty evident in the global economy.

It is clear that there is no going back to the static, classical educational infrastructure of bricks and mortar supplemented by some distance learning (Mindzak, 2020). In fact, to plan with that past in mind is a mistake (Archambault & McDermott, 2020). Distance education is the new "disruptive innovation" in higher education (Beaudoin, 2016, p. 140). It would seem that a new educational paradigm is under development.

The literature discussed above concerning the key dimensions of student success—learning modalities, student engagement, and socioeconomic issues—permit some generalizations. It certainly identifies numerous challenges brought to light by the new normal for higher education under COVID-19 pandemic conditions. The general consensus on response

to the COVID-19 pandemic is that regardless of learning modality, all teachers, students, and support staff required new tools and training on how best to make learning possible and achievable and how to address the particular pitfalls of asynchronous learning. And, in general, the literature suggests that the technical, pedagogical aspects of enabling student success must occur within a process sustaining a people-first culture, promoting a caring environment for college faculty, staff and students, and realizing that students need to be guided and mentored around the life obstacles they face.

In all three areas, researchers identify problems, and some recommend solutions in specific areas, but none are yet able to offer a working plan for transforming a higher education organization into a more resilient state, prepared to meet challenges to student success under changing conditions. During the onset of the COVID-19 pandemic, success was initially measured by getting the students back in class by whatever means. As the COVID-19 pandemic progressed and the infection curve was not flattened in a few weeks, thinking shifted to how to deal with the "new normal" of higher education and how to sustain not only student success but the institutions of higher learning as well.

The literature offers varied opinions and measures of student success. That not all states apply PBF success standards and, in some cases, use countervailing measures has been discussed above. Student success may very well vary from institution to institution, especially in community colleges as state and local conditions vary, and this is possibly how and where success should be clearly defined. Critics have identified community colleges failure to focus on student learning as they respond to external stakeholders in the name of workforce development. Another is return on investment for student time and money. If the goal of a students is to get a higher paying job or the kind of job they desire and those jobs are not locally or regionally

available, is a college meeting its fiduciary responsibility to students? The same question arises if local salaries for associate degree liberal arts graduates are below par.

As prior discussion makes clear, student success itself remains a term of fluid meaning, resistant to a consensual definition from institution to institution. Given the ambiguity of what constitutes student success, it is no surprise that the literature does not offer a clear path for colleges and universities to achieve sustained organizational resiliency directed at student success. Neither organizational resilience nor systems thinking have uniformly accepted measures. An essence of systems thinking, as Skarzauskiene (2008) observes, is the premise that some things can be quantified but not measured. Despite this, some see the Dimensions of the Learning Organization Questionnaire (DLOQ) results as valid measures of organizational resilience maturity and the effective use of systems thinking to engender a learning organization (Moran, 2016; Watkins & Kim, 2018). But the case can also be made that the DLOQ is based on a subjective, opinion-based Likert scale ratings subject to individual bias.

What the literature strongly suggests is that non-linear thinking is required to meet the challenges that a crisis event such as the COVID-19 pandemic poses to the most basic capabilities for educating students (Drysdale & Gurr, 2017; Gurr & Drysdale , 2020; Marshall et al., 2020). While some emphasize static (planned) resiliency and others dynamic (adaptive) resiliency, supple organizations are likely to exhibit both capacities (Annarelli et al., 2020; Siegel, 2018). When institutions face the unknowns produced by a complex system under stress, both static and dynamic resiliency are absolute necessities in any organization’s toolkit.

Implications for this Research

Hosseini et al. (2016) posit that resilience has four dimensions: organizational, social, economic, and engineering. This study acknowledges all these dimensions but concentrates closely on organizational resilience by investigating leadership processes and practices that influence all these dimensions. This researcher set out to assess whether and how the organizational resilience of a Midwest community college impacted student success during the COVID-19 pandemic. The study's focus is where and how the college's leaders did or did not apply organizational resiliency processes and practices during the COVID-19 pandemic. Overall, the literature affirms that an organization's abilities to absorb and effectively respond to a disruptive event and seize opportunities to grow during the interruption are critical to achieving both mission success and institutional survival (Fiksel, 2006; Kamalahmadi & Parast, 2016; Shaked & Schechter, 2017).

Two bodies of the literature of resilience provide the conceptual framework for this study. One is the empirically based identification by Marshall et al. (2020) of the four key action attributes of educational leaders' ability to work for student success during disruption; supplemented by related scholarship on crisis leadership (see Davis et al., 2015; Drysdale & Gurr, 2017; Kovoor-Misra, 2020; Shaked & Schechter, 2017). The other encompasses the scholarship related to concepts and methods developed by Annarelli et al. (2020) for detailed, qualitative study of static and dynamic responses to disruptive events (See also Annarelli & Nonino, 2016; Barasa et al., 2018; Mithani, 2020; Patriarca et al., 2018; Rose, 2004, 2007). Both inform the content and emphases of the chapters that follow.

As noted earlier, student success remains a term resistant to a standard definition from institution to institution. The literature addressing the effects of silo-based thinking tends to omit

the realization that factors driving student success are not isolated but interrelated, and that solutions must attempt to address them simultaneously. While the literature addresses double-loop learning, it does not apply that concept to the simultaneous application of static and dynamic resilience in a static-dynamic resiliency action loop. This was defined earlier as the speed at which improvisational capabilities are transformed into actionable solutions, communicated and institutionalized into the planning and preparedness processes, and then subjected to tests in the dynamic arena for validation or further refinement.

This study aims to address that gap in the literature with a close review of how one community college's leadership applied its brand of static-dynamic resiliency action loop methodology to mitigate the impact of the COVID-19 pandemic on student success at their Midwest community college.

CHAPTER 3

METHODOLOGY

This study seeks to identify how a community college's organizational resiliency during times of complexity, disruption, and uncertainty was called into play in efforts to positively influence student success. The methodology outlined in this chapter guided the gathering of data and evidence in support of this inquiry.

Research Rationale and Design

The researcher's study design meets the required criteria for a case study in that the COVID-19 pandemic is an unusual public interest situation that is also nationally important (Yin, 2018). The literature reviewed makes it clear that traditional ways of defining student success fitted to quantitative measures—e.g., graduation and curriculum completion rates—are questionable in general and almost meaningless under ongoing crisis conditions. The COVID-19 pandemic reality is falling enrollment and grade point averages, delayed graduations, and heavily burdened students on the lower end of socioeconomic spectrum (Aucejo et al., 2020; Marshall et al., 2020). The literature establishes a need for non-linear thinking and significant resiliency practices to meet the challenges and negative impact of the COVID-19 pandemic on student success (Drysdale & Gurr, 2017, Gurr & Drysdale, 2020; Marshall et al., 2020). That is what shapes this research design.

The research focuses on identifying practices of static and dynamic resiliency, the two core components of organizational resiliency (Annarelli et al., 2020; Annarelli & Nonino, 2016; Rose, 2004, 2007), as adopted by the sampled population during the COVID-19 pandemic. As discussed in Chapter 2, resiliency is challenging to measure (Ruiz-Martin, 2018), a fact that limits the benefit of quantitative and mixed-method approaches (Roberts, 2010) and points to a

qualitative research design. This qualitative research framework follows the dimensions developed by Annarelli et al. (2020) to assess static and dynamic resiliency characteristics: (a) adaptability, (b) reliability, (c) agility, (d) effectiveness, (e) flexibility, (f) recovery level, and (g) recovery time.

Creswell and Poth (2018) suggest that a social constructivist perspective is consistent with the researcher's goal of drawing conclusions from interviews and the expressed views of community college leaders, faculty, students, and staff. The social constructivist philosophy of "reality being socially constructed" depends on the observations of the investigator and participants in the activity being observed (Merriam & Tisdell, 2016). Further, Yin's (2018) process of using corroboration to uncover confirming or contradictory interview data (opinion) supports the social constructivist approach of rigorously scrutinizing perceived knowledge.

Methods

As Rubin and Rubin (2012) and Yin (2018) recommend, this research relies upon multiple data sources— interview responses of 10 college leaders to interview questions, surveys, and college documents as described below.

Creswell (2014) summarizes practical advantages of a qualitative dissertation researcher using interviews and documents: (a) ability to validate documented historical information during interviews; (b) allowing the researcher to control interview questioning; (c) ease of access for both documents and interviewees. Qualitative case study research questions ask how and why (Baxter & Jack, 2008; Creswell & Poth, 2018; Miriam & Tisdall, 2016; Yin, 2018). This research project called upon the above multiple sources of data to enable interviewee flexibility in answering semi-structured, open-ended interview questions (Pearson et al., 2015).

Participants, Data Sources, and Sampling Plan

The researcher purposely selected one Midwest community college from the population of Midwest community colleges due to its prominence in the community. The college was also willing to make sufficient numbers of senior-level faculty and staff available for the study to arrive at saturation. The researcher interviewed ten leaders—the college president, seven senior executives, and two deans—using the Interview Protocol summarized below and included as Appendix A.

Additional data comes from student, faculty and staff responses to the college's surveys; public statements and documents; strategic plans; federal/state policy documents; and other available internal documents; and scholarly and professional literature and expert analysis of current events. These data sources provide the best opportunity for a high-quality case study (Fusch et al., 2018; Yin, 2018). The researcher excluded a review of social media of the sampled college community, agreeing with. Yin (2018) that relying on data from social media sources introduces questionable reliability and validity issues.

Research Questions

Barnard (as cited in Fusch & Ness, 2015) suggests that although defining saturation in qualitative data collection is difficult, the researcher should ask multiple interviewees the same questions, the goal being for researchers to "take what they can get" while maintaining consistency among themes (as cited in Fusch & Ness, 2015, p. 1409). This researcher suggests that different perspectives from differently positioned interviewees and the potential vagaries of memory also argue for repeating the same questions.

Interview questions were crafted around the general question, "How did the organizational resilience of a Midwest community college impact student success during the

COVID-19 pandemic?" The questions follow Creswell and Poth's (2018) recommendation of segmenting the general research question into sub-questions. The sub-questions examine the college's actions within the static and dynamic resilience framework by querying student success measures and the key, success-related elements of learning modalities, student engagement, and socioeconomic concerns. Further, interviews were structured to ask participants to talk about their actions on all these matters first before and then during the COVID-19 pandemic. Semi-structured, open-ended questions enabled interviewees to provide the detailed answers necessary to obtain richness of data (Creswell & Poth, 2018: Fusch & Ness, 2015; Rubin & Rubin, 2012). For the Interview Protocol, please see Appendix A.

Data Collection and Analysis

The researcher's primary instrument was the questions used in the interviews of the senior college faculty and staff. See Appendix A. The main research question, the sub-segmented main research questions, and any follow-on or probing questions were designed solely by the researcher. There was no use of questionnaires or other instruments from other researchers (Creswell & Poth, 2018). As noted previously, the researcher also collected hard copy and digital documents germane to the case topic.

The interview tool was Zoom audiovisual conferencing software, a program allowing researcher and participant to see each other in real-time, converse, share screens, and record the session.

The primary analytic tool was NVivo coding software, a product of QSR International used by "health, government, non-profit, academic and commercial researchers" (QSR, 2020). The researcher used the latest version of NVivo Windows released in March 2020 to analyze interview transcripts and selected documents in order to correctly identify and code categorical

themes (Saldaña, 2016). Standard home office space, computers, printers, and audio recorders support the data collection and analysis tools.

Data Collection Processes

The Franklin IRB is the governing research proposal authority. As noted above, the researcher used multiple data sources to provide the best opportunity for a high-quality case study, following Yin's (2018) recommended four principles to guide data collection practices: (a) using multiple sources of evidence, (b) creating a database for individual cases, (c) maintaining the integrity of all the original evidence, and (d) using skepticism when considering social media content. As noted, the researcher excluded the last as evidence.

The primary discovery source was the selected senior community college leaders. Zoom audiovisual recordings documented the ten different interviews, each of which lasted between thirty minutes and an hour. This collection process was repeated for each interviewee. Follow-on interviews were not necessary. Telephone recordings were not used. In addition, the researcher used Creswell's (2014) suggested observation protocol: compiling hand-written notes during the interview, recording the interview setting, date, time, and the researcher's extemporaneous thoughts or "ah-ha moments" during the interviewee comments.

Each interview was initially transcribed first by Zoom audio recording software. The Zoom recordings were transcribed by both Franklin University and the cloud-based NVivo transcript application. The researcher offered each interviewee the opportunity to review and correct the transcripts. As noted below, this method of member-checking transcripts promotes reliability and reduces the possibility of researcher bias (Yin, 2018). Member-checked, post-interview transcript amendments were resubmitted to the NVivo software for thematic analysis. The initial interview and the member-checked transcripts were maintained separately, were

submitted separately for NVivo thematic examination, and were and filed separately. The researcher reviewed the transcripts for accuracy, amending them as necessary for accuracy. Data aggregation facilitated confidentiality.

This research also involved documents. First, source articles and documents were accessed through databases maintained at the Franklin University Library, libraries associated with Franklin University and the researched college. Next, the documents were cross-checked for references to additional works of merit and used to validate primary source assessments of secondary sources.

The extant literature formed the basis for the open-ended interview questions. Literature collection aligned with the major research questions of student success and organizational resiliency. Student success topics were divided into sub-themes of learning modality, student engagement, and socioeconomic considerations. Organizational resiliency research focused on the entire concept and, after close review, resulted in an interview process with a conceptual emphasis on planned/static and adaptive/dynamic resiliency processes in the interview questions.

Content on established, critical performance indicators of student success and organizational resiliency topics came from review of the researched college's strategic/vision plan. Reference and contextualizing materials were guidance and public policy from various state departments of higher education and the Higher Learning Commission. After review of available internal financial and institutional effectiveness documents and databases, some data has been used for this dissertation, with institutional permission. The college also provided copies of employee and student surveys conducted during the COVID-19 pandemic. These documents were used in conjunction with the coded interview results during data analysis, validation, and triangulation.

Data Analysis Processes

The analytical plan relies on the accuracy validation protocol of "collecting, organizing, transcribing, and coding the data by themes or description, integrating the themes and descriptions, and then interpreting the correlation" (Creswell, 2014, p. 197). Yin (2018) advises concentrating on processes and outcomes presented in the data as the basis for grouping how and why answers into patterns. Each transcript was hand-annotated with top-level topical summaries of responses, as recommended by Roberts (2010) and Yin (2018). The researcher also created Excel matrixes to record both common and contradictory themes evident in the data (Yin, 2018).

These results were the basis for preliminary thematic codes (categories), yielding a selection of five to seven recurring themes as preliminary categories for review (Creswell & Poth, 2018). NVivo commercial software then analyzed the transcripts, video and audio recordings, and documents using the preliminary word patterns and aligned discovered themes to code the data.

