A Case Study of the Organizational System of Articulation at a Midwestern Regional Public University

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Quantitative research has long shown lagging community college transfer student completion rates, in addition to excess credits earned and lengthened time-to-degree for transfer students that do earn a bachelor’s degree (Horn & Skomsvold, 2011; Jenkins & Fink, 2016; Simone, 2014; U.S. GAO, 2017). Scant qualitative studies exist related to student transfer, particularly the academic enterprise of articulation and the university perspective on transfer.

This qualitative study takes up the cause, using organizational and systems theories (Birnbaum, 1988; Clark, 1983; Cohen & March, 1974; Morgan, 2006; Senge, 1990; von Bertalanffy, 1972; Weick, 1976) to frame a single site case study with the purpose of examining the organizational system of articulation that guides how community college coursework is evaluated for transfer credit awards at a Midwestern regional public university (RPU). Two research questions directed the study and focused the findings. The first asked how the system of articulation is enacted at a Midwestern regional public university and the second sought understanding of the roles of various articulation system actors.

The methods used involved triangulating analysis of descriptive data along with in-depth document review and semi-structured interviews with articulation system actors. 16 public documents were reviewed, and 19 participants were interviewed who offered rich perspectives
on RPU’s system of articulation. The findings share detail on the case site context and structural elements influencing articulation at RPU. Structurally, participants noted fluctuations in institutional prioritization of transfer, rigid policies prescribing credit hour minimums and academic residency requirements, and both regional and disciplinary accreditation standards at play.

RPU’s system of articulation is enacted through overlapping and multi-directional elements including flow of processes, human actors, and cybernetics. The Admissions Office uses a standard flow of processes for intake and evaluation of admitted transfer student transcripts. Academic department processes were described as less consistent and largely undocumented, both externally and internally. Embedded within the flow of processes are cybernetic components that regulate the system and facilitate flow of information including documents, computer systems, databases, and other technology. Major system actors are students, Admissions Office Staff, staff advisors, and academic department personnel (including faculty) who perform variable roles and assume differing levels of authority in the system.

Key takeaways from this research are the centrality of human actors and extreme complexity found within the system of articulation. Altogether, the findings of this research mean that broad transfer policy efforts must consider the breadth and complexities inherent in institutional articulation systems, particularly systems’ reliance on human actors and cybernetic technologies for smooth functioning. Likewise, institutions are wise to consider their own articulation systems and examine how process flows and cybernetics might be improved. Institutions are also encouraged to bolster engagement among and between human actors to empower systems change toward more functional, consistent, and equitable articulation proceedings that may improve transfer student success outcomes.
A CASE STUDY OF THE ORGANIZATIONAL SYSTEM OF ARTICULATION
AT A MIDWESTERN REGIONAL PUBLIC UNIVERSITY

by

Katherine J. Giardello

A dissertation submitted to the Graduate College
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
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I am moved to acknowledge a select few of many, many people along the way whose support was critical to achieving this milestone. (I’m also moved to admit that I surely left some important people out whose support, while undocumented here, is not unappreciated!)

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An eclectic tribe of friends from all areas of my life bring me immense joy, make me laugh, and let me be me. They are also helping to raise my children, know when to bring treats, and never doubted that I could see this through. I hold deep appreciation for my village, especially my dazzling Misfits. A friendship like ours is truly once in a lifetime.

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My children Luca Joseph Giardello and Nico Thomas Giardello provided North Stars that inspired me to keep going. Their bright lights give me immense hope for the future.

Let’s see where we go from here, all of us. Onward!

Katherine J. Giardello
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CHAPTER 1

INTRODUCTION

I simply want to celebrate the fact that right near your home, year in and year out, a community college is quietly —and with very little financial encouragement— saving lives and minds. I can’t think of a more efficient, hopeful or egalitarian machine, with the possible exception of the bicycle.

– U.S. Poet Laureate Kay Ryan, 2009

Community colleges have historically provided egalitarian access to social mobility through a variety of affordable academic offerings that serve as equity ladders in communities throughout the U.S. (Heelan & Mellow, 2017). Central to the mission of the earliest U.S. community colleges, the transfer preparatory pathway is meant to facilitate the transfer of lower-division coursework at less costly, more accessible community colleges to fulfill bachelor’s degree requirements at four-year colleges and universities (Baldwin, 2017; Bender, 1990; Eells, 1931; Jain et al., 2020). To this end, state articulation policies regarding the transfer of community college and university coursework have existed since the U.S. community college sector formed in the early 1900s (Handel, 2013).

Despite the longevity of articulation as a state policy issue, research reveals a persistently leaky pipeline for community college transfer students. Studies show these students are less likely to graduate with either an associate or a bachelor’s degree and, when they do, they accumulate excess credits which is problematic for many price-sensitive community college students (Faris, 2018; Hodara et al., 2017; U.S. GAO, 2017; Xu et al., 2018). Even more disappointing, multiple studies have found that low-income and other marginalized community college students transfer and earn bachelor’s degrees less often than their counterparts,
underscoring the centrality of transfer articulation as an equity issue for higher education (Chase et al., 2014; Crisp & Nuñez, 2014; Monaghan & Attewell, 2015). Low completion rates for already marginalized community college transfer students are indicative of the systemic problems undergirding issues of community college transfer, and this social justice issue compels my interest in studying the organizational system of articulation.

**Background**

Several pieces of background information on the researchable problem that brings me to this study are introduced here. First, I clarify technical terms associated with transfer and articulation that are used throughout this discourse. Next, I review my personal and professional experiences with transfer as essential backdrop for my qualitative study. Then, I discuss the organizational and systems theories that inform my approach to this research.

**Clarifying Terms**

Although the terms transfer, articulation, and transfer credit are often conflated in everyday practice and throughout the research literature on this topic, they are discrete constructs. In this study, I follow Anderson et al.’s (2006) lead to distinguish the terms as follows: transfer describes student mobility between institutions; articulation refers to curricular matching between institutions at either the program or course level; and transfer credit describes the ways in which institutions apply a variety of transfer credit awards to students’ transcripts to signal equivalence of previous coursework. Likewise, while transfer (and articulation) can refer to multiple types of students, direction of transfer, and forms of prior learning that can be articulated for transfer credit, my interest in this study centers on vertical transfer, or the community college to university transfer pathway, which remains the most common form of transfer in the U.S. (Jain et al., 2020; Taylor & Jain, 2017).
My convictions about the social justice imperative of the community college transfer pathway are the cornerstone of this dissertation, and I want to be specific about what this means to me. First, decades of exclusion are glaringly obvious in the history of U.S. higher education initially meant to serve elite, White male European American citizens of the developing society. While I wholeheartedly embrace the racial justice meaning of equity eloquently described by Bensimon (2020), and I am devoted to continuing to grow as a racial justice advocate, I refer to equity and social justice throughout this discourse more broadly. In using the terms “historically underserved” and “historically marginalized” interchangeably throughout this discourse, I literally mean all student types historically excluded from higher education: women, racially and ethnically minoritized communities, low-income citizens, immigrants, and a host of other groups that frequently enroll in community college education and face multiple structural barriers to their educational pursuits.

**Personal Experience with Transfer**

I came to this study with decades of experience with transfer. As a high school student, I took several Advanced Placement (AP) courses and was later able to earn university transfer credit having received qualifying scores on the AP exams as dictated by university transfer policy. Likewise, I strategically enrolled in several pre-articulated general education courses at my local community college during my undergraduate years that transferred easily toward bachelor’s degree requirements at my state university. These experiences were smooth because of the previously existing articulation relationship between my college and university and, as a self-paying undergraduate, I was grateful for the cost savings.

My higher education career began in a brief experience as an admissions counselor at a small liberal arts college. Within a year, I moved into the same role at the large state university
from which I had recently received my bachelor’s degree. In both cases, I occasionally worked with transfer students who sought to economize their education by attending a lower cost community college first, those who were not initially admitted to the university as freshmen and reapplied as transfer students, and those who sought to pursue transfer admission for a variety of other reasons. Sometimes articulation of prior courses worked well for students and sometimes they (and myself!) were completely befuddled by unclear or inconsistent standards and procedures among academic departments within the university and between transfer institutions.

For the next decade, I worked in two Midwestern states on largescale transfer and articulation initiatives. This work interfaced with nearly 200 colleges and universities, and thousands of faculty members and administrators involved in state and institutional systems of transfer and articulation. These systems-level experiences with transfer and articulation have been highly complex, deeply intriguing, and sometimes exasperating as the structural barriers at play in the articulation of transfer credit have become glaringly visible. It has also been striking to experience completely different policy contexts between the two states I worked in and consider the impact of state policy at the institutional level. All these experiences have contributed to my interest in pursuing a doctorate and completing an organizational and systems study of articulation for my dissertation.

An Organizational and Systems Study of Articulation

Organizational ambiguity is a hallmark of the U.S. higher education system (Birnbaum, 1988; Bush, 2011; Cohen & March, 1974/1986). Dissension over goals, problematic technology, bureaucratic fragmentation, and loose coupling within organizational hierarchies all contribute to ambiguous organizational environments that lead to garbage can decision-making scenarios (Cohen et al., 1972). Transfer and articulation systems embody such organizational ambiguity.
where multiple organizational cultures and bureaucratic systems are at play in the processes used to articulate curriculum for transfer credit awards at four-year institutions (Lattuca & Stark, 2009). Complicated organizational processes, including curriculum alignment and the operationalization of the credit hour exchange on transcripts, occur in disparate administrative and academic units (Kintzer, 1996; Lattuca & Stark, 2009). As these processes become untangled, intricate localized systems are revealed that are both inefficient for institutions and inconsistent for students (Chase, 2010). Faris (2018) similarly describes the “decentralized matrix of independent, autonomous institutions” that “contribute to low completion rates, excessive credit hours, and more time to degree for the transfer student” (p. 181). Relationships within and between these autonomous institutions, both structural and personal, are what make transfer work (Kintzer, 1996).

These “working teams (people who need one another to produce an outcome)” (Senge, 1990, p. xiii) make up the system of articulation I was interested in researching. Systems-thinking provided a succinct framework to qualitatively examine the complex human and organizational systems that make up articulation proceedings at multiple levels within four-year institutions. Systems can be studied by examining interactive patterns of human behavior, structural elements within the system (policies, rules, and business processes), and mental models of system actors. Collecting rich qualitative data on these components allowed me to analyze articulation processes as a system, specifically considering structural elements, feedback loops within the system, and human elements of the system.