Reliability, Validity, and Researcher Bias

Multiple accepted practices help to ensure reliability and validity and to mitigate the risk of researcher bias. First, this researcher followed the accepted practice of using a standard Interview Protocol to conduct each interview (Creswell & Poth, 2018; Merriam & Tisdell, 2016; Roberts, 2010; Yin, 2018). See Appendix A.

Besides using the Interview Protocol, the researcher followed Yin's (2018) recommended processes for maintaining a case study database, multiple sources of evidence, and a chain of evidence, which included the Zoom transcripts and recordings. Those practices encompassed: (a) researcher's notes, (b) tabular materials such as internal reports and documents, and (c) semi-

structured, open-ended research questions aimed at evoking rich and detailed interviewee responses (Yin, 2018).

As to validity, Creswell and Poth (2018) recommend a minimum of two strategies designed to ensure the accuracy of interview transcripts while at the same time helping to reduce researcher bias (Creswell, 2014; Roberts, 2010; Yin, 2018). This researcher followed that advice. First, after using purposeful sampling of interviews to yield recurring themes that facilitate generalizability the researcher (a) filtered interpretations that might result from the personal bias and (b) used detailed category descriptions, which help discover evidence to the contrary or question the validity of data already presented (Creswell, 2014; Creswell & Poth, 2018; Merriam & Tisdell, 2016).

Yin recommends triangulation as the first of two steps establishing validity. This researcher used the data corroboration strategy of triangulating interviews, literature, and document content. (Creswell, 2014; Creswell & Poth, 2018; Golafshani, 2003; Yin, 2018). Member checking, Yin's recommended second step for establishing validity, involves each interviewee checking their transcript for accuracy and triangulation and fully exploring discovered points of intrigue (Creswell & Poth, 2018), discussed below. The researcher offered this to interviewees as a method of identifying interview findings the researcher might misconstrue (Yin, 2018).

Further, Creswell and Poth (2018) recommend taking at least two perspectives in reviewing data, one from the researcher's perspective and one from the interviewees' perspectives. They also advocate adding a reader or reviewer perspective as a third validation strategy. The researcher's committee chair and committee members filled this role. From the researcher's vantage point, this strategy is perhaps the most important in validating multiple

sources of data. The researcher also found Creswell's (2014) outline of sources of possible interview biases a good touchstone: (a) different perspectives from different interviewees on the same issue, (b) this researcher's bias on the subject issue, and (c) interviewees skewing indirect data sources in their responses.

The discovery of themes was reviewed throughout the study for validity as "points of intrigue," which are simply "disconfirming evidence" (Creswell & Poth, 2018, p. 261). In addition to seeking these points of intrigue and finding none, the researcher was transparent about past experiences and their potential effect on data analysis (Creswell & Poth, 2018). These experiences include:

- extensive experience with organizational resiliency in both the public and private sectors
- three years of service on a community college staff, including the period from March to July 2020
- first-hand knowledge of direct support actions required of college facilities and operational practices due to the COVID-19 pandemic
- vicarious knowledge from staff briefings on some academic and IT aspects of the transition to one hundred percent distance learning.

Potential researcher bias was thus mitigated by the researcher's full disclosure of previous experience related to the individual case (Creswell & Poth, 2018). Follow-up and probe questions were not necessary to clarify and validate the themes presented (Rubin & Rubin, 2012).

Limitations

There is only one institution in the study and obtaining approval went smoothly. The most critical limitations are the voluntary nature of participation and the small, sampled population. The fact that only senior college officials and senior faculty were interviewed limited the discovery of disconfirming evidence from student points of view. The researcher also had to trust that the college's internal documents are accurate in their representations of fact.

Ethical Considerations

This researcher completed the CITI Training program on February 22, 2020, and a conflict of interest (lack thereof) certification with the research proposal submitted to the Franklin University IRB and to the participants' institution. The researcher has no financial or career connection to the subject community college or to the participant interviewees.

Using the trusted Zoom platform to conduct interviews guaranteed confidentiality via automatic encryption of the video recordings. Only the interviewee's device and the researcher had access to these cloud recordings. All interview transcripts were secured by the researcher in his home office.

Alphanumeric codes instead of names and community college affiliation secure interviewee confidentiality. Data aggregation provided further protection of identities and proprietary information. The college will not be given individualized data but may be provided with a copy of the study findings and recommendations if requested.

CHAPTER 4

DATA COLLECTION AND ANALYSIS

This study examines the contributions of static and dynamic resilience to sustaining student success in times of uncertainty, disruption, and complexity (Annarelli et al., 2020; Annarelli & Nonino, 2016; Rose, 2004, 2007). The following definitions of these key terms guide analysis:

- *Static resilience:* "Mostly based on preparedness and preventive measures to minimize threats in terms of probability of occurrence and potential impact" (Annarelli et al., 2020. pp. 1-2; Rose, 2004, 2007).
- *Dynamic resilience:* "More focused on the effective management of accidents and unforeseen events to shorten unfavorable aftermaths and maximize the organization's speed of recovery" (Annarelli et al., 2020, p. 3; Rose, 2004, 2007).

These concepts organize the researcher's investigation of decisions made and actions taken by ten leaders of a Midwest community college seeking to promote student success during the COVID-19 pandemic. The research provides insight into organizational and leadership resilience practices and their relationship to student success through thematic analysis of leader interviews contextualized by relevant literature, available official documents and website content, and summations of information submitted to the National Center for Educational Statistics (NCES).

The college provided publicly available statistics, strategic financial plans, educational standards, and faculty, employee, and student surveys that served as secondary data to triangulate the findings of the thematic interview analysis. Among these, the researcher relied heavily on public documents and the student survey. A third-party, professional business with specialized

skills performed the student survey, so there is inherent reliability in survey methodology, questions, and response collection. The same is true of the public documents.

Context and Description of the Sample

The Region

There are approximately 213 two-year community colleges in the Midwest region of the US. Fall 2019 session enrollment was 1.14 million students. This number fell to approximately 1.04 million enrolled for fall 2020 (NCES, 2022), a decrease of almost 9 percent.

The immediate geographical area around the college has seen a population decrease of three percent over the last ten years (United States Census Bureau, 2021). The following tables summarize demographic data for the local region and the college's students.

Local Demographics

Age	Under 18	18-64	65 & over
	24%	62%	14%
Gender	Female	Male	
	53%	47%	
Median income			
Family	$ 39,315		
Per capita	$ 21,484		
Poverty level or below	28%		
Education - High School Diploma	87%		
Ethnicity			
White, not Hispanic	48%		
African-American	37%		
Latina/o	6%		
Other	9%		

Table 2. Local Demographics (Census Reporter, 2022)

Student Demographics	
Gender	
Male	44%
Female	56%
Age	
24 years old and younger	65%
Older than 24 years	35%
Ethnicity	
White, not Latina/o	66%
African-American	14%
Latina/o	4%
Asian	2%
Other/unknown	14%

Table 3. Student demographics (NCES, 2022)

The College

The research is based in a single, large size community college in the Midwest with approximately 1,900 full- and part-time employees serving over 14,000 full-time-equivalent students enrolled in fall 2019 (NCES, 2022). Enrollment for the 2020 to 2021 academic year fell by approximately 1,000 full-time-equivalent students (NCES, 2022).

Over ten years, the college had already reduced non-valued added curriculum in its associate degrees and reduced the total hours required to graduate from 84 to 71. Retention, credentials received, and course success rates went up over seven years. Withdrawal rates were down, and credit hours received met timed-phase gates at a higher percentage over the same period. IPEDS graduation rates saw five-fold growth from 2005 to 2019. As the COVID-19 pandemic loomed, the college was on solid footing financially, academically, and organizationally. Its leaders had established good relations with community stakeholders and

maintained that relationship through interpersonal communication, feedback, and publicly available college literature. And the school had recently invested in a new student support facility, robust IT capacity with room to grow, an expandable instruction systems design capability, and a professional development program that included adjunct faculty.

The ability of the leaders of any college to respond to a crisis depends on the institution's financial health. The researched college receives state performance funding, public tax levies, and charitable contributions. During the course of this research, the federal government provided COVID-19 pandemic special funding under the Coronavirus Aid, Relief, and Economic Security Act (CARES), the American Rescue Plan, and Higher Education Emergency Relief Funds legislation. Already on solid financial ground, the researched college received an emergency COVID-19 funding supplement of approximately 50 percent of its FY2022 operating budget.

The Interviewees

The four female and six male interview participants are senior administration and faculty members, each of whose tenure began prior to the COVID-19 pandemic and continues into the present. One is the college president, seven are senior executives, and two are senior faculty. The researcher did not ask any of the interviewees their ages. Interviews were conducted via Zoom teleconferencing from mid-December 2021 to early March 2022. Each interview lasted approximately one hour.

Interview Data Preparation

The researcher recorded interviews using the Zoom teleconferencing and transcribing applications and reviewed each transcript against the video and audio recordings to ensure that they accurately represented the actual interviewee comments. Each interviewee was invited to review the transcripts and make additions or corrections; only one opted to edit their transcript.

The researcher also edited the Zoom transcript to remove time markings in order to segment responses to the 11 individual interview questions.

Themes and Patterns

The 10 selected college leaders commented on the same 11 semi-structured, open-ended questions (See Appendix A), which together covered the topics of:

- Student success
- Instructional modalities
- Instructor-Student engagement
- Socioeconomic issues
- Enrollment, GPA, graduation, and socioeconomic impact trends during the pandemic
- Individual assessments of what went well or not so well during the transition to initial and continuing operations under pandemic conditions

Grouping the research questions into pre- COVID-19 pandemic and ongoing COVID-19 pandemic inquiries to provide a basis for comparison, the researcher used deductive and inductive methods to examine thematic patterns. The auto-code function of NVivo (Windows) software identified deductive themes in the interview transcripts. The deductive themes were often numerous because they were very focused and sometimes repetitive in overall content. For example, auto-coding provided breakouts for student success, success, measures, models, and variations of the term “little bit.” The researcher built descriptive, inductive themes around the scholarly literature’s static and dynamic resilience concepts. The researcher then annotated the interviews with the inductive and deductive themes discovered in the transcripts (Gibbs, 2018; Saldaña, 2016).

In the results for each interview question, deductive themes appear in figures as NVivo graphs. The tables display all themes, both inductive and deductive.

College Documents

The most notable theme discovered in the examination of college documents was foresight: approximately three months before the March 2020 state-directed school closures, the college's leaders anticipated the disruption of face-to-face classes and the need for 100 percent online learning and began planning contingencies.

The second most notable theme was a corollary to the first: ongoing leader-directed planning efforts to establish a sound basis for the college to effectively mitigate the impact of the COVID-19 pandemic on student success. Before and during the move to 100 percent remote learning, the staff and faculty conducted recurring planning meetings to brainstorm solutions to potential barriers to an effective transition and to reduce negative impacts on students.

In many ways, the two themes above rest on an earlier initiative: over the last decade, the college president led a staff and faculty committed to building a shared vision of student success. Ten years later, through the efforts of over 1,200 faculty and staff joining into collaborative work teams and project groups, as well as professional development events, the college has experienced a nearly continuous upward success rate in most of its strategic priorities (Strategic Plan, 2020-2025).

Interviews: Pre-COVID-19 Pandemic and Transition Focus

Q1. Student Success

The question: "How did you measure student success before the COVID-19 pandemic?"

Before the 41 states focused their measures of student success on graduation rates and curriculum completion (Ortagus et al., 2020). Interviewees reported that the college

administration's student success perspective relied on the state' PBF model and the equity model of Achieving the Dream (ATD).

The NVivo auto-code function presented these deductive codes for Interview Question1:

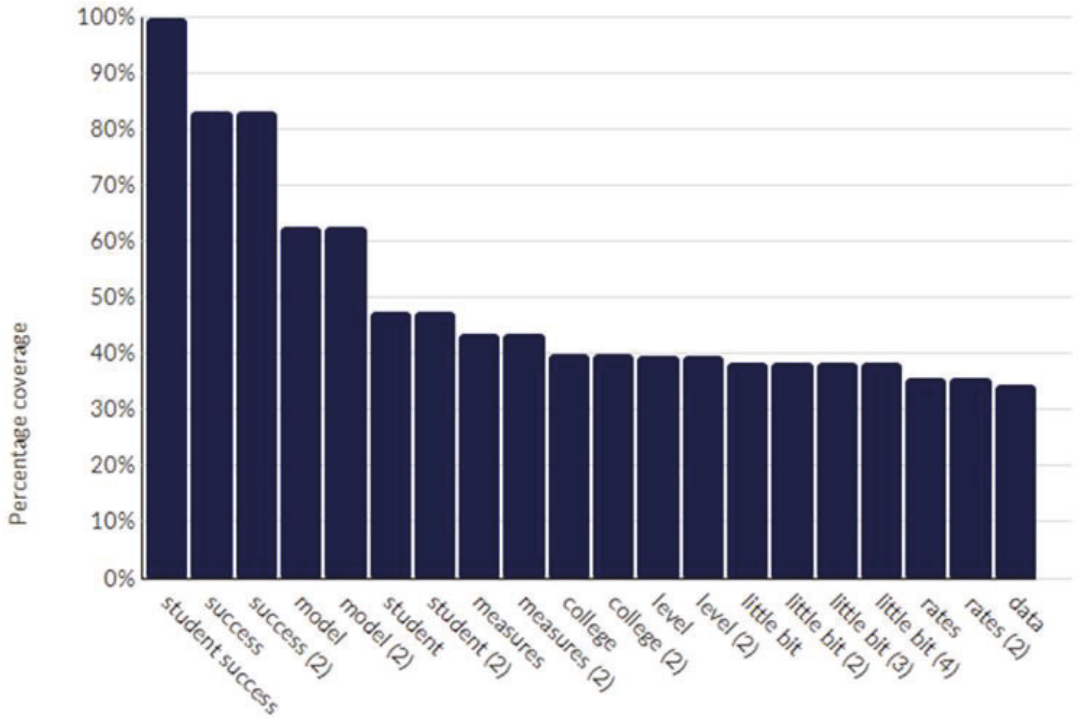

Figure 4. NVivo auto-code summary, Question #1.

The researcher identified the following thematic hierarchical framework:

Student Success
State Performance-Based Funding
Student Persistence
Time to graduate or credential
Graduation (degree), certificates
Non-developmental math & English
Total hours
Demographic Group Success
Achieving the Dream (AID, 2022)
Building stronger pathways to and through postsecondary education
Adopting a holistic, equity-focused approach to community vitality
Eliminating systemic barriers to student success
Fostering a sense of belonging through teaching and learning excellence
Leveraging data and analytics for institutional and community well-being
Inclusivity, diversity, and equality
Life Challenges
Child-care, grants, housing insecurity, food insecurity
Scholarships, affordable tuition
Free tuition for program completion classes

Table 4. Thematic Hierarchical Framework, Question #1

The state PBF model uses multiple measures to allocate available state funding based on an established algorithm. Those measures included the following:

- Course completion (expressed in Full Time Equivalent/s (FTE)
- Success points for hours completed and equity-based measures (Pell Grants, minorities enrolled, and college preparation)
- Associate degree and certificate awards (to include specific completion times)
- Transfers to four-year institutions

The college operationalized that guidance in its strategic plan. Interviewees added that, in addition to state and ATD measures of student success, the college also examined more granular characteristics. These were specific, discrete demographic characteristics of the student body

consistent with board and ATD guidance. Interviewee #1 characterized the state's PBF model as the core of the college's pre-COVID-19 pandemic student success measures while other socioeconomic factors were internally monitored. "We have a portfolio of student success measures like course completion rates, in fact, we follow," Interviewee #1 explained, "not exclusively following the state's performance based on the model." "There's a lot of data tracking going on with the college, we're–we're generally a pretty data-driven place. I would say, … we're tracking lots of different kinds of student success metrics," said Interviewee #6, citing specific trends such as, "how many students are being tutored and the success [of those interactions]."

In addition, in 2012 the college had established a specific initiative to increase the academic success of African American male students and success rates of African American males have jumped significantly since 2016.

Q2. Instructional modalities

> The question*:"* How did you plan your face-to-face, blended, and distance learning modalities prior to the COVID-19 pandemic?'
>
> Follow-up Q2a: "Which plans, or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?"

The NVivo auto-code function presented these deductive theme codes after summarizing answers to Questions 2 and 2a:

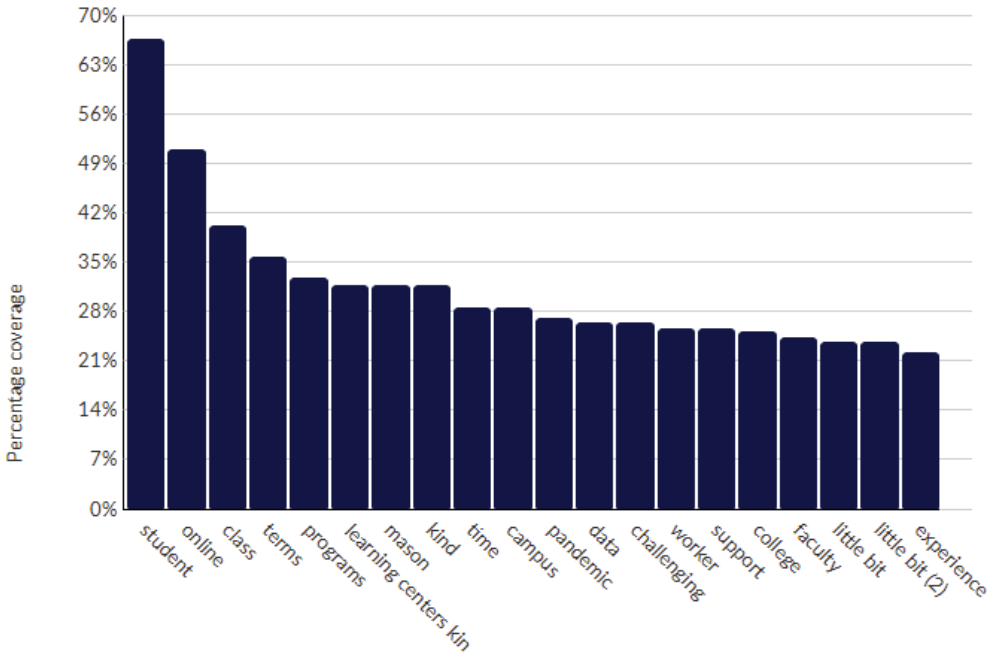

Figure 5. NVivo auto-code summary, Question #2.

The researcher identified the following thematic hierarchical framework for Question 2.

Instructional Modalities
Faculty availability/student demand driven
Seventy percent face-to-face, thirty percent online
Participatory, data-driven departmental modality decisions
Robust information technology (IT) infrastructure
Large financial investment
Expandable IT capabilities
Planning for more distance courses
Instructional system design (ISD) expertise

Table 5. Thematic Hierarchical Framework Question #2

Before the COVID-19 pandemic, the percentage of student enrollment in face-to-face as compared to online or hybrid courses was roughly seventy to thirty. While 30 percent may not

appear significant, Interviewee #2 stated that before March 2020, the college had 10,000 students enrolled in at least one online class. Interviewee #5 noted that the college had “15 to 20, fully online programs completely online” and estimated approximately 1,000 online sections available. This number equated to roughly “30 to 35 percent” of all sections before the COVID-19 pandemic. The most tenuous areas were health sciences and automotive technology programs. Once the state permitted on-site classes, however, the college was diligent about cleaning the in-person health services and automotive technology classroom spaces.

Student preference and available faculty who wished to teach in the online/blended arena drove delivery modality decisions. Interviewee #3 commented, "The main driver for our distribution of modalities …is primarily student-driven; it is on the consumption side." Interviewee #3 summarized the decision process: Each department chair was responsible for determining their department's instructional modality after considering faculty input, past student-preferred modality mix by course, and available staffing to successfully provide the course within the college's established academic quality guidelines. Interviewee # 6 characterized the process as "interactive," with decisions based on lessons learned and information from faculty and student feedback loops.

Before the COVID-19 pandemic, the college had invested in significant IT infrastructure with an eye toward future expansion, resulting in an IT network with bandwidth that exceeded demand. Interviewee #2 commented, “we were an institution that had a large financial commitment to distance learning technology for many, many years.”

In reference to Question 2a, participants made it clear that the college's instructional design team drove the online education program in response to the pandemic. Interviewee #2 commented, "we have a huge team of instructional designers. We have very solid, very smart IT

people who are in place. In March of 2020, [all] the things were in place." Interviewee #4 added: "We have this entire division…that was already, essentially stood up, trained, and ready to go when we had to convert about 3,004 sections in 10 days from face-to-face to remote or online instruction."

Q3. Instructor/student engagement

The question: "How did you plan your instructor-student engagement programs prior to the COVID-19 pandemic?"

Follow-up Q3a: "Which plans or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?"

The NVivo auto-code function presented 98 codes after summarizing ten replies to the Questions 3 and 3a. The following figure is a summary:

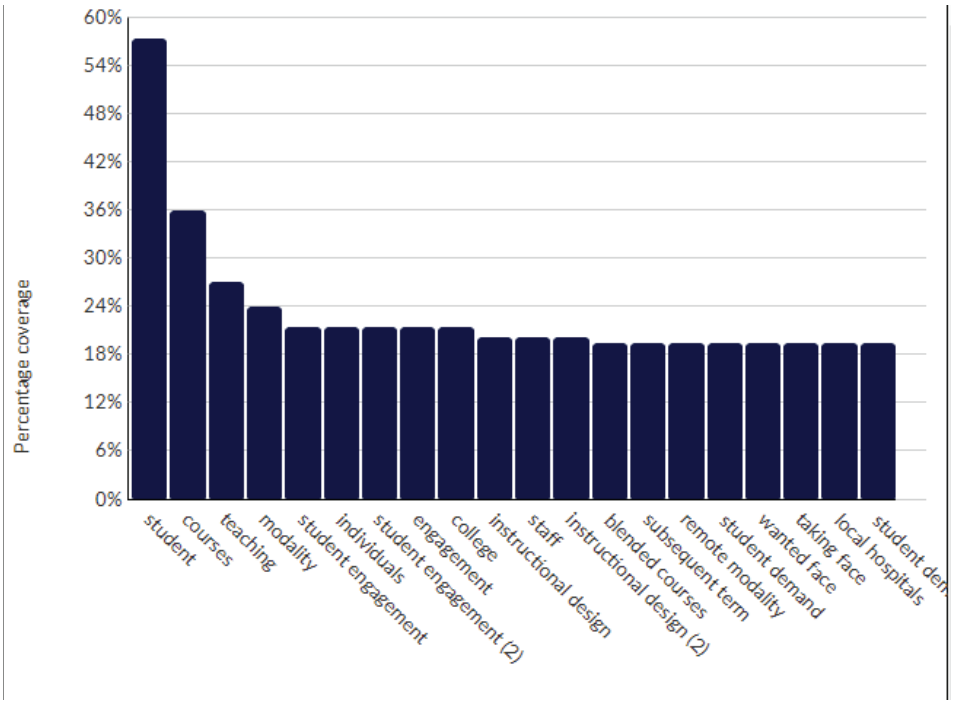

Figure 6. NVivo auto-code summary, Question #3

The researcher identified the following thematic hierarchical framework.

Instructor-Student Engagement
Teaching and Learning Continuous improvement Outside Classroom Activities: e.g., guest lecturers Outside Classroom Activities: personal needs Instructor Training Division Instructional System designers

Table 6. Question #3 Thematic Hierarchical Framework

Interviewee #1 said the college has a long-standing commitment to continuously improving student engagement, commenting that "we were one of the founding nine colleges, 20 years ago, in a community college service for student engagement."

The college's instructor development program uses various methods to encourage student engagement, some focusing on diversity, equity, and inclusion. Regular faculty as well as approximately 500 adjunct professors participated in the college's professional development program. Interviewee #5 noted how the program responded to the pandemic, saying "[The instructor training division]… focused heavily on supporting students through the pandemic…. the faculty created programs…brought in [national level] guest speakers." Interviewee #5 summarized the college's efforts this way **:** "We create that sense of belonging….We try to mirror that in the online environment as well…faculty go through a teaching online course … and learn how to create a sense of belonging."

As Interviewee #2 noted, "We've always had a focus on what a student needs outside the classroom with a food pantry" and that continued as part of the college's mitigation efforts in the face of pandemic food insecurity. During the pandemic, the college continued established efforts to educate professors, especially adjunct professors, on support services available to their students. Interviewee #8 commented: "We … consistently try to support instructors [to] engage

[students], to help make sure that students are aware of all the support services that are available." These support services were critical to minority students due to the COVID-19 pandemic's disproportional adverse impact on their opportunities for academic success.

COVID-19 pandemic-driven health precautions and practices necessitated restrictions on outside-of- classroom activities, including such programs as local employer recruitment fairs and competency-based education fieldwork. Interviewee #7 gave an example: "We fund an annual… trip where… social work students travel with their professors to the US-Mexico border. And they do social work with immigrants and migrants at the border. That didn't happen."

An important aspect of supporting student engagement was the college leaders' emphasis on cooperation and collaboration across the college's departments, specifically between staff, instructors, curriculum developers, and instructor trainers. Interviewee #4 commented, "It's so incredibly important to meet the requirements of regular and substantive interaction and all these other elements that exist in a distance education space that doesn't exist in the same way in face-to-face spaces." Accordingly, professors familiar with and proficient at online teaching acted as mentors for instructors less experienced in the nuances of distance education as well as subject matter experts for course modality conversions.

Q4. Socioeconomic issues

> The question: "How did you plan support for student socioeconomic programs prior to the COVID-19 pandemic (race, gender, inclusivity, finance, food security, and shelter)?"
>
> Follow-up Q4a: "Which plans, or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?"

The NVivo auto-code function presented 125 codes after summarizing the ten replies to Questions 4 and 4a. The following figure is a summary:

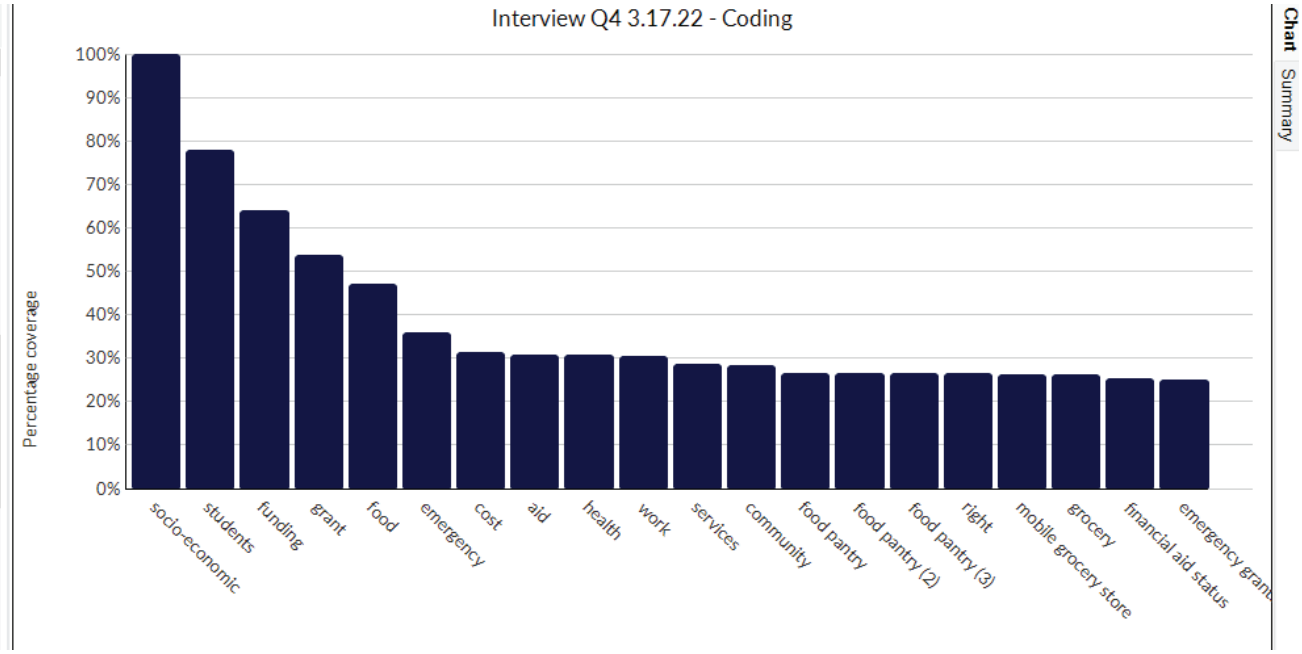

Figure 7. NVivo auto-code summary, Question #4**.**

The researcher identified the following thematic hierarchical framework.

Socioeconomic Issues
Existing social programs
African-American males
At-risk students
Technology
Health
Strategic plan

Table 7. Thematic Hierarchical Framework, Question #4

The college already had an established student socioeconomic support program tied to enabling student success. As Interviewee #6 put it, “We had started many programs to support students with... a variety of life and financial issues." Interviewee #9 gave an example: "We have had a very aggressive scholarship program or funding available to students across an array of situations where life gets in the way." Interviewee #4 observed that, "As a community college,

we are more equipped to create actionable policy and process concerning things like food insecurity and social service needs or referrals or networks outside of our institution."