**Problem Statement**

An embedded history of racial exclusion and inequitable public policies have contributed to the largest income disparity between U.S. citizens today since the Great Depression (St. John,
2013). These inequities perpetuate lingering social justice issues in the country, including access to postsecondary education. Institutions of higher education are historically complicit in this inequitable social stratification due to exclusionary admissions criteria, limiting cost structures, and other policies that contribute to ongoing inequitable access to social mobility for historically marginalized populations (Bensimon, 2020; Chesler & Crowfoot, 1989/2000). To address this historic access issue, the U.S. community college sector was formed as “the embodiment of educational democracy” (Wilson & Garza Mitchell, 2017, p. 5) with its low-cost, open-access model. Community colleges provide educational on-ramps for large swaths of the population through a variety of academic offerings, including the baccalaureate transfer pathway that has been central to the sector since its inception and is the focus of this study.

Despite the long history of the community college transfer pathway, research has persistently shown alarmingly low transfer-out and completion rates for community college transfer students, in addition to excess credits earned and lengthened time-to-degree for those students that do earn a bachelor’s degree (Horn & Skomsvold, 2011; Jenkins & Fink, 2016; Simone, 2014; U.S. GAO, 2017). The growing and somewhat disconnected body of literature on lagging transfer student success rates has been inconclusive in determining plausible structural change strategies for improving outcomes (Roska, 2009). Taylor and Jain (2017) completed a thorough review of studies addressing transfer, finding it to have been studied across multiple domains, including transfer student behaviors and characteristics, institutional processes and cultures, and state policy environments. Few qualitative studies have addressed lagging community college transfer student success rates, and those that I located do not fully address the academic enterprise of articulation as a potential barrier (e.g., Bensimon & Dowd, 2009; Tobolowsky & Cox, 2012; Townsend & Wilson, 2006). Furthermore, scant research has
considered the perspective on universities in research on transfer (Bahr et al., 2013) nor academic articulation proceedings as a critical component to transfer student success (Hodara et al., 2017). I sought to help fill these gaps with this case study research which examined how the system of articulation was operationalized at a Midwestern regional public university to find leverage for improving the system from within (Senge, 1990).

**Study Purpose and Research Questions**

The purpose of my case study was to examine the organizational system of articulation that guides how community college coursework is evaluated for transfer credit awards at a Midwestern regional public university (RPU). I hope the findings from my study will inform current student success reform efforts happening across the country, including efforts at the institutional, state, and national levels that specifically address transfer articulation. Results of the study can help policymakers, campus leaders and other organizational actors involved in systems of articulation consider how to leverage the articulation system to become smoother for institutions and more equitable for students. Furthermore, I hope the results will empower community college transfer champions, university faculty, staff, and administrative leaders to more deeply consider how their role within articulation systems impacts the social justice imperative of the community college transfer pathway (Bender, 1990). To these ends, I am presenting this case study which sought answers to the following research questions:

1. How does a Midwestern regional public university enact the system of articulation that serves to award transfer credit for community college coursework?

2. What roles do various organizational actors play in the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university?
Conceptual Framework

Several organizational and systems theories framed my research design. Figure 1 applies a common systems-thinking tool, the iceberg model (Senge, 1990), depicting how I see four-year institution transfer and articulation systems contributing to low community college transfer student completion rates and excess transfer credit accumulation as a macro-level social justice issue. As the iceberg depicts, my study examined patterns of behavior, underlying structures, and mental models enacting the multi-level organizational system of articulation within a regional public university.

Figure 1

Transfer Systems Iceberg

Note. Adapted from Systems thinking process- iceberg model, Gürdür Broo & Törngren (2018). Figure 2 depicts my conceptualization of the system of articulation as the primary unit of analysis for this study embedded within multiple levels of context influencing how the system
operates. My study qualitatively examined these levels of context and the web of interconnected policies, unit proceedings, and organizational actors embedded in the system of articulation. This research attempted to untangle these complexities for better understanding of how to leverage systems of articulation to improve transfer student success.

Figure 2

Conceptualizing the System of Articulation

Case studies are “a particularly suitable design if you are interested in process” (Merriam, 2001, p. 33). This single site, multilevel case study was designed to examine organizational processes within the system of articulation that serve to award transfer credit for community college coursework at a Midwestern regional public university (RPU). In addition to considering the university system writ large, I examined articulation proceedings in three distinct program areas to deepen my analysis. These programs were History, Psychology, and Mechanical Engineering. My methods involved collecting and analyzing basic descriptive quantitative data to use in triangulation with two in-depth qualitative data collection methods, document review and analysis and semi-structured interviewing of human actors within the system of articulation.
To contextualize my research, I queried and analyzed publicly available descriptive quantitative data on undergraduate transfer students within the desired case setting. I further explored state and institutional data to better understand student transfer patterns within the state and my specific regional university case site. This analysis set the stage for the rich qualitative data I collected and analyzed from documents and semi-structured interviews to examine and describe the operational system of articulation that was the focus of this case study.

Qualitative researchers frequently analyze documents to understand and contextualize the topic under study more deeply (Bhattacharya, 2017; Merriam & Tisdell, 2016). Document refers to a wide range of written, visual, physical, or digital material relevant to the topic under study and these written forms offer an important way to triangulate other data used to answer the research questions behind a case study (Merriam & Tisdell, 2016). Most of the documents I analyzed in my case study were public records.

I began by analyzing the state transfer and articulation policies impacting my study site, as found in legislative statutes and state-coordinated websites. Then, I moved to analysis of the institution’s transfer policies as found in the academic catalog, on the institutional website, and described by study participants. These documents were helpful in plotting the structural elements within the system of articulation at the regional public university under study. I intended to review discourse on articulation decision-making (e.g., email exchanges between decision makers, learning outcomes crosswalks, meeting notes or minutes wherein transfer articulation is discussed, etc.) but my participants were not able to produce any such artifacts for my review.

Using a semi-structured interview protocol allowed me to collect rich qualitative data directly from organizational actors within the system of articulation (Chenail, 2011). My case was bound at the university setting and, since the catalogs at most regional public universities are
wide and deep, I selected three specific degree programs (History, Mechanical Engineering, and Psychology) to examine within the larger system of articulation that is the unit of analysis for this study. I selected these programs due to diversity of academic area, differences in career pathways, and variability in external impacts on transfer (e.g. disciplinary accreditation).

I began by interviewing several administrative staff members involved with transfer and then sought to meet with admissions staff, the registrar, Chief Academic Officer (CAO) and academic department personnel involved with the system of articulation. Using a snowball procedure (Merriam & Tisdell, 2016) in these initial interviews, I identified and requested to meet with other department and university personnel involved with articulation proceedings as recommended by my initial study participants. Additional details on methodological design, including data collection and analysis procedures, are further described in Chapter 3.

Chapter 1 Closure

As the rising cost of higher education prices more and more students out of directly enrolling into a four-year college or university, the community college transfer mission has reemerged as a hot button policy issue meant to facilitate democratic access to social mobility through the U.S. postsecondary education system. Unfortunately, both associate and bachelor’s degree completion rates for community college transfer students continue to lag behind their non-transfer counterparts (Jenkins & Fink, 2016). It is past time for higher education to examine systems and structural barriers that exacerbate these inequities. This research took up the cause by examining one of the underlying systems in the community college transfer pathway, the four-year institution transfer and articulation system. The next chapter further situates my study with application of the organizational and systems theories that frame my research and review of prior research on the community college transfer pathway.
CHAPTER 2

LITERATURE REVIEW

This chapter provides a review of literature to establish context for my study (Grant & Osanloo, 2014). First, I discuss my macro-level view of transfer and articulation systems and offer a more detailed review of the systems theory framework for my research. Next, I consider higher education systems in the U.S., situating the system of articulation within the larger system. Finally, I discuss the studies on transfer and articulation I reviewed that inspired me toward my unique purpose of examining the organizational system of articulation that guides how community college coursework is evaluated for transfer credit awards at a Midwestern regional public university. All this literature has provided essential background toward fulfilling this purpose of my research study by pursuing the following research questions:

1. How does a Midwestern regional public university enact the system of articulation that serves to award transfer credit for community college coursework?

2. What roles do various organizational actors play in the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university?

Systems Theory Framework

After working with transfer and articulation systems in two Midwestern states for over a decade, I have developed a systemic macro-level view of the social justice imperative of the community college transfer pathway within the larger U.S. higher education system. In part, this starts with my conviction that U.S. community colleges provide critical public infrastructure necessary for more equitable economic and democratic participation between all citizens. I am enamored with the multiple educational missions and social role of the U.S. community college
sector and have seen firsthand how systemic inequities such as public funding formulas, financial aid policies, and inequities in transfer systems systematically disadvantage the historically marginalized populations most often served by the community college sector. These systemic inequities interact and form structural barriers to social mobility and authentic participation in our democratic society and compel my interest in studying higher education systems further.

In addition to my macrocosmic systems view of the community college transfer pathway, a systems theory framework made sense for my research problem seeking to untangle the organizational ambiguity behind the operations of postsecondary institutions in the U.S. I did this by studying the human actors, processes, and cybernetics involved with systems of transfer articulation at the local institutional level. Analyzing my results has allowed me to consider the macro-level impact of these systems as structural barriers to transfer student success and, more importantly, to identify opportunities within such systems to leverage structural change toward improving equity in transfer student outcomes.

**A Language for Complexity**

Systems theory offered a language for complexity from which to approach my study. I see the siloed organizational proceedings involved in curricular articulation as parts that impact less defined but structurally powerful interacting systems of articulation. This conception aligns with the Aristotelian sentiment, “The whole is more than the sum of its parts” (p. 407), which biologist Ludwig von Bertalanffy (1998/1968), the founder of general systems theory, credits as the original and enduring definition of the system upon which the theory is based. First applied to research in organismal biology, the theory allowed for a new type of scientific inquiry that recognized living systems as sets of interacting parts, both within their own embedded subsystems and, critically important, as open systems influenced by the external environment.
This created new opportunities for dynamic research in the biological, psychological, and social sciences. The complementary study of cybernetics emerged around the same time, providing form to examine control mechanisms mitigated by information flow and interacting feedback loops resulting in a “dynamic interplay of processes” (von Bertalanffy, 1998/1968, p. 44) within all types of systems.