Answering the follow-up question about existing plans or programs the college brought forward in the pandemic, Interviewee #6 said, "During the pandemic we added to that or intensified that support… we've given out… over 1000 laptops and [Wi-Fi] hotspots. We increased [student] mental health [and] increased capacity for counseling." This participant added that in total, with the help of federal emergency funding, the college distributed more than $500,000 USD over two semesters spanning the academic years 2020 and 2021.

Q5. What went well in transition to pandemic operations

The question was: “Overall, what went well and what did not work as well? Why? What would you change, if anything? Why? Do you have any more to add?”

The NVivo auto-code function presented 135 codes. The following figure is a summary:

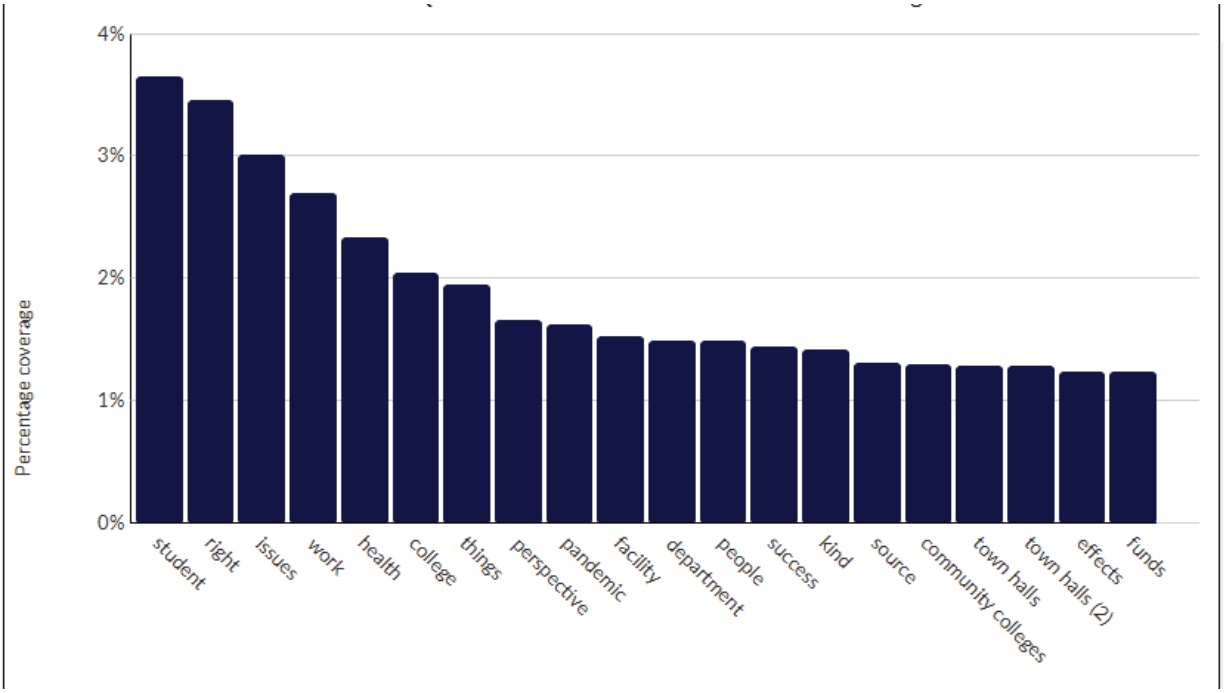

Figure 8. NVivo auto-code summary, Question #5

The researcher identified the following thematic hierarchical framework:

What Went Well
Changed Culture
Increased Student Acceptance of E-Learning
Communication
Planning
Flexibility/Agility
Eighty/twenty (Free to Fail)
Hybrid/Remote Working Arrangements
Employee Value
Financials
Continuous Improvement
Health

Table 8. Thematic Hierarchical Framework, Question #5

Participants affirmed the college's anticipation of and preparation for the disruptive potential of the COVID-19 outbreak by the later part of January 2020. Interviewee #1 commented, “We were ahead of most organizations. We started our first planning group on February 1, 2020." Interviewee #2 added: “The jumpstart we got on the planning process was important that...was really helpful.”

Interviewees often cited internal communication processes as going well. Those processes built on the impetus gained in the college's preplanning stages and were seen as critical to enabling agility, flexibility, and innovation. The degree and specificity of messages promoted teamwork and a “make it happen” posture among all concerned. Interviewee #2 described some communication processes instituted early in the pandemic:

> We started putting out videos as town halls…we did college-wide webinars, students and employees would hear from the President and from the Provost “…here's what we think we're doing right now here's what we're looking at [doing].”

Positive mentions of flexibility and agility were prominent during interviews. Interviewee #8 stated “We have to be flexible; I mean it seems like every time we're moving forward…then there's new challenges thrown our way and it's caused us to slightly change directions.” Interviewee #9 observed, “This is, you know, a credit to our employee base I would say, was just an ability to quickly pivot and be very flexible and fluid, with everything that was going on. I mean, we didn't really hear a lot of complaints.” Interviewee #3 commented on staff and faculty innovative responses, streamlining, and adapting processes driven by the need to work remotely. On streamlining, Interviewee #3 said, “We've been remarkably adaptable...it took a precipitating event…. When there is no alternative…when you can't have people in the office to move the paper.”

In one comment on excess IT capacity, ability to meet student financial and technology needs, and ability to provide mental health services to students, Interviewee #6 observed: “We for years have been doing various projects to better understand our needs are student needs. We were pretty tuned into being aligned with… the folks that we were serving.”

Interviews: Pandemic Focus

Q6. Student Success

The question: “How did you measure student success during the COVID-19 pandemic?”

The NVivo auto-code function presented 22 deductive codes after summarizing the ten responses to Question 6. The following figure presents a summary:

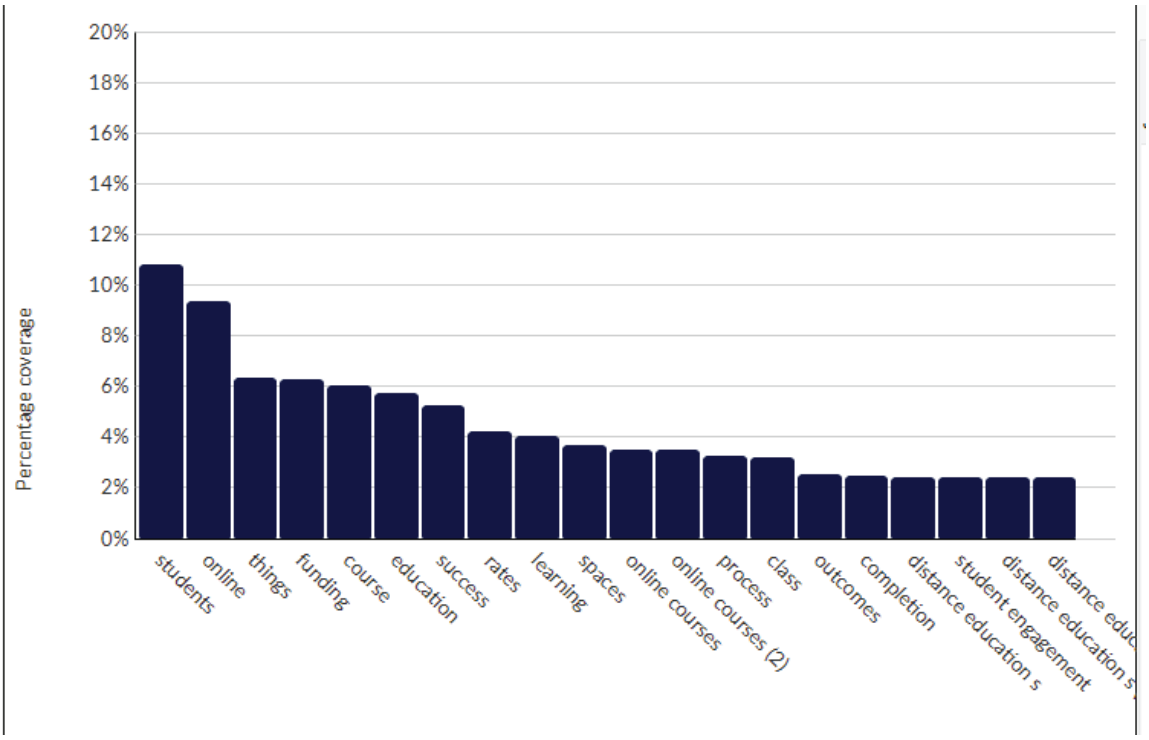

Figure 9. NVivo auto-code summary, Question #6.

The researcher identified the following thematic hierarchical framework:

Student Success
State Performance Based Funding (PBF)
Completion funding
Extended course completion timeframes
Completion scholarships
Socioeconomic considerations/equity gap funding
Equity gap-mitigating scholarships
Health

Table 9. Thematic Hierarchical Framework, Question #6

The college maintained its focus on the practical necessity of monitoring state PBF metrics as well as their own internal data. But the pandemic brought added emphasis on even more granularity in student success factors, disaggregating such socioeconomic sub-factors as children under 18 in the home. According to Interviewee #6, " We're still using the same metrics. We're just aggregating that by different variables like race, gender, and income…. We're well aware of equity gaps and working to address those."

Analytical review of student success in different modalities was also ongoing. Interviewee #9 commented, “We're looking… a little bit more on demographics–cutting it a little bit more on the different modalities that we've offered classes and if we've seen different success measures in face-to-face classes…versus totally online classes, versus a hybrid,” adding, ‘…to see, you know–are we seeing our online students are succeeding at, you know, 70 percent or in–our hybrid students at 75 and our face-to-face at 82…. What is the data telling us?”

That is not to say the focus of increased granularity resulted in less emphasis on a holistic approach to ensuring student success. Some success-relevant measures during the COVID-19 pandemic were entirely new. Interviewee #2 summed up the new perspective regarding health data: "We had to look at some different things than we did beforehand…it's a different dynamic, we cared very much about our [COVID-19] positivity rate….it was not a construct that existed before." In a comment related to their data-driven practices, Interviewee #5 talked about monitoring food banks, emergency grants and loans, and students in face-to-face and online tutoring. Interviewee #5 stated, “We also started measuring how many students were going to the food bank, how many… needed…an emergency grant or emergency loan and started to measure more of the wraparound services, how many people went to tutoring. Did they go to online tutoring, if so, what prompted them to get there”?

Perhaps the key, success-relevant discovery during the pandemic was the impact of the COVID-19 pandemic on student stress. “We did surveys of students to try to see what their needs were,” said Interviewee #2, “ and mental health thing jumped off the charts there, too. I mean, it was just that that was always like a bubbling thing that simmered under the surface in previous surveys before the pandemic and then it was just an explosion” (Interview #2).

As emergent issues arose as a result of lessons leaders learned during the ongoing pandemic, they added to their list of internal success measures. Interviewees #5 and #6 noted that, reacting to a drop in enrollment by students of color in fall 2020, the college instituted scholarships for recent minority high school graduates to boost the students of color population. Interview #6 described it: "We saw a drop-off– pretty significant drop-off and students who are coming right out of high school...so we put in place a scholarship... with the school district... to incentivize students for this fall, to kind of recover." The college effectively supplemented pre-established external and internal key performance indicators (KPIs) with additional internal KPIs.

Q7. Instructional modalities

The question: “Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following: face-to-face, distance learning, and/or blended classes?”

The NVivo auto-code function presented 146 codes after reviewing the ten answers Question 7. The following figure presents a summary:

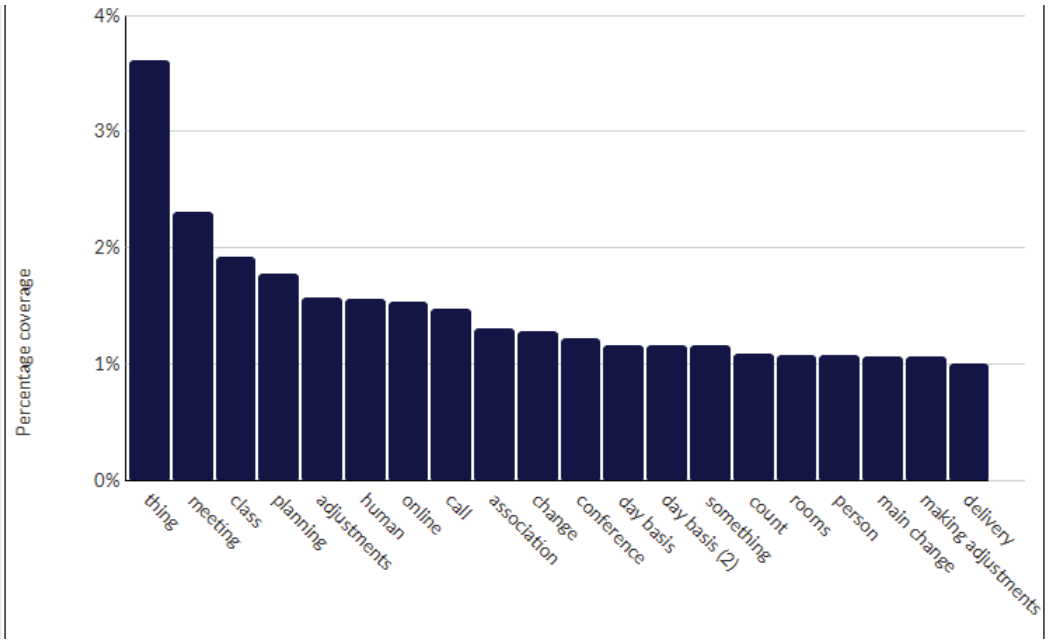

Figure 10. NVivo auto-code summary, Question #7.

The researcher identified the following thematic hierarchical framework:

Instructional Modalities
Enrollment mitigation
Planning
Two week break
Flexibility/change agility
Integrating response to socioeconomic issues
Technology
IT surplus hardware, capacity, staffing

Table 10. Thematic Hierarchical Framework, Question #7

After the state governor's direction to shut down public places, at the end of March 2020, the college leaders decided to take a two-week break from all classes. This gave faculty and staff the opportunity to assess the situation and implement appropriate courses of action. At first, there was a dramatic change in the ratio of face-to-face to online instruction: from 75 percent to 25 percent to 0 to 100 percent. Later in the COVID-19 pandemic, around fall 2020, that moved to 75 percent remote and 25 percent in-person; now, approximately 60 percent of classes are remote compared to 40 percent in-person, according to Interviewees #1, 4, and 8. Interviewee #9

commented on preparation for resuming limited face-to-face classes: "We had our assumptions early on about cap sizes for classes based on social distancing. Our approach was kind of mirroring CDC guidance."