Put together, these theories offered sociotechnical analysis tools to consider structural elements, input and output variables, and human behavior within systems in order to solve complex social problems (Morgan, 2006). Particularly fitting to the study of social systems (or systems enacted by humans) are the structural notions of system boundaries, centralization, differentiation, leading part(s), feedback loops, and cybernetics (von Bertalanffy, 1998/1968). Organizations can be seen as information, communication, and decision-making systems, all fueled by human processes (Morgan, 2006). Organizational processes can be seen as systems, “… bound by invisible fabrics of interrelated actions” (Senge, 1990, p. 7). Thus, analyzing the system of articulation meant identifying and analyzing influential human actors and behaviors, structural variables, and feedback loops to ascertain cause-effect relationships and interacting flows of influence within the system (Morgan, 2006; Senge, 1990).

Humans Are the System

The active force of every organization, and every system that operates within it, are its people (Senge, 1990). People’s thought processes, or mental models, impact their patterns of behavior, decisions that affect structure and, ultimately, the system at large (Wheatley & Kellner-Rogers, 1996). In cross-functional teams, like those that execute systems of articulation, each person’s mental model is focused on a different component of the system and may have a different goal in mind, often contributing to a lack of shared vision throughout complex human
systems. In my work I have frequently noted articulation system breakdowns at universities due to a lack of shared vision (and shared understanding) around priorities and organizational roles within institutional transfer systems. Therefore, a key focus of this study included both the human systems of transfer articulation and the structural elements guiding these systems to better understand how the system of articulation impacts community college transfer student success.

**Structure Influences Behavior**

Structure impacts system behavior and is manifest at several levels. Within human systems, structural elements refer to “… how people make decisions – the ‘operating policies’ whereby we translate perceptions, goals, rules, and norms into actions” (Senge, 1990, p. 40). In systems of articulation, decision-making structures and organizational hierarchies are complex and ambiguous (Cohen & March, 1974/1986). Several structural elements guide decision-making in systems of articulation, including federal and state policy, disciplinary and other accreditation stipulations as well as policies and procedures at the institutional, school/college, department, and program levels that all interact as structural variables in articulation systems.

Likewise, structure within systems is concerned with patterns of interactions that influence key organizational processes and outcomes. Since organizational actors are part of these human systems, these structural elements can go unrecognized but hold tremendous power for leveraging structural change. One such structural element is organizational hierarchy. Complex organizations institute hierarchies to break down complexities, organize and distribute labor tasks, and manage competing demands (Senge, 1990). Over time, these hierarchies can turn into silos where discrete functions of the system are managed in isolation with little to no deliberate contact between disparate segments of the system, leading to loosely coupled organizational proceedings (Weick, 1976) and system breakdowns (Senge, 1990).
Leveraging Structural Change

The notion of leveraging structural change is a major draw to analyzing complex issues through a systems theory framework. The idea of leverage in systems theory asserts that “small, well-focused actions can sometimes produce significant, enduring improvements, if they’re in the right place” (Senge, 1990, p. 64). These high leverage possibilities can be hidden within the system, particularly for complex systems like academic affairs. Exercises to examine and illuminate the system’s structural proceedings through rich qualitative data collection allowed me to analyze patterns of behavior and interacting variables within the system and revealed high impact possibilities for structural change (Morgan, 2006; Senge, 1990).

Systems of articulation include various human and structural aspects that impact how community college students can transfer credit to a baccalaureate institution (or not). People and structures interact in articulation systems to produce feedback loops that can be plotted to analyze patterns, interaction, and delays. Feedback loops where interacting variables “are organized in a circle or loop of cause-effect relationships” (Senge, 1990, p. 74) can be helpful in understanding interacting variables and flows of influence within systems. I used the elements described in this section to frame my study’s methodology and develop a provisional coding framework to help organize my data for initial qualitative analysis (Saldaña, 2016).

Higher Education Systems in the U.S.

Clark (1983) was among the first to apply systems theory constructs to the study of higher education organizations, frequently moving between macrocosmic and microcosmic levels of analysis in his research. Important to the macrocosmic view of higher education systems, Clark situated the industry as an embedded social structure, making the case for its interrelationship with other elements of the global society and demonstrating the social power of
the sector as a convergence of professionalization and bureaucratization. While Clark felt the term system was murky because of the loosely configured and socially constructed boundaries in educational organizations, his scholarly work is seminal to understanding higher education systems on multiple levels. The dynamic interplay between the cross-cutting systems of higher education organization apparent in the transnational academic disciplines and more local academic institutions is centrally relevant to my study of curricular articulation (Clark, 1983).

**State Higher Education Systems**

State higher education systems have been grappling with transfer and articulation as a policy issue for more than a century. Early policies were primarily meant to distribute students among the increasingly differentiated system of higher education in the U.S. (Brint & Karabel, 1989; Eells, 1931; Handel, 2013). As the U.S. higher education system expanded, new policies commoditized articulation with goals related to credit efficiency, economic returns for taxpayers, and democratizing access through lower cost postsecondary options (Anderson et al., 2006; Chase et al., 2014, Faris, 2018; Ignash & Townsend, 2000). In recent years, state transfer policies have become more intensively focused on articulation and curriculum pathways, reflecting policymakers’ intolerance of academic traditions that breed competition, inhibit cooperation, reinforce duplication, waste state resources, and threaten student success outcomes. Such policies that are now commonplace across the U.S. include assurance of transferable lower-division general education coursework, guaranteed transfer of an associate degree, and reverse transfer mechanisms to allow transfer students to retroactively earn an associate degree after transferring to a four-year institution (ECS, 2020). While there is a strong transfer articulation policy presence across the country, scholars note that state policy often dictates the context within which institutions have considerable latitude to enact highly contextualized transfer articulation
systems according to their unique organizational structure and culture (Bell, 2021). This gives these localized systems of articulation structural weight in the states and larger national system.

**Academic Authority in the System**

Academic disciplines are artifacts of the human experience (Lattuca & Stark, 2009). They exert considerable influence at all levels of higher education systems (Zemsky et al., 2018). In part, this is because universities emerged in history before periods of political nationalism. Thus, academic disciplines have maintained a level of global authority in higher education systems that can come into tension with the authority of national and state systems and complicates the hierarchy within individual institutions (Peterson, 2007).

A cornerstone of U.S. colleges and universities, academic departments act as a fulcrum for faculty members between their affiliation with their discipline and their institution (Hearn, 2007). Just as the national higher education system is wrought with differentiation, so are the departments. Disciplinary specializations mean that academic departments are ripe with dynamic subcultures, different sets of norms and varying levels of power and authority within institutional systems (Clark, 1987). Despite their disparate systems, Clark asserted that the disciplines and their institutional homes both hold their primary purposes to be knowledge development and dissemination. This is especially striking since systems of articulation bring these purposes and the humans that comprise both the institutions and the disciplines together directly.

Curriculum is a key structural element of the higher education system, highly contextualized to the organizational ethos and culture of individual institutions, disparate departments within these institutions, and particular academic disciplines (Clark, 1987; Hearn; 2007; Zemsky et al., 2018). The formal structure of the curriculum involves the type and arrangement of courses required for general education and degree programs; design of course
content to meet ascribed learning outcomes, and delineation of the authority of faculty in
governing the curriculum (Lattuca & Stark, 2009; Palmer, 1996). The technology of curriculum
refers to the ways in which institutions record and monitor which classes, in which order, and
those which can be transferred to meet bachelor’s degree requirements (Hendrickson et al.,
2013). Over time, both the curriculum and its cybernetics have changed dramatically as
institutional catalogs have expanded and responded to social changes.

Today, academic catalogs are inflated, and program requirements have become highly
sequenced and variable between institutions (Zemsky et al., 2018). Diamond (2008) noted an
“absence of structure and coherence” (p. 116) and lack of attention on learning outcomes and
correlated assessment strategies in curriculum design, between institutions and even between
departments at the same institution. Community college curriculum is even more complicated
with its multiple course types, including high school dual enrollment, developmental prerequisite
coursework, non-credit skills training, occupational programs and, often less defined in their
catalogs, transfer programs. These choices are confounding and can be high stakes since some of
these courses will not count for baccalaureate degree requirements if students intend to transfer
(Handel, 2021). Students and advisors alike often lack an understanding of the curricular
complexities of transfer and struggle to track their progress between different degree auditing
systems (Fink & Jenkins, 2021). These issues interact at the structural level resulting in a
labyrinth of systems issues in transfer that contributes to lagging transfer student success rates,
excess transfer credit accumulation, and confusion within the system all system actors.

Organized Anarchy and Loose Coupling in the System

Given the interacting complexities in each of these subsystems, it is easy to see an
organized anarchy behind the core academic processes of the higher education system (Cohen &
March, 1974/1986). Such organized anarchy depicts the sector’s blurred hierarchies, reliance on autonomous professional employees (faculty members), and high degree of vulnerability to the external environment. It is particularly applicable to understanding ad-hoc decision processes found within curriculum control systems that are loosely coupled due to lack of coordination, inconsistency in accountability measures, and sometimes unwieldy shared governance structures (Birnbaum, 1988; Cohen & March, 1974/1986; Cohen et al., 1972; Weick, 1976). Such loose coupling and ambiguous organizational cultures in higher education have distanced organizational processes like articulation from bigger picture goals (Cohen & March, 1974/1986; Weick, 1976). This lack of shared vision and inability to understand and manage complex system of articulation causes breakdowns that complicates the transfer process within and between institutions and disadvantage students.

**Differentiation and Hierarchy in the System**

Truly, “the magnitude of the enterprise and the mission differentiation among U.S. campuses is nothing short of extraordinary” (Gumport, 2007, p. 36). Each sector of the higher education system is characterized by pervasive structural and organizational differences (Hearn, 2007). The sectors and, thus, institutions within them exist in complex environments due to multiple and sometimes competing missions and a range of external pressures from a variety of highly vested stakeholders (Bastedo, 2007). Analyzing distinctions in structural features of postsecondary institutions provides insight into how the overall system of higher education in the U.S. is stratified in terms of structure, resources, and, ultimately, equity in student outcomes (Hurtado, 2007; Jenkins et al., 2014).