Concluding a comment, Interviewee #5 said, "…so there were some tough decisions. But that investment we made in e-learning really saved us." Interviewee #1 recalled that after shutting down for two weeks, "We were able to open, again, 9-10 days later, with everyone at a distance.... We were able to stay a couple weeks ahead, to get things going. So that is how we got to 100 percent."

When COVID-19 pandemic's severity caused the switch to all remote instruction, the college reallocated employees to the distance learning division and hired additional instructional system designers to meet the unprecedented surge in online course development and instruction requirements. Interviewee #10 commented on challenges during the process of moving to total online instruction. "One adjustment that we've made was not being utilized at all pre-pandemic– is using video streaming features, now we have a site license for our entire college …we not only use it for instruction…we use it for meetings and administrative work."

Interviewee #10 also noted that the college had minimal pre-COVID-19 pandemic tutoring capability. All students now have access to embedded coaching and tutor support. Pointing to another dimension of closing modality gaps, Interviewee #4 commented on how the college modified instructor training based on lessons learned under COVID-19 conditions:

> "We have actually made leaps and bounds…in the last year. We created training tracks… related…to what we knew were gap areas for faculty in delivering online or digitally enhanced courses."

The college's work on instructional modalities expanded to include considerations not identified as significant before the COVID-19 pandemic. Students who do not have internet access, laptops for online course attendance, access to private spaces or childcare at home all require special consideration from the college administration. Interviewee #4 commented on the daily change in perspective during the early stages of the COVID-19 pandemic: "I think one of the big things that changed was a very granular focus on keeping students enrolled…it became a much more personalized pursuit of helping students remain engaged in their classrooms,"

Q8. Instructor/student engagement

The question: "Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following areas: faculty instructor-student engagement guidance and programs?"

The NVivo auto-code function presented 67 codes for Question 8. The following figure provides a summary:

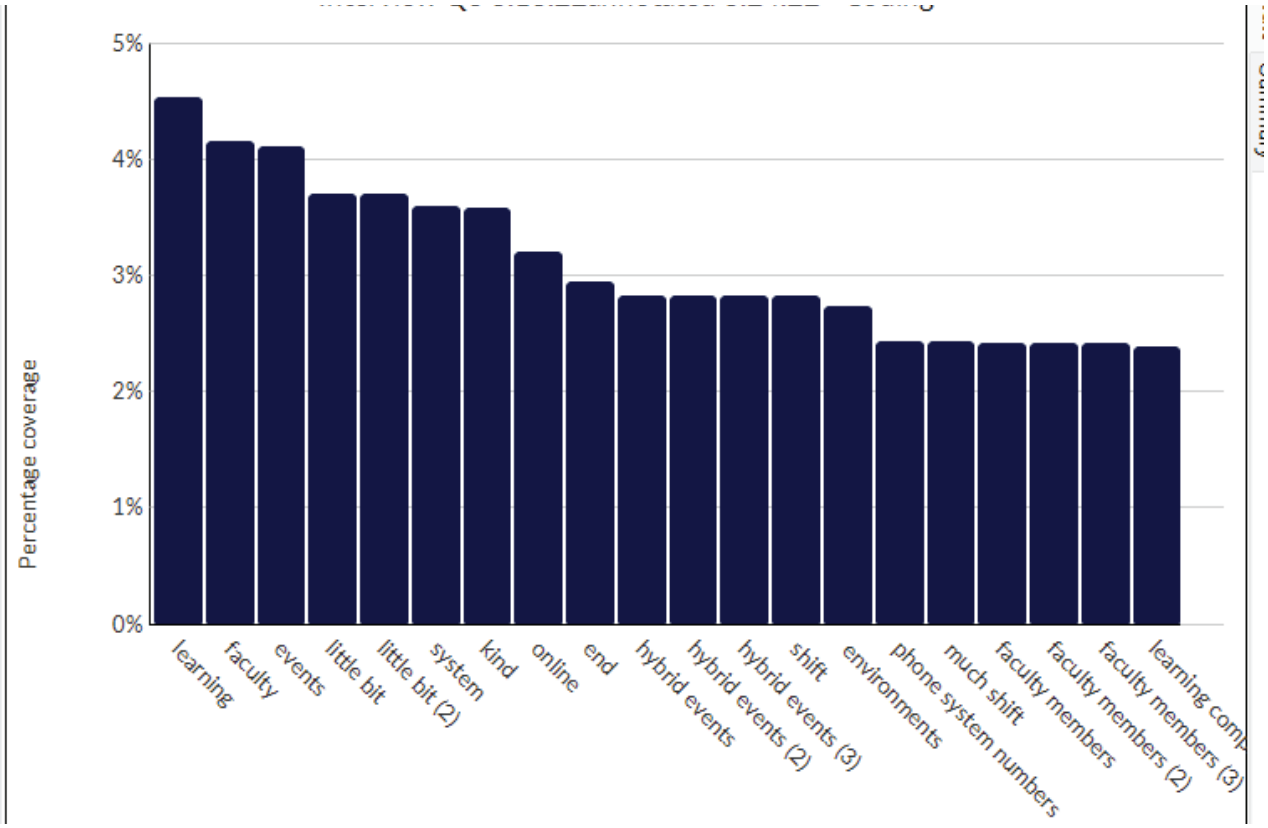

Figure 11. NVivo auto-code summary, Question #8.

The researcher identified the following thematic hierarchical framework:

Instructor/Student Engagement
Teaching and learning
Modalities
Continuous improvement
Decision process
Eighty/twenty (free to fail)
Job redeployment
Communication
Health

Table 11. Thematic Hierarchical Framework, Question #8

Interviewee #2 stressed the importance of communication, citing feedback loops in the continuous improvement process: “We did do an okay job ahead of it to get instructor buy-

in...during the initial planning stages.... Once we actually got there, we did do a lot of asking people how it was going." The college "tried to keep open lines of communication with the faculty, provide … support so they can keep going," reported Interviewee #6. Critical to this effort was acting on feedback from experienced online instructors, as Interviewee #9 commented: "We asked…. how did the instructors who have effectively used the technology and had good outcomes, how did they teach the younger faculty colleagues?"

Another critical action was the college president telling staff and faculty to aim for 80/20 solutions, that is, 80 percent confidence in the outcome of any decision or attempt to try something new. His intent was to eliminate delaying decisions, to avoid analysis paralysis and instead give faculty and staff the confidence to experiment and the freedom to fail in order to learn.

Q9. Socioeconomic issues

> The Question: "Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following area: support for student socioeconomic programs prior to the COVID-19 pandemic (race, gender, inclusivity, finance, food security, and shelter)?"

The NVivo auto-code function presented 67 codes after summarizing responses to Question 9. The following figure presents a summary:

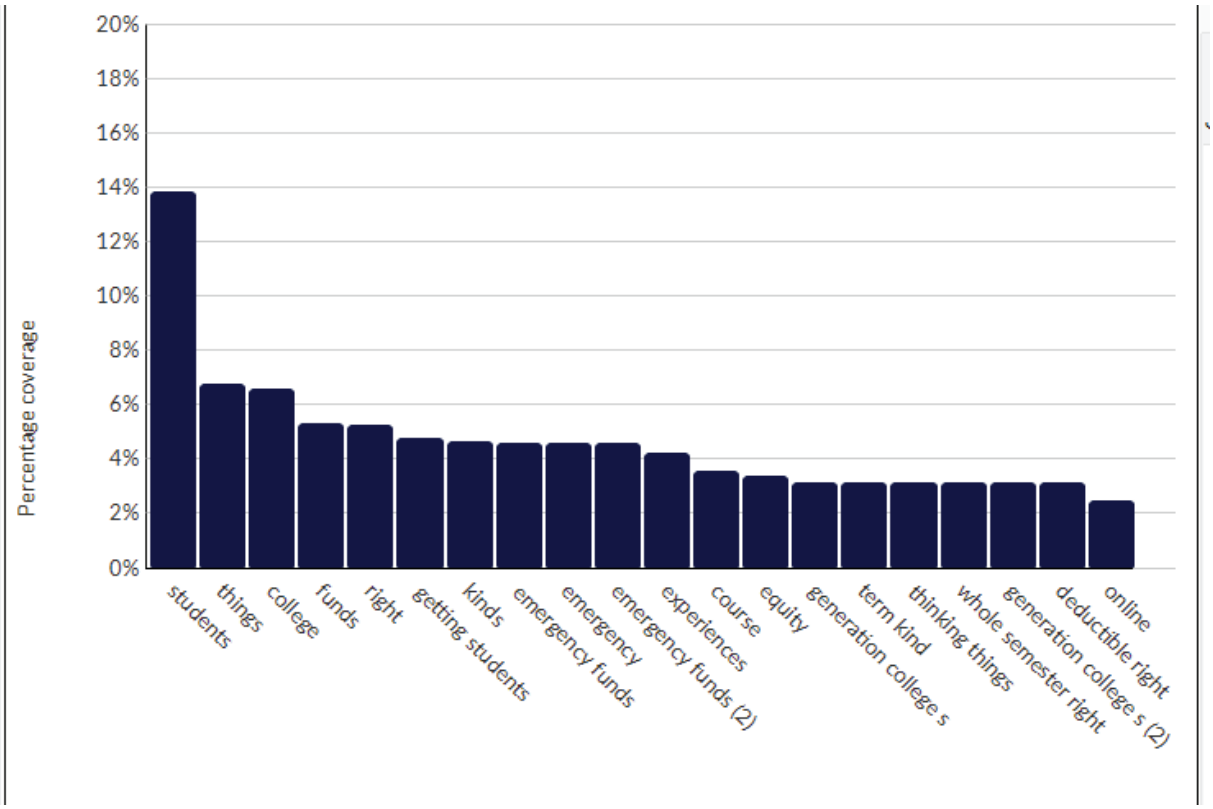

Figure 12. NVivo auto-code summary, Question #9.

The researcher identified the following thematic hierarchical framework:

Socioeconomic Issues
Existing social programs
African-American males
At-Risk students
Digital Equity
Agility/Flexibility
Redeploying employees
Technology
Modalities
Online coaching/tutoring
Health
Communication
Best practices
Strategic plan

Table 12. Thematic Hierarchical Framework, Question #9

As mentioned earlier, the COVID-19 pandemic exacerbated existing challenges minority and low-income students had. Their needs became more acute. The college already had an emergency loan program, but Interviewee #5 pointed out that they redeployed workers to accelerate financial aid and grant processes. That same leader identified the college's help as essential to students "throughout the pandemic who were losing their jobs as they had to cut back on work because of childcare issues."

Additionally, leaders identified a need to review online program development to ensure equity for all the students and established a new rubric to guide course development. Interviewee #4 commented, "I think the pandemic spotlighted the…varying experiences students have [with] online spaces and we were able to … create a digital equity team." The expanded access to online tutoring and coaching was also important to these students.

The college acted to mitigate the life challenges students were experiencing in food insecurity, as well, by expanding access to the food pantry on the main and satellite campuses. Interviewee #5 stated, "We had a food pantry brought to our campus instead of making referrals somewhere else. The faculty and staff contributed, and we got other funding philanthropy." Even with that active expansion, food insecurity remains a reality for the students at the low end of the socioeconomic spectrum (Student Survey, 2022).

Aware of increased student stress during the pandemic through their own internal monitoring, leaders found and acted on the need for more counseling options, especially for mental health issues. Interviewee #6 noted, "We added 24/7 counseling for students so that they could any time of the day pick up the phone and get mental health support." Interviewee #6 put a finger on a problem: the college found that students were no longer seeking as much mental health support as the pandemic progressed and attributed this to ineffective outreach

communications, commenting that, “We have to get better and better at making the right information available to the right students at the right time.”

Q10. Successes in the transition to pandemic operations

The question: “What went well and what did not work as well? Why? What would you change if anything? Why? Do you have any more to add?

The NVivo auto-code function presented 92 codes for answers to Question 10. The following figure is a summary:

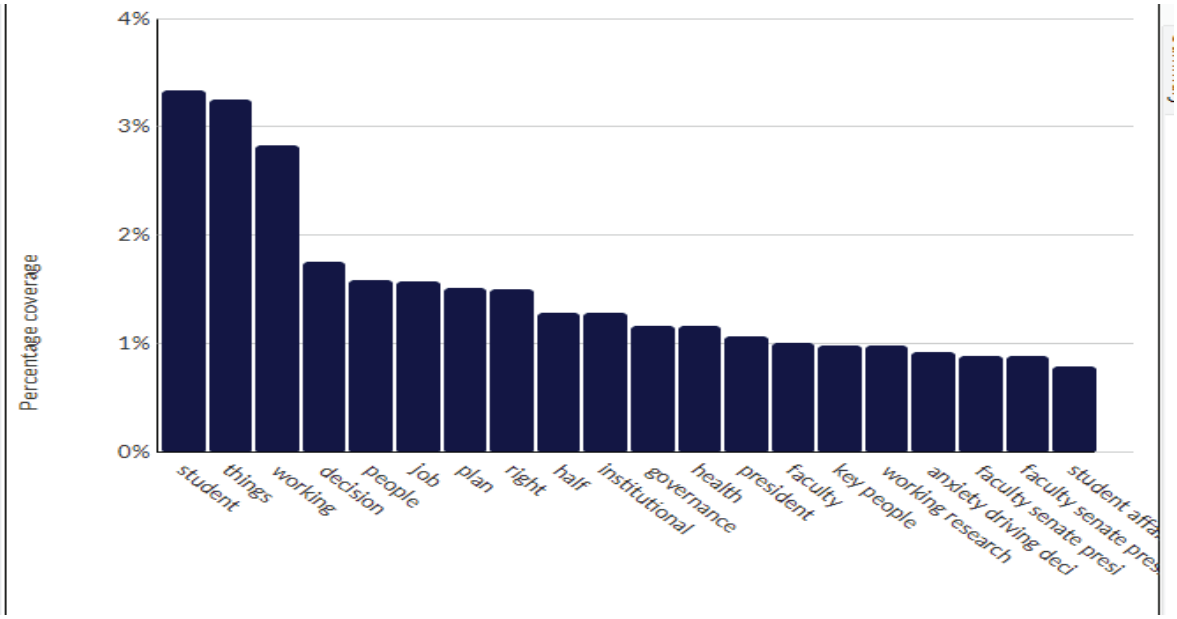

Figure 13. NVivo auto-code summary, Question #10.

The researcher identified the following thematic hierarchical framework:

What Went Well
Changed culture
Increased student acceptance of e-learning
Communication
Planning
Flexibility/agility
Eighty/twenty (free to fail)
Hybrid/remote working arrangements
Employee value
Financials
Continuous improvement
Health

Table 13. Thematic Hierarchical Framework, Question #10

Participants again made direct connections between successes and preplanning before the COVID-19 pandemic; being able to refine rather than invent enabled the college to navigate the exigencies of the pandemic and increased the ability to create innovative solutions to mitigate adverse impacts on student success. Interviewee #4 credited the organization's existing culture for successes in meeting the persistent challenges— initial system stresses the college continues to experience now. "What went well has to do with our institutional culture and that is that we were already a college that embraced change." Interviewee #8 observed, "I think as an institution we've been really flexible…so there were some preplanning going on here before closing down … We've been able to put a lot of new initiatives in place." Interview #6 observed, "We were able to make changes happen and enact them pretty quickly."

Interviewee #6 also cited the outstanding effectiveness of the multi-level communication methods used to mitigate uncertainty and anxiety among both students and college employees. "I think our communication with key stakeholders was very good, and key stakeholders would be students, faculty, staff, and the broader community." Interviewee #10 agreed

> The thing that went well was the level of communication…. We...made all decisions...based on the impact to our students and our staff and faculty and made adjustments…putting people first.

The president's decision to encourage everyone to adopt an 80/20 approach to decision-making added to the staff's agility in reacting to emergent challenges. The freedom to fail resulted in only minor corrections to the decisions, Interviewee #6 said. "What we found was that we landed probably 90/10 right. Most of the time we got pretty close, and you know if we missed the mark, we made minor adjustments." The interviewees tended to agree on this.

Interviewee #4 talked about "... The ability to mobilize quickly to convert thousands of courses, under a lot of pressure... there was a real sense of camaraderie and pride to make sure that students were made whole in their interactions with us."

Interviewee comments and college documents also suggest that that the realities of remote work required modified or new processes to support not just students but employees themselves, as well as community stakeholders (employers).

Q11. Enrollment/grade point average/equity-socioeconomic trends

> The question: "During the COVID-19 pandemic did the following occur: Did your enrollment go down; did grade point averages go down; did students delay their graduations; and did students on the lower end of the socioeconomic spectrum have increased negative impacts from the COVID-19 pandemic?"

The Nvivo auto-code function presented 99 codes after summarizing the ten answers to the Question 11. The following figure is a summary:

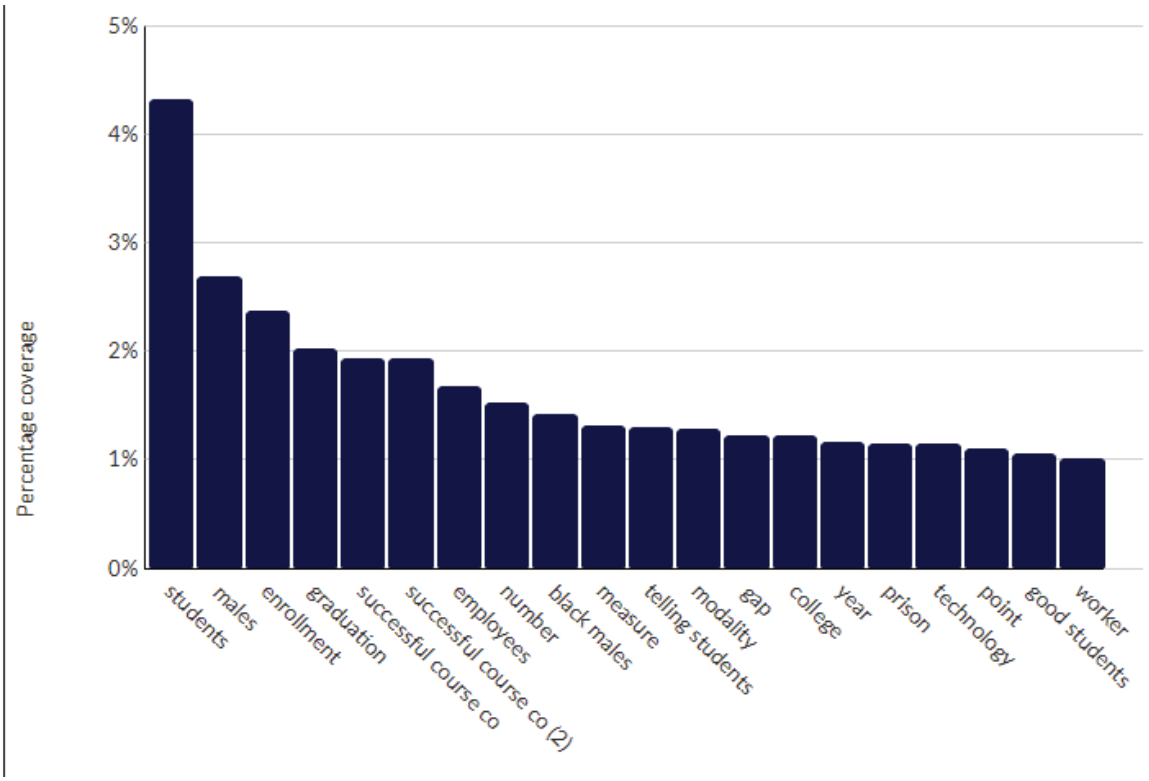

Figure 14. NVivo auto-code summary, Question #11.

The researcher identified the following thematic hierarchical framework:

Trends
Enrollment down
Measures of student success down
African-American male impact
Lower-end socioeconomic students
Modalities
Technology

Table 14. Thematic Hierarchical Framework, Question #11

Interviewees were forthright about a number of impacts. Interviewee #4 confirmed a decrease in enrollment. “I believe over the last 18 months our enrollment is about 12 percent down. Students over the age of working and caring for a family at the same time is heavily reflected in the declines in African American enrollments.” The data confirms a drop in the

college's enrollment using fall 2019 as a baseline (IPEDS, 2022; Saul, 2022). Overall, community colleges saw an approximate 11 percent decline in enrollment from fall 2019 to fall 2020 (Brock et al., 2021).

Interviewee #6 pointed out that enrollment of students over 25 was down 15 percent, while traditional students coming out of high school are now up narrowly, reversing an economy-driven downward trend in 2020. In addition, at the end of the 2021 school year, the college recorded its highest number of degrees and certificates awarded. Interviewee #6 noted that that was also another record year for degrees and certificates awarded to African American males.

Interviewee #10 spoke about declining grade averages: "Yes, in some courses…definitely, in those courses that were more challenging, like accounting, we did see lower rates" and pointed to how the college responded: instituting embedded tutoring (tutors assigned explicitly to certain class sections), prioritizing the most difficult courses. Interviewee #10 felt some "graduations were delayed as the result of not having classes available because of different variables."

Student Survey, Fall 2021

The fall 2021 survey, reported in January 2022, included 997 of the college's students. It found that 73 percent felt college provided an excellent or good education compared to 65 percent before the COVID-19 pandemic. The overall result was that 84 percent of past and present students had a favorable impression of the college. During the COVID-19 pandemic, the number of students who previously had no opinion fell from 27 percent to 12 percent. Students rating their education as fair rose to 12 percent from 6 percent and students rating the college's

performance as fair increased to 4 percent from 2 percent. Surprisingly, 85 percent of the students felt they could learn more online than they did before the COVID-19 pandemic.

Eighty-three percent (83 percent) of students related that their number one cause of stress was related to going to school. The 997 students surveyed said they often had stress (45 percent) or sometimes (38 percent) due to their schoolwork. Mental health issues were third on the list in severity for the students. Thirty-one (31 percent) cited experiencing mental health issues often, and twenty-seven (27 percent) classified the occurrences as sometimes. Students identified expressed concerns about their physical health (40 percent), job insecurity (34 percent), COVID-19 illness/death (28 percent), food insecurity (26 percent), lack of internet (24 percent), housing insecurity (19 percent), and substance abuse issues (8 percent).

Seventy-five percent of students believed the pandemic highlighted the increased importance of higher education. In four out of five of their responses on this topic, students cited employment-related reasons for pursuing a higher education:

- Jobs require a degree/credential
- Fill job vacancies
- Pandemic-proof position
- Education is necessary
- Better pay

A smaller number of students responded that numerous good-paying jobs are available, many of which do not require degrees.

One hundred one stop-out students (students who had discontinued their education) also responded to the survey. The survey reported some reasons students offered for opting out of continuing classes: financial challenges (31 percent); stress, anxiety, and uncertainty (19

percent). As of fall 2021, only one-third of the 2020 stop-out students were attending the college or another school.

The study concluded that students remaining in or returning to the college preferred schedule flexibility. They disliked classes that lacked interaction, which made it difficult to ask for help or ask questions, and in which they found content or instruction difficult to concentrate on. The survey also concluded the following:

- 50 percent found face-to-face classes most preferable because of instructor interaction, ability to ask for help and questions, and classmate socialization.
- 37 percent found blended (hybrid) classes preferable because of instructor interaction, schedule flexibility, and convenience.
- 34 percent found online preferable due to schedule flexibility (asynchronous scheduling), convenience, and health protection.
- 42 percent rated live (synchronous), online classes the least preferable format, considering scheduling, convenience, and safety.

The COVID-19 pandemic continues. No one quite expected its persistence but future research may benefit from a focus on more in-depth examinations of student sentiments as well as their life fortunes after completing or opting out of their educational goals under new normal

Topical Summary

Student Success

As noted in Chapter 1, the researched college is in one of the forty-one (41) states using a Performance-Based Funding (PBF) model (Ortagus et al., 2020), making its funding contingent on meeting PBF success standards. For FY2020, based on its past performance, the college earned the third highest share of the state's PBF funds. In other words, the college maintained its

position in share of the state's PBF allocation. The college's 2021 "right to know" statistics show that of the students who started in the fall of 2018, 38 percent graduated in three years, 9 percent remained enrolled, 12.5 percent transferred by fall 2021, and 28 percent left the college in good standing accounting for 88 percent of the starting cohort. The 2020 health science program graduates met or exceeded national average licensure test scores in 13 different fields.

While the percentage of all students receiving a credential within five years fell by 1 percent for FY2020-2021, course completion rates have held steady, with slight declines in minority and African American males. Credential and course completion rates for students with extended deadlines were not available (Strategic Plan, 2022-2025). Interviewee #6 offered 2021 numbers: "We set a record…we awarded 11,000 degrees and certificates to 8,000 students." The school met its FY2022 goal of awarding 10,000 credentials but the college is still closing on its goal of 1,500 of those credentials awarded to African American males and 2,800 awarded to minorities as a group.

As to success after college, employment records indicate that for graduates in the 2012 to 2016 timeframe, 88 percent remain employed in the state. There were no unemployment records on file for the balance of the graduates. (This is the most up-to-date data available in this category).

Equity Performance

Since 2012**,** the college's equity initiatives have successfully driven a "400 percent increase in the number of degrees and certificates awarded to African American male students, over 200 percent for minority students…and 40 percent for low-income students" (College website, 2022). For FY2020-2021, more than 6,300 students earned degrees and certificates. African American students earned 276 associate degrees and certificates during this period.

The years 2020 and 2021 saw records for completion among African American students. African American women earned 184 associate degrees, with African American males earning the remaining 92 associate degrees. Even though their retention and time-phased hours completed decreased in FY20 and FY21, the graduation rate for African American males rose by approximately three percentage points (College, 2022; Strategic Plan, 2022-2025). That increase is significant given the history of the college. The college website equates this to 55 a percent increase in African American male graduates over last year and 342 percent over the previous ten years. Finally, the FY21 gains equate to a 78 percent increase in African American male graduates from 2018 (Interviewee #6; College, 2022). The table below provides a historical perspective.

African-American Male Success Rates

	FY17	FY18	FY19	FY20	FY21
Three year graduates	13%	15%	19%	23%	26%
Retention (new degrees sought)	31%	36%	38%	31%	TBD*
Assoc. Degrees & certificates	436	897	720	643	700+
New students completing 9 hours in major	31%	36%	35%	29%	28%
New students completing 30 hours	10%	16%	18%	16%	14%
Course success rates (Grades A-D)	65%	65%	71%	69%	70%

*F2F 2021-2022

Table 15. African American male success rates (College, 2022)

Instructional Modalities

As discussed earlier, after the college shut down for two weeks, classes resume with 100 percent remote learning. Three factors played equally essential roles in the transition:

- Cross- academic department redeployment of online teaching expertise
- Hiring six additional instructional development designers
- Uncompromising teamwork among academic and non-academic departments

Currently, the college is at a 40 to 60 mix of face-to-face or hybrid and distance instruction. Two-thirds of the college's curriculum converted to the online/hybrid format at the beginning of the COVID-19 pandemic. To support the shift in modalities, Zoom licenses, laptops with cameras and microphone capability, and Wi-Fi access (fixed and portable) were acquired for students. Professors with no online teaching experience were mentored by other experienced professors from their own or different divisions. The transition process has continued with the college continuously improving their processes.

Instructor/Student Engagement

The college's goal was to engender students' sense of belonging as online learning modalities expanded. The school actively pursued improving its instructor professional development and training programs through a process of both instructor and student feedback. Instructors who were more experienced in online teaching acted as mentors to less experienced instructors.

Socioeconomic Issues

Nine interviewees agreed that students on the low end of the socioeconomic spectrum suffered the most adverse effects from the pandemic despite the college's innovative work; one abstained because the data was still under review. The college's efforts did, however, buffer

some pandemic impacts on these students. As discussed above, student success metrics were either relatively unchanged or improved, except in some cases of African American males. The themes and findings showed that the college addressed all areas of stress students cited in the 2020 survey: mental and physical health issues including COVID-19 illness or deaths; job, food, and housing insecurity; internet access; and substance abuse issues. The college provided expanded mental health counseling, assigned social workers, increased access to food and financial resources, communicated with the students, and redeployed expertise to fill emergent gaps in student support and services. The college was fast and innovative in distributing laptops, facilitating Wi-Fi access (including in campus parking garages), bringing food to students situated away from the main campus, and expediting emergency loans and grants.

Summary of Results

Early on, the college realized the COVID-19 pandemic had created a "new normal" for the conditions of student success. Led by the president's frequent and timely communication, faculty and staff adopted his recommended 80/20 decision process to improvise agile and flexible courses of action—and course corrections—to address emergent and persistent threats to student success generated by the realities of the COVID-19 pandemic. Staff and faculty used the college's existing strengths, available funding (state, local, and tuition-based funding), social programs, and charitable support to mitigate the impacts of the COVID-19.

The college effectively supplemented its pre-established external KPIs with additional internal KPIs. They used these ad hoc KPIs to initiate and monitor mitigating courses of action, which employed innovative solutions to deal with challenges to student success. The president's delegation of 80/20 decision authority liberated the improvisational capabilities of faculty and staff. Robust communication practices, including town halls, webinars, staff, and faculty

informal communication, and no fewer than 12 employee surveys accelerated the implementation of solutions to meet emergent issues. Both the 2021 student survey and in-class, specific feedback students gave instructors enabled the school to monitor student modality preferences.