Colleges and universities are frequently categorized by such structural delineations as style of government and control, size, enrollment selectivity, residential status, geography,
general cost, strength of endowment, research activity, type of academic offerings and level of
degrees conferred. These hierarchical distinctions reflect and reproduce structural inequities in
the system and are a direct cause of the lingering impact of higher education’s history of racial
discrimination, serving to reinforce historic cycles of social oppression (Chesler & Crowfoot,
1989/2000). Hierarchical issues also play out in the transfer pathway where four-year institutions
have historically held the power in decisions about transfer curriculum alignment (Dougherty,
1994; Wang, 2020). Within the larger hierarchy, both community colleges and regional public
universities are ranked near the bottom (McClure & Fryar, 2020).

This stigma is unfair for both sectors, which each contribute to their communities and
geographic regions in important ways. Regional public universities are powerhouses in the U.S.
higher education system, educating a large share of public university graduates, particularly
many public service workers, including educators (Orphan, 2018). In much the same way as
community colleges, regional public universities serve multi-faceted missions typically related to
educational access, student-centeredness, and service to the geographic region (Jabbar et al.,
2017; Orphan, 2020). This makes regional public universities especially important to the
community college transfer pathway since transfer is best aligned with the mission, enrollment
patterns, and lower cost of regional publics (Jenkins et al., 2014; Tobolowsky et al., 2014).

Community colleges, too, hold a tenuous position in the hierarchy with their multiple-
missions, open-access enrollment policies, and declining public funding support (Goldrick-Rab,
2016). It is well documented that student loan debt and higher education tuition have both soared
in recent years (Goldrick-Rab, 2016; Handel, 2021). Because of this, the lower-cost community
college sector holds tremendous promise in economizing access to postsecondary credentials,
even as the COVID-19 pandemic ravaged both the economy and higher education enrollment
patterns across the country. Heightened impact has been noted in transfer student enrollments which were down considerably more than first-time enrollees in Fall 2020 (Causey et al., 2020). Certainly, this exacerbates ongoing issues around equity in educational access for low-income and other underserved students who disproportionately enroll in U.S. community colleges. This reinforces the notion of lagging transfer student success rates as a systemic barrier and larger social justice issue worthy of deeper attention in the research literature (Anderson et al., 2006; Chase et al., 2014; Crisp & Nuñez, 2014; Jain et al., 2020; Wang, 2020).

The Embedded System of Articulation

In addition to the hierarchy previously discussed, several structural elements in the U.S. higher education system impact the embedded system of articulation. These include government authority and state policy, formal organizational charts governing hierarchy and division of labor, shared decision-making processes, formal policies and rules that dictate organizational functioning, and technical processes in multiple units that move students through their interactions with the institution (Birnbaum, 1988; Baldridge et al., 1977/2000; Bush, 2011; Stroup, 1966). The system of articulation involves a disparate network of organizational actors in varying states of interplay performing various roles to execute policies and processes that dictate whether students receive transfer credit for prior coursework. In addition to these more formal structures, the system of articulation also includes tacit structures such as mental models, interpersonal relationships, and communication norms (Kintzer, 1996). This loosely coupled environment at both the micro- and macro-levels in transfer systems disadvantages students and creates costly inefficiencies for the institution and system at large (Chase et al., 2014).

It is challenging to parse out the many bureaucratic processes enmeshed in systems of articulation. Technological, mechanical, and bureaucratic devices such as the credit hour and the
transcription of courses must be addressed when considering curricular articulation policies. (Kintzer, 1996; Lattuca & Stark, 2009). Administrative layering cannot be ignored, particularly as articulation protocols combine the need for managerial and academic experts to collaboratively address organizational issues in the acquisition of funding, fluctuations in student enrollment, and government influence over transfer policies (Birnbaum, 1988; Clark, 1983).

The registrar’s office is a key element within in the system of articulation as this unit operationalizes academic affairs polices into student information systems and associated technical business processes (Diamond, 2008). Too often, transfer is relegated to just an administrative function, glossing over the academic affairs enterprise of transfer wherein faculty and other academic affairs personnel play important, but less clearly understood roles within the system of articulation (Gardner et al., 2021; Handel, 2021). Historically, individual faculty members held control over curriculum due to shared governance and academic freedom usually executed through curriculum control processes within their respective academic departments (Cohen, 2012; Gerber, 2014). While recent research points to the importance of faculty relationship-building between sectors (DeChano-Cook & Casey, 2020), less has been written about the role of faculty in curricular articulation decision-making or how these processes work generally within academic affairs. Canada (2021) noted the importance of academic department chairs and deans to the enterprise of transfer articulation, “since they often decide whether to accept specific transfer credits” (p. 205). These front-lines actors hold considerable power in systems of articulation since their actions and decision-making processes directly impact transfer students’ degree progression. Examining in-depth process knowledge from these front lines actors in my study who enact the system of articulation at their regional public university will provide a deeper understanding of system breakdowns and leverage points for structural change.
Minding the (Research) Gap

In addition to the organizational and systems theory research I applied in developing the framework and research design for my study, I reviewed decades of prior research addressing the community college transfer pathway to ground my study among the work of my peers. Broadly, these studies evaluated state transfer and articulation systems (Anderson et al., 2006; Baker, 2016; D’Amico & Chapman, 2019; Gross & Goldhaber, 2009; LaSota & Zumeta, 2016; Roska & Keith, 2008; Spencer, 2019; Worsham et al., 2020), illustrated persistently lagging transfer student success outcomes (Horn & Skomsvold, 2011; Jenkins & Fink, 2016; Monaghan & Atewell, 2015; Shapiro et al., 2017; Velasco et al., 2024), and indicated overlapping structural barriers to transfer student success (Jenkins et al., 2014; Rosenberg & Koch, 2021; Tobolowsky et al., 2014; Wang, 2020). In the sections that follow, I briefly review the findings of my peers that have informed and inspired my unique study design through which I sought to fill gaps in the body of work on the social justice problem of low community college transfer student success rates.

Evaluating State Transfer and Articulation Systems

Despite a long history of states attempting to mitigate systems of transfer, most attempts to empirically evaluate state transfer policies have been quantitative and show a mixed and incomplete picture of efficacy (Bers, 2013; Taylor & Jain, 2017). Where evaluations have taken place, most have focused on transfer enrollment and degree completion rates and findings have been inconsistent across the body of literature (Anderson et al., 2006; Baker, 2016; D’Amico & Chapman, 2019; Gross & Goldhaber, 2009; LaSota & Zumeta, 2016; Roska & Keith, 2008; Spencer, 2019; Worsham et al., 2020). In part, this is because states lack capacity for linked longitudinal data systems to effectively track the path of transfer students and more soundly
evaluate transfer policy efficacy (Baker, 2016; D’Amico & Chapman, 2019; Gross & Goldhaber, 2009; Spencer, 2019). Findings have also been inconsistent because scholars have not agreed on the best method for counting transfer student success, fluctuating between claiming success by analyzing quantitative transfer-in or transfer-out rates, retention rates, and, ultimately, degree completion rates with much attention paid on comparisons between transfer and direct-entry student cohorts. In addition, implementation of such policies is inconsistent (Bell, 2021; Wang, 2020) and extreme organizational variation in transfer and articulation processing at the institutional level makes it persistently difficult to understand the complexities around transfer student decision-making, enrollment activity, and course-taking patterns (Baker, 2016).

Even in states that facilitate articulation systems through public policy, complexities in local systems of articulation at transfer institutions limit transfer credit awards (Bell, 2021; Bers, 2013; Chase, 2016; Faris, 2018; Roska & Keith, 2008; Senie, 2016; Shoenberg, 2004; Taylor & Jain, 2017). Although numerous other studies on student transfer have been conducted, these localized systems of articulation have not been well studied. This study took up the cause to understand how systems of articulation might be leveraged to improve both state and institutional transfer and articulation systems and, more importantly, individual transfer student outcomes.

**Persistently Lagging Transfer Student Success Outcomes**

Since the inception of the community college transfer pathway, wide discrepancies have been noted between community college students’ aspirations to transfer, those who actually transfer, and those who earn any type of degree, associate or bachelor’s, on the transfer pathway (Eells, 1931; Handel, 2013; Koos, 1924). An often-cited statistic shows 80% of community college students surveyed intended to get a bachelor’s degree, with only 17% of these students
earning the degree within six years of their transfer (Horn & Skomsvold, 2011). More recently, Jenkins and Fink (2016) found community college students transferring out nationally at an average rate of 33%, with only 42% of those transfer students obtaining their bachelor’s degree within six years post-transfer. Along these lines, Monaghan and Atewell (2015) estimated a 17% bachelor’s degree attainment gap between transfer and direct-entry university students. These dismal numbers indicate structural barriers throughout the community college transfer pathway which are exacerbated for historically marginalized students who frequently travel the community college transfer pathway (Rosenberg & Koch, 2021). Indeed, multiple scholars have demonstrated that students of color both transferred less often and earned their bachelor’s degrees less often than their White counterparts (Crisp & Nuñez, 2014; Hirose, 1994) and the disparities in completion rates for low-income transfer students (Shapiro et al., 2017; Velasco et al., 2024).

In addition to numerous studies that attempt to quantify transfer student success outcomes, some researchers have qualitatively studied the transfer student experience to understand why so many transfer students do not complete their educational goals, often employing interview and focus group data collection methods. Several studies found transfer students experienced inhospitable organizational culture at receiving institutions (Carrell & Kurlaender, 2016; Tobolowsky et al., 2014; Townsend, 1995; Wang, 2020). Wang’s (2020) mixed methods study provides a new framework to punctuate the social justice imperative of transfer using both quantitative and qualitative data analysis. Her quantitative analysis found 70% of her student cohort to be transfer-aspiring where only 40% of the sample of 1,170 students had transferred upward within four years. Consistent with prior studies, her students were more diverse and more often from lower-income backgrounds than students who typically
begin their postsecondary education in four-year institutions. In her qualitative interviews, she heard stories of confusion, isolation, and lack of transparency around transfer processes and, notably, transfer curriculum. She described transfer systems, and articulation systems in particular, as “forces of counter-momentum friction” (p. 138) for students, documenting the additional expenses and time the students in the study spent due to a faulty articulation system. She makes bold calls for deeper structural work to address these and other structural barriers. Studying articulation through a systems lens provides the opportunity for me to examine how some of these barriers play out for students.

**Overlapping Structural Barriers to Transfer Student Success**

Structural barriers abound in the community college transfer pathway, including disincentives for universities such as limited data reporting requirements for transfer outcomes, significant enrollment competition, and mission creep across the sectors of higher education (Jenkins et al., 2014). Typical in higher education’s organized anarchy, transfer exists in a chaotic organizational environment with inefficient, unclear, inconsistent, and often, undocumented processes that are complex for students, faculty, and staff to navigate (Jenkins et al., 2014; Tobolowsky et al., 2014; Wang, 2020).

Wang’s (2020) mixed methods study reinforces the need for a systems approach to examining articulation to find leverage for improving transfer student outcomes. Her study highlighted how inequities permeate transfer systems – from students’ initial access to their challenging transitions, lack of support services, and ultimately, lagging outcomes for the large population of already marginalized students served by the community college transfer pathway. She is explicit in calling out the power imbalance in systems of articulation between the community college and university sectors and calls upon universities, particularly their faculty,
to take up the cause and share responsibility for smoothing the transfer pathway with their community college peers. Her work is highly instructive to my own which seeks to use multiple data sources to examine the other side of the meandering curriculum pathways the students in her study described to determine where the system breaks down, and how the system of articulation can be leveraged for improvement.

Other contemporary researchers have begun to explicitly position transfer as a social and racial justice issue. Jain et al. (2020) explicitly mentioned articulation agreements as “structural impediments” (p. 8) to the equity imperative of the community college transfer pathway. Rosenberg & Koch (2021) called upon educators and researchers alike to examine and act “on transfer as a social justice imperative” (p. 51). The authors note, “The structure of the system itself must be thoroughly examined to determine where the ‘pain points’ lie in the process” (p. 60). Following these scholars’ leads, my study is centered on the notion of articulation as a structural social justice issue impacting community college transfer student success which I see as an important contemporary social justice issue.

**Curriculum as Currency in the Community College Transfer Pathway**

In today’s fiscal climate, tuition revenue is disproportionately important to higher education budgets, particularly as public funding support has continuously declined in all sectors over the last decades (Goldrick-Rab, 2016; McClure & Fryar, 2020). In this way, institutions are seen to be using their curriculum as currency for limited dollars both by expanding to offer additional types of curricula and attempting to attract new students, including recent emphasis on high school dual enrollment programs, continuing education or lifelong learning programs, and the like. This competition exists between departments and, certainly, between institutions that are
all budgetarily pitted against one another in the contemporary fiscal climate and exacerbates
tension in systems of articulation (Lattuca & Stark, 2009; Slaughter & Rhoades, 2004).

Also exacerbating the notion of curriculum as currency are the many state and
institutional funding formulas that incentivize enrollment numbers and breed both intra- and
inter-institutional competition for these revenue-inducing student enrollments (Birnbaum, 1988;
Girton & Galvin, 2001). This quasi-market environment disincentivizes transfer since it removes
potential revenue from the receiving institution’s planned budget. Especially in the current
declining revenue environment, well-articulated transfer pathways can be seen to counteract the
institution’s self-interest in these market-type conditions.

Along these lines, new studies employing sophisticated data capture processes have
attempted to evaluate the economics of transfer, as wasted credits (and time) have become the
battle cries of transfer proponents. A 2017 United States Government Accountability Office
(U.S. GAO) report caught public attention reporting transfer students lost an estimated 43% of
previously earned credits, averaging a loss of 13 credits per student, upon enrolling at the
receiving institution. This produces a false economy as many transfer students take excess credits
on a meandering path as they fail courses, earn credits not needed for their programs or cannot
transfer and apply credits between institutions (Belfield et al., 2017). Even as Belfield et al.
found clear course-taking inefficiencies in their dataset, total tuition costs were still cheaper for
community college transfer students who completed their bachelor’s degree than those who
directly entered the four-year institution because of the significant cost differential between
sectors. Likewise, Mullin (2012) estimated $22 billion in tuition savings for the transfer cohort
he studied over a 9-year period.
These results reinforce the importance of cost-efficient course-taking for price sensitive community college students who, in the absence of well-articulated curriculum, run the risk of paying for coursework that will not fulfill their transfer goals. Curriculum also acts as currency as these excess credits (and excessive developmental education prerequisite requirements) can exhaust financial aid eligibility for transfer students due to regulatory requirements (Taylor, 2021). This becomes a glaring social justice issue where the neediest students who most frequently travel the community college transfer pathway are the most disadvantaged by systems of articulation where curriculum acts as currency and form a structural barrier to their success.

Clearly, curriculum articulation is a major issue in the transfer landscape with factors such as transfer direction, accreditation status, institutional selectivity, change of academic program and student academic preparedness all impacting four-year institutions’ processes around transfer credit acceptance and applicability to degree requirements (Simone, 2014). Though the research literature has established that community college students face a host of structural barriers that contribute to their lagging student success outcomes, deeper study of the singular issue of curricular articulation as a structural impediment to transfer student success was not well covered in the studies I reviewed to-date. My research took up this cause, examining how the system of articulation is enacted at a regional public university and considering further how articulation acts as the lynchpin to facilitating permeable boundaries in the U.S. higher education system (Clark, 1983).

Chapter 2 Closure – All Systems Go

I have been trying to piece together the transfer articulation puzzle for over a decade between my professional and scholarly work. Only recently as the systems theory iceberg came into view as my research framework have I become able to articulate how I see systems of
articulation acting as structural barriers likely contributing to lagging community college student success rates across the country. In preparing for this study by wading deeply into the organizational and systems theory literature, I came to realize that the organizational ambiguity, administrative silos, cybernetic inconsistencies, and fluid regulatory systems that exist in higher education systems are clearly manifest in systems of articulation. This provided a focused research area in my effort to fill the gap in the literature on organizational and systems studies of transfer and articulation and find leverage toward improving transfer student success outcomes. To this end, my study used systems theory to untangle the complexities of articulation systems at the local university level, analyze articulation systems as a larger social problem, and consider systemic solutions to lessening structural barriers for historically marginalized students that frequently enroll in the community college transfer pathway.

My dissertation began with a quote from 2009 U.S. Poet Laureate Kay Ryan that describes well my affinity for the social positioning of the U.S. community college. I chose this quote for the same reason I chose my dissertation topic, because I believe in the egalitarian promise of the community college transfer pathway. I am frustrated that, even after a century, the evidence in this section indicates the pathway is not only not working, but it also seems to exacerbate barriers for the populations our sector continues to structurally disadvantage and take no responsibility for redress. I similarly chose organizational and systems theories to frame my qualitative study of the system of articulation at a Midwestern regional public university because I believe this framework holds promise in impacting structural change and improving student experiences, and outcomes. Using systems theory to design my study allows me to focus on “organizing detail complexity into a coherent story that illuminates the causes of problems and how they can be remedied in enduring ways” (Senge, 1990, p. 124). This is the art of systems
thinking and, thus, the perfect framework for my research design, discussed in more detail in the next chapter.
CHAPTER 3
METHODS

The purpose of this case study was to examine the organizational system of articulation that guides how community college coursework is evaluated for transfer credit awards at one Midwestern regional public university. This topic lent itself well to qualitative case study research since I was interested in studying process and aimed to intensively describe and analyze a specifically defined social phenomenon in-context (Merriam, 2001). I designed a single site, multi-level case study set at a regional public university (RPU) in Michigan. In this chapter, I describe the methods used to collect rich data that allowed me to answer the following questions guiding my research:

1. How does a Midwestern regional public university enact the system of articulation that serves to award transfer credit for community college coursework?

2. What roles do various organizational actors play in the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university?

Researcher Positionality

My interest in this research is predicated on an evolving career in higher education administration, including my last decade of work on statewide transfer articulation policy initiatives in two Midwestern states and more recent experience coordinating national community college student success initiatives. For the most part in this work, I have seen regional public university personnel value these initiatives that seek to streamline alignment of coursework and degree programs for transfer, motivated by both enrollment declines and democratic access principles. However, despite these universities’ seemingly strong commitment
to transfer student success, I have been disappointed to see community college transfer student completion rates continue to lag behind direct-entry students (Jenkins & Fink, 2016) at these institutions and I believe these transfer students are disadvantaged by ineffective and inconsistent policies and practices around curricular articulation that plays a big role in the degree progression and completion of transfer students. When I began my doctoral studies, I knew this topic warranted further research and I was excited to apply systems theory to my study designed to examine the system of articulation at a Midwestern regional public university. My previous experience in this area was an advantage due to my keen understanding of the complicated organizational and technical elements embedded in curricular articulation procedures. However, my extensive experience also warranted careful attention to reflexivity throughout the project to diminish the potential for experiential anecdotes, pre-conceived notions, or any biases I have that impact data collection, analysis and reporting of my findings (Colyar, 2009; Finlay, 2012; Patton, 2015). A reflexive project log supported the trustworthiness of my work and encouraged ongoing reflective analysis of my comprehensive dataset (Saldaña, 2016).

**Research Approach, Design, and Rationale**

Researchers must be clear about how they understand meaning and reality in their pursuit for truth through empirical inquiry (Bhattacharya, 2017). In my case, a constructivist ontology frames my view of a world that is socially constructed and can only be understood through in-depth examination, description, and interpretive analysis of social phenomena (Merriam & Tisdell, 2016). This constructivist ontology leads to my affinity for systems thinking where I see problems in the social world as systemic design flaws wherein human actors create and maintain faulty systems that perpetuate social inequities. In addition, an interpretive epistemology toward intellectual inquiry compels my interest in collecting qualitative data directly from system actors.
that facilitate the social phenomenon of curriculum articulation that serves to award transfer credit for community college coursework (Creswell & Poth, 2018).