As discussed, the college addressed rising food insecurity by expanding food pantry operations to include off-campus distribution. They also took steps to expedite financial aid and grants including adapting systems to allow for remote processing of aid requests. Perhaps the greatest financial aid success is the tenfold increase in the magnitude of funds disbursed to date.

Rejecting the staff furloughs some institutions implemented for financial reasons (Lederman, 2021), college leaders trusted employees to do what needed to be done while working within a relatively loosely structured, remote framework. These decisions solidified the staff and faculty's dedication to promoting student success despite the stress and strains of the COVID-19 pandemic's onslaught.

Interviewees returned often to the role of dynamic communication practices and the liberating 80/20 idea in their comments about mitigating adverse impacts of the COVID-19 pandemic. Interview #6 said, “I think our communication with key stakeholders was very good, and key stakeholders would be students, faculty, staff, the broader community” and related that to the 80/20 strategy, concluding,“…That relieves a lot of the pressure…and it gave people a sense that they could take a stab at it and then fix it” Further, Interviewee #6 felt the 80/20 practice added to the college’s agility and enabled groups to innovate solutions as the events unfolded:

> "Many organizations…let great be the enemy of good and… try to get everything perfect before they act, resulting in paralysis and slow-moving. Conversely, giving people the latitude to take measured risks helps the group's responsiveness."

Communication in conjunction with both the willingness and the ability to learn through mistakes led to innovation, responsiveness, and continuous improvement.

By balanced scorecard (BSC) measures, the college was financially sound and had the resources to weather the initial COVID-19 disruption without failing. Those BSC measures use lagging indicators, of course, but today the college is in good financial shape, providing three million dollars in student aid annually, supplemented by federal CARES ACT and private COVID-19 emergency funding.

The college set out to mitigate the impact of the COVID-19 pandemic on its students' ability to succeed. Assessing what the college was able to achieve with sound static resilience processes in place and a capacity for dynamic resilience is the concern of Chapter 5.

CHAPTER 5

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter summarizes the roles static and dynamic resilience played in the subject college's efforts to enable student success. It further explores the themes and patterns of the previous chapter's analysis to present additional observations, discussion, recommendations for further research, and practical and theoretical implications.

The research was guided by the general question, "How did the organizational resilience of a Midwest community colleges impact student success during the COVID-19 pandemic" The researcher's literature review yielded five interrelated themes for investigation: student success, learning modality, instructor-student engagement, socioeconomic issues, and resilience. The research examined senior leadership decisions to ground a qualitative analysis of the college's organizational resiliency. Chapter 4 reviewed leaders' actions, practices, and perceptions before and during the COVID-19 pandemic in each of the first four thematic areas as they related to static or dynamic resilience. These divisions are not rigid: some themes and actions have both static and dynamic dimensions. For ease of reference, the definitions of static and dynamic resiliency follow:

- *Static resilience:* "mostly based on preparedness and preventive measures to minimize threats in terms of probability of occurrence and potential impact" (Annarelli et al., 2020. pp. 1-2; Rose, 2004, 2007).
- *Dynamic resilience:* "more focused on the effective management of accidents and unforeseen events to shorten unfavorable aftermaths and maximize the organization's speed of recover" (Annarelli et al., 2020, p. 2; Rose, 2004, 2007).

An organization's ability to absorb and effectively respond to a disruptive event and seize opportunities to grow during the interruption is critical to its mission success and survival (Fiksel, 2006; Kamalahmadi & Parast, 2016; Shaked & Schechter, 2017). Kovoor-Misra (2020) adds that the need for change today's environment mandates building organizational resiliency.

Examining response to economic disaster, Rose (2004) proposes that (linear-thinking-based) static and (non-linear-thinking-based) dynamic resilience are "not mutually exclusive" (p. 308). Mithani (2020) suggests that dynamic resilience is best suited to mitigate the impact of persistent threats. The qualitative data analysis of this study supports their views, as well as those of Annarelli et al. (2020), who opine that sustained organizational resilience in today's environment of uncertainty requires complementary use of both static and dynamic organizational resilience characteristics.

The researched community college is not an exception. Its leaders demonstrated complementary actions of both static and dynamic resilience in dealing with disruptions caused by the COVID-19 pandemic. While static resiliency relies on known, probable, statistically predictable events and real-time monitoring, dynamic resiliency shines a light on an organization's effectiveness and reaction speed to the unknown, the unpredictable. This study examines the critical role of both static and dynamic resiliency under the umbrella of organizational resiliency.

Taleb (2012) summarizes two recurring organizational resiliency themes: resiliency is critical to either returning to normal operations or improving competitive advantage in the marketplace; these themes are also seen as equilibrium or advancement. One thing the literature establishes is that measuring organizational resilience is an elusive endeavor (Fiksel, 2006, 2015; Hillmann & Guenther, 2021; Morales-Allende et al., 2017; Ruiz-Martin et al., 2018; Serfilippi &

Ramnath, 2018). Annarelli at al. (2020), however, offer a qualitative approach to describing an organization's resiliency relating characteristics and dimensions of resilience to an organization's policies, practices, and actions. This research works with those concepts to delve into college leaders' activities in the areas of student success, instructional modality, instructor-student engagement, and socioeconomic issues.

Overview

Interviews and additional data show that the researched community college possessed the necessary leadership, professional skill sets, and culture to make static resilience characteristics the foundation for dynamic resiliency actions during the COVID-19 pandemic.

The college had been diligent over many years in perceptive planning and operations to be in a position to provide some insulation from a disruptive event. The college operated with flexibility and agility, leveraging the additional capacity of its IT infrastructure, a robust, well-staffed institutional systems development (ISD) program, an academic contingency planning process with prescribed implementation protocols, and an ability and willingness to redeploy staff. On these foundations, the college leaders engaged in constant and precise internal communication that enabled faculty and staff to implement or initiate timely and innovative solutions to address new exigencies the COVID-19 pandemic presented (Annarelli et al., 2020; Annarelli & Nonino, 2016; Senge, 2006). In addition, they built on their collaborative culture, accelerating the organizational learning cycle through the college's president's decision to streamline the time-to-action process by instituting a free-to-fail, 80/20 framework for decisions/actions. External financial resources kept the college/students going during a time of unprecedented expenses for both the institution and the students.

Student Success

As noted in Chapter 4, in 2012 the college president took steps to foster a culture committed to *a shared vision of student success* and a *collaborative work ethic*. The college's strategic plan has embodied that vision, and, by the onset of the COVID-19 pandemic, the vision was deep-rooted; executives, faculty, and staff were totally committed to the success of their student charges. This was the core of their static resilience infrastructure. A can-do attitude, identification with mission, and habits of collaboration from the top-down then engendered innovation in the face of new educational challenges for the college and new life challenges for students. Interviewee #8 summarized: "I think there's a consistent theme across the board…and retention is the biggest consistent–are you retaining students, making sure they're able to stay in class, of course…to help them deal with any barriers that are coming your way." Communication practices including regular feedback and data-driven analysis were two additional elements of the college culture that contributed to resilient responses to the COVID-19 pandemic.

Prudent fiscal and operational management gave the college a robust static resiliency posture. The researched college secures its fair share of state PBF funding. Its PBF allocation was the third highest in its state among community colleges and the college also received its regular funding from local taxes, student tuition, state grants, and private donations. In addition to the healthy financial position fed by these revenue streams, government COVID-19 pandemic relief financial resources provided the college with a sustainable base to weather the COVID-19 pandemic's impacts on student persistence. Unlike the 40 percent of higher education institutions already struggling financially at the onset of the COVID-19 pandemic as Zemsky et al. (2020) estimated, the college was in a good position and thus did not consider reduced staffing, even when faced with a potential 10 percent state funding cut. In its role of workforce development,

however, in an area where wages are low, the college continues to be challenged to articulate the value-added aspect of education for their students' future economic opportunities and career development, especially if many students do not wish to move away.

It is worth repeating here the COVID-19 pandemic-era stresses on college students Marshall et al. (2020) cited: (a) issues of socioeconomic equity; (b) technology access and infrastructure; (c) instructor teaching proficiency in the online environment; (d) state and local contributions to revenues; and (e) the student, staff, and faculty health and safety. The researched college entered 2020 with a sound basis in those areas. That set the enabling conditions for the college's staff and faculty to exercise agility and flexibility in applying innovative solutions to the challenges of the COVID-19 pandemic.

Upon the advent of the pandemic in March 2020, college leaders took a new direction. By October 2020, they had amended the 2018-2022 strategic plan for student completion to provide avenues for faster student degree completion; and the incomplete grade process was amended to allow extended deadlines for course completion. Incentive scholarships and tuition waivers were extended to students who were close to graduation. Relying on best practices and conclusions they drew from scholarly literature, the college bundled developmental math and English application assessment into credit courses to increase student persistence markers.

During the pandemic, credit hours required to graduate were reduced without undermining academic standards of quality. The college's strategic priorities, set in 2012, have consistently improved, in some cases substantially. For that period, graduation rates are up five-fold. Minority graduation rates are up 22-fold, and the African American male graduation rate is up ten-fold. The number of students who complete a degree or certificate program within five years is up 19 percent. For students with a declared major, first year completion of nine hours is

up 19 percent and completion of 30 hours is up 8 percent. Retention from fall to fall for all students is also up. Four out of five measures of engagement the college employs are superior in comparison to large community colleges; the only substandard area was student effort.

There were some marginal setbacks during the COVID-19 pandemic. Overall, credentials awarded dipped in FY20. For African American males, retention and time-phased hours completed decreased in FY20 and FY21, however their graduation rates improved. Overall, median years to degree completion dropped by 1.2 years. Average one year after graduation earnings also fell.

There was one significant, unanticipated challenge to student success: the enormous mental health impact of the COVID-19 pandemic on faculty, staff, and students. This is discussed below in the third of the three themes pertinent to impacts on student success: instructional modality, instructor-student engagement, and socioeconomic influences.

Instructional Modality

The COVID-19 pandemic required all colleges to address the challenge of how best to deliver education through distance learning. Chandler et al. (2020) suggested the advent of the COVID-19 pandemic would accelerate a new paradigm, driving a shift in teaching and learning modalities. Their assertion appears to be an insightful prediction given the experiences of the researched college, where the shift to reliance exclusively on distance learning generated pedagogical advances in course presentation and precipitated the application of innovation, agility, and flexibility to existing best practices of distance learning.

The literature reflects a lack of enthusiasm for distance learning among a majority of students for various reasons, such as less instructor engagement, socialization, and inability to ask questions (Hanif et al., 2020; Dogar et al., 2020). As noted earlier, Salceanu's (2020) case

study in Romania found while nearly three-quarters of the students surveyed did not have issues with remote instruction, one-quarter did have access or system familiarity issues similar to those presented in the United States.

The researched college went to 100 percent distance education after a 10-day hiatus following the state shutdown mandate. When the college re-opened, the staff had realigned over 3,000 sections to online-ready instruction course shells. The feat was made possible by the college's preplanning for an expanded number of online offerings based on existing student participation in online classes and anticipated growth in student demand for education online. This forethought had contributed to the college's decision to procure and maintain surplus IT infrastructure capacity, a robust instructional systems development (ISD) department, and a library stocked with prepared, certified course shells.

In March 2022, face-to-face and distance or blended classes were approaching a 50-50 mix, which school officials expected to remain constant for the time being. After two years of the COVID-19 pandemic, the college found that its students had a more favorable opinion on the advisability of taking online classes than they had in the class. From early on in 2020, the college had also been able to maintain several degree programs, such as health sciences and automotive technology, best suited for learning in either a face-to-face or, at the very least, a blended modality.

As early as 2012, Mackey et al. (2012, p. 122) had advocated mainstreaming blended learning to enhance "academic resilience in times of natural disaster, civil emergency, and crisis." The researched college had not planned for such an eventuality. One senior staff member felt the college would be inclined to invest in more blended options in the future, given the

success of health sciences and automotive technology blended classes during the COVID-19 pandemic.

Instructor-Student Engagement

Recent literature on instructor-student engagement (Jenkins et al., 2021) cites inadequacy of committed resources and inferior pedagogical practices as hurdles to student engagement. During the transition to full online instructional experience, college leadership focused on redeploying personnel to activate or enhance various student support areas. The college already had an extensive instructor development program. Professors with up-to-date online teaching experience were assigned to work with professors not yet adept in online teaching skillsets.

An innovation was the decision to redeploy staff and faculty as embedded coaching and tutor support counselors in each class, essentially providing de facto teaching assistants. This solution filled a void in the organization's static resiliency while simultaneously demonstrating dynamic resiliency characteristics of communication and innovation. It addressed student skepticism about the ability of online learning to deliver timely Q&A interaction, additional help, and meaningful engagement. Many of these coaches and tutors took a proactive approach, directly addressing individual student issues with the appropriate college department. In turn, the departments reached out to offer assistance or guidance without the student having to ask first.

The professional development department also included "life-happens" subject matter in each course's materials, which thereby gave students guidance on where they could get help on issues outside the virtual classroom. In fact, each class had dedicated advisors who guided students directly to resources they might need to navigate COVID-19 pandemic life events.

Socioeconomic Issues

An important insight of this study is that socioeconomic issues are interwoven into all the other COVID-19 pandemic concerns: student success, learning modality, and instructor-student engagement. As found in studies, COVID-19 impact on student success was the most severe on students of lower socioeconomic status (SES) (Cruz, 2021; Dua et al., 2020). The literature correctly identified issues around online connectivity, comfort with online learning platforms, and attending school from a home environment. In fact, the biggest challenges the COVID-19 pandemic presented to faculty and staff had root causes in students' lives outside the classroom.

The college had pre-COVID-19 pandemic student support services in the form of a campus food pantry, emergency grants and financial aid processes, and counseling services. The emergent issues were financial, food, shelter insecurities, and mental health strain. In response, the college used emergency aid funds to purchase hundreds of laptops and Wi-Fi hotspots, loaning them to students in need, a quick response made possible by the flexibility of the school's information IT infrastructure. As needed, students were able to park close to college buildings in order to use the college Wi-Fi signal. Diligence in preplanning and preparedness to combat a disruptive event were the foundation for these unique and agile solutions.

In addition, the college expanded and expedited emergency financial grants so students could continue their studies, expanded food pantry operations across multiple locations (including regional distribution of fruit, vegetables, food staples, diapers, etc.), and provided academic and mental health counseling. They hired a full-time social worker and arranged for around-the-clock access to student mental health services. Although student feedback identified mental health services as a critical need, the services were underutilized. The college expanded mental health services with funds initially set aside to deal with a 10 percent budget cut, which

turned out to be only 4 percent. While the initial set-aside was preplanning (static resilience), applying the emergent surplus was an adaptable (dynamic resilience) solution to previously unknown but widespread mental health effects on students.