Like most qualitative studies, mine sought to surface new meaning pertinent to the problem of lagging transfer student success rates. Choosing a qualitative study contributes to the knowledge field by filling a gap in the research literature. Many studies previously considered this problem primarily through quantitative methods and studies with a heavy focus on transfer student characteristics and transition experiences. That approach does not center the institutional responsibility for transfer student success as an imperative for structural change. An interpretive qualitative case study design was particularly fitting for my interest in engaging directly with organizational actors and using associated documents to research the processes and contextual factors that influence how the system of articulation that serves to award transfer credit at a Midwestern regional public university is enacted (Creswell & Creswell, 2018; Merriam, 2001; Merriam & Tisdell, 2016; Stake, 1995).

Qualitative case studies are typically used to answer how and why research questions about complex phenomenon that are not sufficiently understood (Stake, 1995). Decision processes, like those I researched around university articulation of community college coursework, make for good case studies since this method allows for deep examination of context using multiple levels of analysis and sources of data (Creswell & Poth, 2018; Yin, 2014), in order to “uncover the interaction of significant factors characteristic” (Merriam, 2001, p. 29) of the system of articulation. Case studies are especially suitable for research questions like mine that focus on “practical problems – for questions, situations, or puzzling occurrences arising from everyday practice” (Merriam, 2001, p. 29). Transfer articulation is a practical organizational problem and lends itself to the case study methodology since I focused on the
system of articulation as the overall unit of analysis under examination. This idea of the system of articulation provided the boundary for my case study and allowed me to examine the articulation context in several program areas examined within the larger system (Yin, 2014).

**Fall 2019 Pilot Study**

In fall semester 2019, I had the opportunity to complete a pilot study with a similar purpose to this one as part of a practicum class in my graduate program of study. At the time, my research convictions were not yet fully determined. I struggled to clearly articulate my own ontology and epistemology as well as the conceptual and theoretical frameworks most fitting for my study’s purpose. Being on semester deadlines, I made choices and moved forward with a basic interpretive qualitative study which served me well as a practice experience. My purpose for that study applied an organizational sensemaking theory with an aim to make sense of university policies and procedures that articulate community college curriculum and serve to award students’ transfer credit. My overarching research question was: How is community college curriculum articulated for transfer credit within university academic departments? I used semi-structured interviews to collect data from departmental actors involved with transfer articulation and completed thematic analysis to determine preliminary findings. My participant sample included faculty members from two regional midwestern universities in five academic disciplines: Communication, English, Exercise Science, Public Health, and Social Work.

While I bumbled through the experience, the pilot study was an important step for me as a novice researcher in trying out the research design process. It helped me move toward the more suitable systems theory framework and case study design that affirm the questions I sought to uncover in the present study. It also provided a basis for multiple aspects of the present study.
including the sampling and participant recruitment strategy, interview protocol, and provisional coding schema used for this dissertation study.

Case Boundaries and Unit of Analysis

Merriam and Tisdell (2016) discuss “fencing in” (p. 38) what will be studied in a case as a bounded system. Likewise, determining the unit of analysis defines an empirical case study (Stake, 1995). My case study boundaries were drawn around a single Midwestern regional public university that served as my case setting. Universities function as open systems highly dependent on the “dynamic interaction of its components” (von Bertalanffy, 1998, p. 150) and influenced by the import and export of products and material, as well as a complex interplay between a variety of multi-level internal and external system actors. In Chapter 2, I described further my conception of the U.S. higher education system as a large, loosely coupled, and highly differentiated system. Overlapping inequitable systems in the operating procedures of U.S. colleges and universities were not meant for the contemporary sociopolitical environment and, certainly not for ensuring equity across today’s highly diverse postsecondary student body. One such system with significant influence on the success of community college transfer students is the system of articulation that serves to award students transfer credit. In this study, my primary unit of analysis under study was the system of articulation at the regional public university (RPU) selected for this case study. I was interested in understanding how the system was enacted, including identifying structural policies that guide how the system works and demarcating the roles and cybernetic interplay between various organizational actors.

It would have been unmanageable to study the system of articulation at the depth of a full comprehensive regional public university academic catalog. Yet, I expected to find contextual differences at the academic program and department levels within the larger system. Examining
several academic programs of study (Yin, 2014) allowed me to examine how the system of articulation occurs within each program and the academic departments they are housed in at the university, and across administrative units in the larger university system, which provided a more complete picture of this multi-level case.

To this end, I examined a sampling of programs representative of nuances in articulation systems that warranted further exploration within the academic context. The programs I selected were History, Mechanical Engineering, and Psychology. Variation in this sample includes differences in degree type (Bachelor of Arts, Bachelor of Science, or the option to earn either in the discipline), type of career preparation, influence of disciplinary accreditation, and prevalence of transfer student enrollment. My 2019 pilot study included representation from Social Work, a field where career entry is licensed at the state level and academic programs are more strictly accredited by a national disciplinary body. I considered delving further into this landscape by including Social Work or another field mitigated by licensing and accreditation requirements but, since my focus was on the institutional system of articulation, I chose to exclude programs with this sort of heavy external influence on articulation systems.

In addition, each of the program areas I selected have been or are currently the focus of coordinated state-level transfer work in Michigan. New multi-institutional associate to bachelor’s degree transfer pathways were recently cooperatively developed by Michigan faculty in Mechanical Engineering and Psychology, and a group of cross-sector History faculty had just begun meeting at my study’s inception to collectively strengthen the transfer pathway in this discipline throughout the state. While my professional work interfaced with these efforts, as I considered other suitable program areas, several programs were noted as more likely for researcher bias given a deeper level of exposure to articulation work in these areas. Thus, the
three within-system program areas I examined provide both maximum variation and a fresh perspective for this inquiry.

**Case Study Setting**

**State Context**

As discussed in Chapter 2, state legislation frequently plays a role in guiding community college to university articulation policies at public institutions. In Michigan, however, the State Constitution (Article VIII § 3) ascribes autonomous governance for public baccalaureate granting institutions. This means there is no state higher education executive office (SHEEO) in Michigan, which is typically the entity that coordinates state transfer policy initiatives. Minor provisions for transfer are included in appropriations bills providing funding to the state’s public colleges and universities and voluntarily collaborative statewide transfer efforts date to 1972.

And yet, recent transfer enrollment and completion data shows that transfer is a major issue in the state. Valesco et al. (2024) found the transfer-out rate for Michigan community college students was higher, at 36%, than the national average of 33%. Despite this higher preponderance of transfer, far fewer transfer students left the community college with an associate degree (30%) than the national average (44%), and they were slightly less likely to complete a bachelor’s degree post-transfer within six years (47%) than their peers nationally (48%).

Despite lacking government coordination of transfer, these concerning data points propelled a voluntary network of vested colleges and universities and dedicated sector advocacy association staff, including myself, to work collaboratively over the last decade to overhaul Michigan’s transferable general education program and develop statewide program articulation agreements in selected disciplines. This work disrupted the system of articulation at both the
institutional and state levels. This state context provided a unique setting for my case study since I expected these statewide activities to influence systems of articulation at Michigan’s public universities, but also expected their impact was likely more limited than what might be found in other state settings, allowing the institutional system of articulation to entertain the spotlight in this study as intended. My familiarity with the state’s transfer system also made Michigan a good choice to draw from in selecting my case site since I had access to data, tools, personnel, and other resources that provided heightened opportunity to examine and analyze systems of articulation on multiple levels.

**Regional Public University Case Site**

Studying a regional public university’s system of articulation makes sense as community college students are often geographically constrained, frequently transferring to local, regional public universities (Jabbar et al., 2017; Jenkins et al., 2014). Despite the centrality of universities to transfer systems, much prior research on transfer has focused on the community college sector, neglecting the major role played by four-year institutions (Bahr et al., 2013), particularly university faculty in decision-making about transfer curriculum (Wang, 2020). Therefore, I chose a regional public university for my target case site and deliberately included the voices and perspectives of university faculty and other academic decision-makers in the articulation system.

Orphan (2020) notes that there is no authoritative list of regional public universities in the U.S. She indicates these institutions are typically categorized by likeness of mission related to stewards of place within their geography and indicates regional public universities cut across seven Carnegie classifications. In selecting the case site for my study, I first developed a list of plausible regional public universities in Michigan and reviewed preliminary data about each related to undergraduate enrollment, proportion of transfer student enrollment, tuition cost,
completion rates, and geographic location. Although several regional public universities on this list clearly enrolled the largest proportion of Michigan’s transfer students, several more were grouped with more modest shares of transfer student enrollment, operated in less populated geographic areas, and provide a more representative setting for typical organizational proceedings around transfer articulation in the regional public university setting, both in Michigan and the larger context. Thus, I sought and was granted approval for my study to be completed at one of these institutions, which I have referred to throughout this manuscript as Regional Public University (RPU).

**Study Participants**

Before recruiting participants or making any data for this study, pursuant to Western Michigan University’s (WMU) research policies, I sought approval from WMU’s Human Subjects Institutional Review Board (HSIRB) and from RPU’s HSIRB to conduct my study there as my intended case site. After receiving approval in March 2022, I pursued an initial purposeful sample in addition to using a snowball sampling technique to identify additional study participants (Merriam & Tisdell, 2016).

*Sample size*

In qualitative research, an ideal sample size is less about aiming for a particular number of participants and more about purposeful sampling to support the stated purpose of the research. In case study research, Yin (2014) notes that typical sample size criterion are irrelevant in case study research where researchers should focus instead on generating a sample for comprehensive, in-depth understanding of the unit of analysis under study. To this end, I used purposeful maximal sampling to represent different perspectives of the researchable problem (Creswell & Poth, 2018). My initial purposeful sample included 12 participants involved in the
system of transfer credit articulation at my case site. During interviews with these participants, I used a snowball technique to identify and meet with 7 other participants involved in the articulation system.

For the purposeful sample, I selected system actors central to the larger university system of articulation as the primary unit of analysis under study including the chief academic officer (CAO), university registrar, and statewide project transfer liaison. I also sought participants from each of three program areas I examined within the system (History, Mechanical Engineering, Psychology) including deans of the appropriate colleges/schools, chairs of the requisite departments, and undergraduate program coordinators. During my purposeful sample interviews, I employed a snowball technique (Merriam, 2001), asking participants to recommend additional personnel within the program, department, or other units that participate in articulation to enrich my data collection and truly delineate how the system of articulation works at RPU. I was especially interested in talking with faculty members who were identified as key actors in systems of articulation at the program, department, and university level although I was only able to interview two participants serving in full faculty roles.

Because I have established relationships with transfer professionals throughout Michigan’s universities, I began the recruitment process for my study with an email introduction of my project to the transfer liaison at my target site with whom I had previously worked. I invited them to participate in the study given their designated role with articulation and requested that they connect me with the personnel named above. I followed up with additional emails, to access my intended case study participants. When new participants were referred through snowballing, I followed a similar protocol to invite their participation in the study. Appendix A outlines the recruitment plan and includes draft messages I used to recruit study participants. In
total, I spoke with 19 participants across 18 interviews for my study as two participants chose to
interview together.

Data Collection Procedures

Within my case study, I used several data collection methods to comprehensively
understand the system of articulation and ensure credibility of my findings with analysis of
triangulated data (Merriam & Tisdell, 2016). I queried descriptive quantitative data to
contextualize my case setting and then I identified, cataloged, and analyzed documents that
defined articulation rules, processes, and communication loops that occur within the system of
articulation. Another major source of data in my study were in-depth conversational interviews
(Josselson, 2013) with organizational actors involved with the system of articulation in this case.
Each of these data sources were essential to understanding the comprehensive system of
articulation at RPU, providing context to analyze and depict multiple levels of the system in my
report of findings.

Contextual Review and Analysis of Documents

Qualitative researchers frequently review and analyze documents to understand and
contextualize the topic under study more deeply (Bhattacharya, 2017; Merriam & Tisdell, 2016).
Documents can refer to a wide range of written, visual, physical, or digital material relevant to
the topic under study and these written forms offer an important way to triangulate other data
used to answer the research questions behind this case study (Merriam & Tisdell, 2016).
Although I asked study participants to share any available artifacts or written discourse from
their articulation decision-making (e.g., email exchanges between academic decision makers,
written learning outcomes crosswalks, or notes from meetings wherein transfer is discussed) for
additional document analysis, none were provided. Thus, all the documents I reviewed were
public records. Analysis of such documents allowed me to triangulate with other data sources in deeply reviewing the structural elements of the system of articulation within RPU.

I reviewed a variety of documents to better understand both the state and institutional contexts at play in the selection of my target site. In doing so, I reviewed descriptive quantitative data about RPU using the U.S. Department of Education’s College Scorecard and transfer enrollment data available from Michigan’s Center on Educational Performance and Information (CEPI). I examined these data to understand patterns of transfer student enrollments at my target case site and within the larger state context.

I reviewed documents from accreditors, recent state-level transfer initiatives, and university, department, and program-level policy documents that were publicly available. Institutional forms and communication flows directing students’ navigation of transfer credit processes were revealing in this case study since these process documents illuminated how systems of articulation are operationally structured at RPU. Some of this review was summative, helping me understand and document the structure of the system, but I also worked up from this data alongside the other qualitative data analyzed from my interviews to categorize findings (Bhattacharya, 2017) and depict the system of articulation as it is written and as it occurs at RPU. This review provided context on the institution’s transfer culture as well as structural policies, practices, and procedures associated with articulation. This context enriched my understanding of RPU’s system of articulation and ability to speak in-depth with interview participants regarding their experiences and roles within the system.

Semi-Structured Interviews

In addition to the rich qualitative data garnered from the document review described earlier, I conducted semi-structured interviews with organizational actors directly involved in
RPU’s system of articulation (Morehouse, 2012; Yin, 2014). The data I collected from these system actors was important to my study as they described the processes and organizational actors involved with the system they themselves enact (Chenail, 2011; Josselson, 2013). I conducted these interviews virtually to ensure safety during the lingering global pandemic and make scheduling more convenient for study participants. My interviews were conducted online using my secure Zoom account. This allowed me to easily record the online interviews. While I intended to use the automatic transcription feature in Zoom, I found these transcriptions to be weak and instead used my secure account with sonix.ai for transcription of my video recordings. Interview recordings and transcriptions were stored securely via my student OneDrive account.

I then watched each interview recording in its entirety once while reviewing the transcription for accuracy and memoing about contextual observations from the recording (e.g. body language, emotional reactions, etc.) that seemed pertinent to the study. Then, I destroyed all video recordings. Audio recordings were retained in a secure digital file system, so I was able to continue to steep in the data by listening to the conversations again and was able to access the raw data files throughout my analysis as needed. These audio recordings will be deleted upon completion of my study. Transcribed data will be stored for three years and then deleted from my digital files, pursuant to WMU HSIRB policy.

To allow for natural conversation flow and generate rich qualitative data to address my research questions, I used a semi-structured interview protocol with pre-prepared questions designed with the systems theory perspective in mind to draw out what happens in the system of articulation directly from university personnel that participate in these processes (Seidman, 2013). Appendix B details the protocol used for my interviews, including a list of semi-structured task-related questions meant to unearth tacit and explicit policies and processes behind
the system of articulation at RPU (Bhattacharya, 2017; Josselson, 2013). Where needed, I used pre-designed probes to ensure richly descriptive data was collected to support my systems theory analysis plan. During these interviews, I asked participants to name other organizational actors with whom they work in the system of articulation to recruit additional participants through snowball sampling (Merriam, 2001). I used the same interview protocol with these personnel except for one faculty member who I tailored the interview protocol for to remove questions about overly technical processes that I found distracting in a prior faculty interview.

While 19 participants’ perspectives are represented in this case study, only 18 interviews were conducted since 2 individuals from an academic department chose to interview together. I used the same semi-structured interview protocol throughout these proceedings however, each conversation was unique as many participants covered several interview topics broadly in their opening statements which prompted follow-up questions related to their descriptions that went out of order as compared to the initial semi-structured protocol. To keep conversations fluid, I did not address this with participants, choosing instead to shift around within the protocol to cover all topics in a more organic conversation with study participants.

Data Analysis

Analyzing the descriptive quantitative data described earlier allowed me to situate my project within the RPU context. Likewise, examining the structural scaffolding of the system of articulation as evidenced through my document analysis allowed me to consider how these structures may be improved to better support transfer student success. A document catalog helped me organize these data and associated analysis. The catalog includes a basic analysis protocol (see sample page in Appendix C) that guided my examination of these documents as I
considered further how the type, intended audience(s), significance and other contextual factors were important to the system of articulation at RPU.

My qualitative interviews were conducted online using Zoom technology which made it easy to keep my data at my fingertips for continuous review and examination throughout the study. This type of iterative data analysis in qualitative research begins by reviewing interview recordings and transcriptions multiple times. I steeped in my data by watching each interview recording at least once and listening to audio recordings as necessary to clarify meaning, context and intent represented in segments of data that I coded from the interview transcriptions. In this phase, I created individual summaries according to the provisional coding categories I derived from my study’s systems theory framework. I sent these summaries and selected descriptive quotes to all participants for their review and approval as a form of member checking to ensure trustworthiness of my study. The summaries were very helpful in aggregating themes across the large corpus of data derived from my 19 participants. Steeping in this and other sources of data in my case study allowed me to manage, organize, and use qualitative coding to categorize themes in the findings that answer my research questions (Bhattacharya, 2017; Braun & Clarke, 2006; Creswell & Poth, 2018; Richards, 2010; Saldaña, 2016).

Coding and descriptive memo writing within my project log helped me “search for patterns” (Stake, 1995, p. 44) in my data. Coding allows qualitative researchers to make sense of their data by ascribing interpretive meaning to individual pieces of data toward identifying patterns, themes, and categories across the data corpus that respond to the study’s research questions (Richards & Morse, 2007). A thoughtful coding process encouraged interpretive analysis and helped narrow the focus on key data in the study by eliminating large chunks of data
that went uncoded as it did not rise to the top as related to the study purpose and research questions (Saldaña, 2016).

Since I aimed for my study’s findings to “reflect the constructs, concepts, language, models, and theories that structured the study in the first place” (Merriam, 2001, p. 48), I prepared a short provisional coding schema under the systems theory framework to categorize my results in order to depict the complex system of articulation at RPU in my report of findings (Saldaña, 2016). These categories were Surface Events/Problems/Patterns; Structure; Processes; Cybernetics – Technology & Communication Loops; Human Actors, and Mental Models. The provisional coding schema can be found in Appendix D.

Using this provisional list as a first cycle structural coding mechanism linked segments of my data corpus to the theoretically framed research questions selected for this systems study (Saldaña, 2016) and helped to retain critical themes represented across data sources to bring them together in holistically answering my research questions (Richards, 2010). I progressed this iterative codebook throughout my first cycle coding, looking for new insights, connections, and structural codes that emerged from the data to add to the provisional codebook as necessary.

Once the full dataset was coded through a first cycle using the iterative provisional codebook, I transitioned into second cycle coding toward a larger thematic analysis of the dataset (Saldaña, 2016). Pattern coding allowed me to draw themes out of the initial codes and continuously refine groupings of codes toward categories and themes that connected with my research questions. These “meta codes” (Saldaña, 2016, p. 235) helped me organize my data corpus and work toward organizing the data into “more meaningful and parsimonious units of analysis (p. 236)” toward answering my research questions. Codeweaving during analytic
memoing moved my analysis from discrete codes to a larger narrative that pieced together themes that represent the system of articulation as depicted from my case study data.

Since my case study involved various sources of data and multiple programs of study as units of analysis, keeping organized case records was critical (Merriam, 2001). To this end, I used NVivo coding software to organize my large data corpus, manage the data coding process, and align coded data from across the corpus that related to common categorical themes toward emergent findings. Working across the sources of data analyzed in my case was important as Baxter and Jack (2008) caution against independent analysis of data sources, encouraging convergence in analysis for comprehensive understanding. I worked across the different sources of data in my study to find unique meaning from each data source in understanding various actors’ roles in the system of articulation and distinctions in systems described in the three program areas I examined within the system. I also looked for evidence of interaction between system actors, processes, and feedback loops represented in the system of articulation that emerges from the data. In chapter four, a descriptive report contextualizes the case setting and provides analysis and discussion on the university system of articulation. In this way, I have reported on the data gathered by applying my theoretical framework to answer my stated research questions.