Conclusion

Findings on Organizational Resilience

As summarized in Chapter 2, the work of Annarelli et al. (2020) and Rose (2004; 2007), firmly supports the idea that organizational resiliency is an ongoing, iterative process comprised of static and dynamic actions in a continuous learning loop. Without a strong foundation of static resiliency, dynamic resiliency capabilities will not thrive. Building an organization possessing a solid base in both static and dynamic resiliency and having the capacity to effectively apply those organizational strengths during a crisis is a team effort.

This research has shown that the subject college began 2020 with an established and mature static resiliency foundation in communicative processes, collaborative work traditions, data-grounded planning, and technological capacities it had in place. It is true that mature organizational resilience may be a transitory state, subject to ebbs and flows from continued strain, changes in leadership, new processes, or external forces beyond an organization's control. The lagging KPIs of classical financial planning may have value as data for planning for "known, probable, statistically predictable events and real-time monitoring" (Annarelli et al., 20202, p. 1-2), especially if the static-dynamic resiliency action loop is not quick or wise enough to extend the length of time an organization can endure stress before failing. For example, the college successfully and quickly shifted to exclusive distance learning. But it is an open question as to how long this could be sustained given faculty resources, student's desire to continue or to not continue in a full distance modality, and economic considerations. As noted, significant

federal funds augmented COVID-19 pandemic finances of both institutions and enrolled students. The researched college's federal emergency funding was about 50 percent of its FY2022 operating budget. That certainly helped the college's foundational static resiliency pay off in dynamic action.

Despite the practical inability to guarantee the future, the core of an organization's resilience capacity is its static resiliency processes and characteristics. These give the organization the freedom to exercise dynamic resiliency. Static and dynamic resiliencies are not discrete conditions; one impacts the other. As in the process of double-loop learning, dynamic actions become part of static characteristics in a never-ending process. The organization's agility and flexibility may influence the speed of the learning and requisite actions to mitigate problems or improve practices. Either way, without diligence in maintaining static resiliency, dynamic resiliency characteristics may not possess sufficient depth for ongoing success.

Leadership and the Dimensions and Characteristics of Resilience

Schein (2010) suggests leadership and organizational culture are inexplicably intertwined. Organizational culture is largely the product of its leadership, and its leadership is often the product of what the organization will accept. In the case of the researched college, its president established a vision prioritizing student success a decade ago and operationalized it through engaging faculty and staff in collaborative work and professional development. The result was a thorough ongoing commitment to a mission of seeking out the needs of students and stakeholders and meeting them. Also relevant is the observation of Marshall et al. (2020), that a leader's ability to ensure student success during a crisis is a function of: (1) clear direction; (2) effective communication; (3) collaboration; and (4) adaptive leadership (readiness to respond to volatility, uncertainty, complexity, and ambiguity). Drysdale & Gurr (2017) translated adaptive

leader as open-minded, agile, and resilient. The findings summarized in Chapter 4 make clear that those four characteristics aptly describe a leadership team well-prepared in 2020 to guide an organization with significant resilience capabilities.

Interviews with leaders revealed that they relied heavily on statistical analysis to make data-driven decisions on actions that might aid student success. Tracking and acting to mitigate the negative impacts of the COVID-19 pandemic on student success might not have occurred at all without the college's use of static analytic and computational techniques already in place to guide dynamic resiliency practices. The college generally did well on PBF success indicators—including a 6 percent 2020 enrollment decline compared to the 9 percent estimated average—and its own indicators by promoting the win-win situations they identified for students and the college. Perhaps the best examples of the latter are the college's report of achieving its highest number of degreed graduates and African American male graduates for FY 2021-2022 and 99 percent of students rating the quality of their education as good to excellent at the end of that year (College website, 2022).

Before the COVID-19 pandemic, the college's senior leaders had already demonstrated commitment to enabling "preparedness and preventive measures to minimize threats in terms of probability occurrence and potential impacts" for student persistence, demographic group success, and support for student life challenges (Annarelli et al., 2016, p. 1). Shifting into the COVID-19 pandemic environment in March 2020, they applied "effective management of accidents and unforeseen events to shorten unfavorable aftermaths and maximize the organization's speed of recovery" (Annarelli & Nin., 2016, p. 2; Rose, 2004, 2007).

The characteristic of internal communication, established in the pre-COVID-19 pandemic static phase planning, continued into the dynamic phase of executing innovative solutions to

mitigate COVID-19 pandemic impacts. As noted throughout the interviews, college leaders relied on frequent two-way feedback on many topics with students, staff, and faculty. The college's static characteristic of continuous monitoring and learning from mistakes were the basis for dynamic agility and flexibility in making short-term decisions on actionable solutions; and the loop effect of solutions becoming established and refined over time. A central example is college president's 80/20 decision initiative to expedite solutions to pressing problems brought on by the COVID-19 pandemic. This free-to-fail approach allowed faculty and staff to use their judgment without waiting for higher approval.

Leaders showed the static characteristic of redundancy when they assigned academic and non-academic specialist assistants to each online class to help instructors; these embedded mentors and advisors continued with dynamic actions by working for and with students on academic and non-academic issues. This practice proved very successful and became a lesson learned and applied to enhance instructional modality and student engagement experiences. This appears to be driving increased student demand for at least some form of distance learning.

As established in this and the preceding chapter, the college's established practices and trial-and-error innovations at many key points in the COVID-19 pandemic encompassed a number of characteristics and dimensions of both static and dynamic resilience. The two pages that follow offer a visual summary of the college's success. The first page functions as a key to the second by laying out the characteristics and dimensions of static and dynamic resiliency as defined by Annarelli et al. (2020). The second page, Figure 15, diagrams the college's organizational resiliency performance as shown by the dynamic and static processes they pursued to serve their first priority, promoting student success.

Organizational Resiliency Definitions

RESILIENCY CHARACTERISTICS

Static

Continuous monitoring involves gathering data for the purpose of ensuring the correctness of processes.

Anticipation ability involves monitoring performance for small variances which may act as predictors of a future undesirable occurrence.

Redundancy is the duplication of a system's critical component capability to ensure its reliability.

Simulation tools (usually software-based) are used to predict future events and to assess the effectiveness of planned mitigation

Initial vulnerability is assessment of current threats to the organization's sustainability

Focus on minor aspects involves instituting processes that do not overlook seemingly innocuous variances; a prelude to anticipation ability.

Learning from mistakes is taking lessons learned from past errors and translating the lessons into process improvements.

Dynamic

Internal communication enhances the organization's mitigation capability and ability to adjust its structure and processes in response to unforeseen events.

Improvisational capabilities involve quickly assessing the stress an event is placing on the organization and restructuring resources in a manner best suited to mitigate the harmful effects of the event.

RESILIENCY DIMENSIONS

Adaptability is the ability to adjust to external changes.

Reliability is the degree a system functions satisfactorily for a specified period of time and under conditions.

Agility is the ability to mitigate the impact of changes under uncertainty and volatility

Effectiveness refers to the process of achieving the intended results.

Flexibility is the rapidity with which organizations adapt to sudden and radical changes successfully, without reorganizing all their processes.

Recovery level can be expressed as a function of the organization's absorbing the shock of change and meeting or exceeding its original capability

Recovery time is the length of time an organization takes to restore its normal state

(Adapted from Annarelli et al., 2020, pp. 2-4)

Pre-Covid-19 Pandemic Student Success

Static Resiliency Characteristics	Resilience Dimensions	Resilience Dimensions present	Examples
Continuous monitoring	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	Data-driven decisions
Anticipation ability	1, 4, 5, 7	1, 4, 5, 7	Planning, Classes resume online after two-week shutdown
Redundancy	2, 3, 4, 6, 7	1, 2, 3, 4, 5, 6	IT robustness, anticipation of more demand for distance education
Simulation	1, 2, 3, 4, 6	NA	NA
Initial Vulnerability	!, 2, 3, 4, 6	!, 2, 3, 4, 6	Strategic Planning, Projection of the COVID-19 pandemic impact
Focus on minor aspects	1, 2, 4, 5, 6, 7	1, 2, 4, 6	Data analysis
Learning from mistakes	1, 2, 3, 4, 5, 6, 7	1, 2, 4	Continous improvement, best practices
Dynamic Resiliency Characteristics			
Internal Communication	1, 2, 4, 5, 6, 7	1, 2, 3, 4, 5, 6,	Daily and wekly meetings, continous improvement
Improvisional capabilites	1, 2, 4, 5, 6, 7	1, 2, 3. 4, 5, 6	Projection of the Covid-19 Pandemic impact, distace education conversion

Covid-19 Pandemic Student Success

Static Resiliency Characteristics	Resilience Dimensions Possible	Resilience Dimensions present	Examples
Continuous monitoring	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6	Data driven decisions
Anticipation ability	1, 4, 5, 7	1, 4, 5	Planning
Learning from mistakes	1, 2, 3, 4, 5, 6, 7	1, 2, 3, 4, 5, 6	80/20
Dynamic Resiliency Characteristics			
Internal Communication	1, 2, 4, 5, 6, 7	1, 2, 3, 4, 5, 6,	Town halls, Webinars, Employee, Student Surveys
Improvisional capabilites	1, 2, 3, 4, 6, 7	1, 2, 3, 4, 6,	Redployment of people and resources for mitigation, fine tune processes based on feedback and results. 80/20.

Figure 15. The College's COVID-19 Pandemic Resiliency Performance: Student Success
Adapted from Annarelli et al., 2020, pp. 3-4

Recommendations for Further Research

While there is significant literature on student success, it could use more work integrating pedagogical, financial, human resource management, culture, and leadership factors related to success in times of uncertainty and crisis. Major research questions might be: Is it necessary to integrate all these factors for an organization to maintain or enhance mature organizational resiliency that results in student success? Are there one or two central factors that form the basis for student success?

Another useful area of research is on the questions: Is there a need for individual resiliency training in organizations? Is individual resiliency linked to organizational resiliency as

leadership and organizational culture are linked? The researcher notes here that The Ohio State University is engaged in an effort to conduct classes on student resiliency.

Practical Implications

This research may be of value to colleges by providing a concrete exploration of the ability of one institution to absorb and effectively respond to a disruptive event and use it to seize opportunities to innovate in areas that foster opportunities for student success. In particular, it shows that silo-based thinking tends to preclude realizing that factors driving student success are not isolated but interrelated, and that solutions must attempt to address them simultaneously. To meet critical challenges, college leaders must depend on non-linear thinking (Drysdale & Gurr, 2017; Gurr & Drysdale, 2020; Marshall et al., 2020). That is the key to achieving dynamic resiliency (Annarelli & Nonino, 2016; Rose, 2004, 2007). In particular, this research shows that sustained organizational resilience requires complementary application of both static and dynamic resiliency mindsets across a number of fields of action by pinpointing practices through which the subject community college operated as a learning organization embracing the challenges of uncertainty and complexity. In view of the "hierarchical organizational structure and decentralized nature of higher education," this is no small challenge (Weiss & Norris, 2019, p. 90).

Theoretical Implications

The Chapter 2 literature review suggests that a useful area for additional theoretical insight would be considering more closely the linear and non-linear thinking landscapes—highly predictable (linear), complex (non-linear), and chaos (low predictability, low consensus for courses of action—characterized by Cavanagh and Lane (2012) and Kovacs and Corrie (2017). Cavanaugh and Lane posit that today "linear thinking has little value" (p. 75). As noted earlier,

Kovacs and Corrie downplay the value of the control facet of the management imperatives of planning, organizing, directing, and controlling (PODC). Both authors appear to have made a faulty assumption based on the insights of Annarelli and Nonino (2016), Annarelli et al. (2020), Mithani (2020), and Rose's (2004, 2007) as validated in this case study. Perhaps that gap in understanding organizational resilience and the application of two of its core tenets, static and dynamic resilience, merits further research.

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Appendix A

Interview Protocol

Project: How did the organizational resilience of a Midwest community college impact student success during the COVID-19 pandemic?

Time of the Interview: TBD

Date: TBD

Interviewer: John P. Bowler

Interviewee: TBD

Position of Interviewee: President or senior staff and faculty members

Project Description: Examine how the organizational resilience of a Midwest community college impacted student success during the COVID-19 pandemic.

Purpose: The purpose of this this qualitative dissertation, case study, is to examine how the organizational resilience of a Midwest community college impacted student success during the COVID-19 pandemic. This researcher will examine the ability of the college to meet student expectations and those of other stakeholders to provide programs that aid students in program completion, job placement, and career development. The overarching research question will be as follows: "How did the organizational resilience of a Midwest community college impact student success during the COVID-19 pandemic?" This researcher will interview and record the insights of the president and senior community college officials. This researcher will review each of the responses using thematic analysis of interviews. The researcher will also review the extant literature and review the college's official documents if (made) available. The study's end-goal was to identify how better to sustain student success during times of complexity, disruption, and uncertainty.

Individuals and sources of data: The researcher conducted a case study of a purposely sampled Midwest community college. Study participants were the college president and nine senior staff and faculty members.

Data protection to ensure confidentiality of the interviewee: The thematic analysis of the interviews and data was aggregated. The identity of the participants is masked. After transcribing the ZOOM meeting, the audio and video recordings (as applicable) were by the researcher for later destruction.

Duration of the interview: Sixty minutes with the possibility of follow-up.

Questions:

- How did you measure student success prior to the COVID-19 pandemic?
    - How did you plan your face-to-face, blended, and distance-learning modalities prior to the COVID-19 pandemic?
    - Which plans or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?
- How did you plan your instructor engagement student programs prior to the COVID-19 pandemic?
    - Which plans or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?
- How did you plan support for student socioeconomic programs prior to the COVID-19 pandemic (race, gender, inclusivity, finance, food security, and shelter)?
    - Which plans or aspects of your plans did you bring forward for use during the COVID-19 pandemic? Why?

- Overall, what went well and what did not work as well? Why? How would you change if anything? Why? Do you have any more to add?
- How did you measure student success during the COVID-19 pandemic?
- Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following:
    - Face-to-face classes
    - Distance Learning
    - Blended classes
- Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following areas: (dynamic resiliency)
    - Faculty instructor student engagement guidance, and programs
- Did you adjust or create new courses of action due to unforeseen gaps in aspects of your pre-COVID-19 pandemic continuity of operations plan(s) in the following area:
    - Support for student socioeconomic programs prior to the COVID-19 pandemic (race, gender, inclusivity, finance, food security, and shelter)?
- During the COVID=10 pandemic did the following occur:
    - Did your enrollment go down,
    - Did grade point averages go down,
    - Did students delay their graduations, and
    - Did students on the lower end of socioeconomic spectrum having increased negative impacts from the COVID-19 pandemic?

- Overall, what went well and what did not work as well? Why? What would you change if anything? Why? Do you have any more to add?