**Trustworthiness**

I was careful to ensure trustworthiness and credibility throughout my study in several ways (Nowell et al., 2017). First, the faculty members on my dissertation committee, particularly my committee chair, were extremely helpful as I honed my data mining abilities and helped me ensure the data was suitably queried, applied, and interpreted within my case study. Such peer debriefing is typical in dissertation proceedings and reinforces the credibility of my research
findings. In addition, “shop talking” (Saldaña, 2016, p. 231) with trusted advisors is important to the data analysis process, especially for novice researchers who can struggle to put into writing what is easier to articulate in verbal conversations with colleagues familiar with the research.

The focus of my study was on qualitative data I collected from document review and through semi-structured interviews with organizational actors involved in the system of articulation at RPU. To authentically represent this data, I took deliberate care to thoroughly examine case documents, including researching context and authority of documents under analysis. I worked to avoid leading questions during interviews and used member checking tactics within the interview itself to ensure understanding of participant meaning through verbal feedback loops (Finlay, 2012). I follow up with participants directly in the interview proceedings as needed to check for shared understanding as the conversation occurred (Baxter & Jack, 2008). As a final member checking step, I used interview transcriptions to summarize each interview and shared these summaries with participants to confirm that my interpretation of the data they provided was accurate as my analysis continued.

In addition to member checking to ensure accurate representation of participant data, I recorded each interview session and listened to each interview several times to steep in the data (Richards, 2010). Verbatim transcription ensured that participants’ direct descriptions were used in my analysis. I engaged in reflexive writing throughout the project to ensure the trustworthiness of my study and improve confirmability of my findings (Colyar, 2009; Toma, 2011). Memoing after each interview allowed me to refine the interview protocol and begin analyzing data even as it was still being collected (Merriam & Tisdell, 2016). These memos are part of a larger audit trail that I have been keeping since beginning to write my dissertation study to log planning progress, decision-making, data collection, and iterative analysis procedures.
throughout the study (Nowell et al., 2017). In addition to enhancing trustworthiness of my study, the audit trail was essential in organizing my data corpus, making triangulated analysis easier and helping me narrow my thematic analysis efforts toward concise results focused on my research purpose and questions.

As analysis proceeded and categorical findings emerged, I mapped these back to my research questions to ensure the findings were relevant. Triangulating the descriptive quantitative data, documents, and qualitative data transcribed from the interviews in my case study provided multiple perspectives that improve the credibility of my work and confirmability of my findings (Baxter & Jack, 2008; Toma, 2011). Credibility will be further enhanced through descriptive presentation of my findings reflecting multiple perspectives on the system of articulation as examined at RPU. Ensuring multiple perspectives are reflected also adds to the trustworthiness of my analysis intending to represent the whole picture of the system of articulation.

Chapter 3 Closure

A single site case study design with multiple data sources was well suited to my examination of the system of articulation at the regional public university in this study (Yin, 2014). Triangulating transfer student enrollment data, case documents collected, and data obtained from in-depth qualitative interviewing allowed me to present a rich, thick description of the system of articulation at a regional public university in Michigan. These findings will deepen understanding of articulation as a structural barrier contributing to lagging outcomes for underserved populations that rely on the community college transfer pathway for democratic access to postsecondary education in the U.S.
CHAPTER 4
FINDINGS

This case study was designed to examine how a Midwestern Regional Public University (RPU) enacts its system of articulation that serves to award transfer credit for community college coursework. This chapter presents findings from my study that sought to answer two guiding research questions:

1. How does a Midwestern regional public university enact the system of articulation that serves to award transfer credit for community college coursework?

2. What roles do various organizational actors play in the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university?

The data for this study came from document review and semi-structured interviews with RPU articulation system actors at multiple levels in the organizational hierarchy. I reviewed and analyzed 16 publicly accessible documents, including webpages, databases, and other digital documents. I held semi-structured interviews with 19 participants. In total, 18 interviews were held since two participants chose to interview together. Table 1 offers summary details about my participants. To protect anonymity, each participant was assigned a pseudonym, descriptive personnel category, and generic campus unit.

Table 1
Profile of Study Participants

<table>
<thead>
<tr>
<th>Participant Pseudonym</th>
<th>Personnel Category</th>
<th>Campus Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ricky</td>
<td>Administrative Staff</td>
<td>Admissions Office</td>
</tr>
<tr>
<td>Owen</td>
<td>Academic Affairs/Administrative</td>
<td>Large Interdisciplinary College</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Department/College</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td>Tony</td>
<td>Academic Affairs/Dept Chair</td>
<td>Mechanical Engineering Department</td>
</tr>
<tr>
<td>Jackie</td>
<td>Staff Advisor</td>
<td>STEM College</td>
</tr>
<tr>
<td>Kelsey</td>
<td>Academic Affairs/Dean</td>
<td>STEM College</td>
</tr>
<tr>
<td>Sloan</td>
<td>Academic Affairs/Dept Chair</td>
<td>Psychology Department</td>
</tr>
<tr>
<td>Frankie</td>
<td>Academic Affairs/Dept Chair</td>
<td>History Department</td>
</tr>
<tr>
<td>Alex</td>
<td>Academic Affairs/Dean</td>
<td>Large Interdisciplinary College</td>
</tr>
<tr>
<td>Adrian</td>
<td>Academic Affairs/Dean</td>
<td>Large Interdisciplinary College</td>
</tr>
<tr>
<td>Jordan</td>
<td>Administrative Staff/Leadership</td>
<td>Enrollment Management</td>
</tr>
<tr>
<td>Leslie</td>
<td>Administrative Staff</td>
<td>Enrollment Management/Registrar</td>
</tr>
<tr>
<td>Shawn</td>
<td>Staff Advisor</td>
<td>STEM College</td>
</tr>
<tr>
<td>Morgan</td>
<td>Staff Advisor</td>
<td>Psychology Department</td>
</tr>
<tr>
<td>Whitney</td>
<td>Administrative Staff</td>
<td>Admissions Office</td>
</tr>
<tr>
<td>Wesley</td>
<td>Academic Affairs/Faculty</td>
<td>Mechanical Engineering Department</td>
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<tr>
<td>Shannon</td>
<td>Staff Advisor</td>
<td>History Department</td>
</tr>
<tr>
<td>Ryan</td>
<td>Academic Affairs/CAO</td>
<td>Central Academic Affairs</td>
</tr>
<tr>
<td>Cameron</td>
<td>Administrative Staff</td>
<td>Admissions Office</td>
</tr>
<tr>
<td>Rowan</td>
<td>Academic Affairs/Faculty</td>
<td>History Department</td>
</tr>
</tbody>
</table>

**Descriptive Case Narrative**

The main campus of RPU is in a mid-sized metropolitan city. RPU is classified as a “high research activity” doctoral university in a primarily residential setting. At the time of the study, the U.S. Department of Education’s College Scorecard (2023) indicated roughly 15,000 undergraduate students were enrolled at RPU. These students were primarily full-time with a high population of transfer-in students, and nearly 70% of the student body was White. RPU’s acceptance rate was about 80% and its total 6-year undergraduate completion rate was just below 60% for the most recent academic year. Undergraduate tuition was around $20,000 annually.
Taylor’s (2019) analysis found that nearly half of all 2015 bachelor’s degree completers at RPU had previously attended a community college. Although community college students transferred to RPU from each of Michigan’s 31 community and tribal colleges, RPU was the top transfer destination for five colleges in Taylor’s analysis of transfer partnerships in the state. Among its peer regional public institutions in Michigan, RPU ranked near the top for percent of students transferring in. These trends made RPU a great site for this transfer-focused research.

Severe Enrollment Pressure at RPU

Historic downward enrollment trends and lingering budget crises due to the COVID-19 pandemic have heightened long-standing fears of irreparable fiscal damage across higher education sectors. My participants discussed this issue at both the institutional and individual departmental levels. Adrian shared,

The conversations about enrollment are constant now … and that has made people, for better or for worse, more aware of the challenges and opportunities we face and the role that transfer students have and will continue to play in our enrollment pipelines.

This enrollment pressure increased visibility of transfer and articulation at the program, department, institutional, state, and even national level but progress in these areas was described as inconsistent across the institution. The heightened stress around enrollments at the time of my study was frustrating for some since, as Cameron from the Admissions Office stated, “we've all been sounding the alarm for 18 years and nobody wanted to listen.”

Several participants indicated that prioritizing transfer enrollment is a necessary strategic priority to recoup real and projected enrollment revenue shortages. As Adrian said plainly, RPU’s “enrollments are entirely dependent upon transfer pathways.” Shannon discussed new transfer enrollment patterns in the modern climate, “There are so many transfer students and it's
just the way students are gravitating towards college. It's more affordable to get all their gen eds done and into their programs.” Several participants postulated on how these patterns could be leveraged by strengthening transfer enrollment pipelines to address RPU’s enrollment declines. There was an acknowledgment, however, that these pipelines are not likely to open up unless transfer and articulation processes can be simplified.

**Transfer as an Institutional Priority at RPU**

The most recent strategic plan published by RPU covered a variety of institutional goals. “Advising and retention” of transfer students was mentioned specifically as a strategy intended to meet RPU’s objectives around learner success. To this end, several units on campus provided infrastructure for transfer students at the time of my study. Information on RPU’s website described a residential transfer community, two honors societies available to transfer student populations, and specialized transfer student scholarships. An Office of Transfer Student Services was noted with the purpose to “advocate for transfer students” on campus committees.

Despite this transfer infrastructure and stated goals to support transfer student success, there was much discussion among study participants about the prioritization of transfer and articulation at RPU. To start, Alex pointed out that a lack of good, accessible data available on transfer students impacts the prioritization of transfer student issues.

We do not see that kind of data for transfer students. It's just not right there at our fingertips. You have to really do a deep dive into our data systems, which I've tried to do, and it's just so time consuming and it's just not right there. It took me forever as a new dean, even to understand how many of our undergraduate students are transfers and how many are FITIAC [first time in any college], and I still don't feel like that's a number I could give you at my fingertips. You know, it's a data issue, but it's also a systemic bias
that comes from some of the reporting. For example, you know, like the US News and World Report rankings … are all about the FITIACs. And so, transfer students get left out of those conversations and that's a really big problem.

Lacking data access and the subsequent inability to track transfer student success metrics as well as the prioritization of transfer at RPU are important contextual factors in understanding the institution’s culture and commitment to serving this population through its system of articulation.

Other participants referred to RPU as having good intentions but questioned the institution’s authentic prioritization of transfer which they indicated did not seem like a “front burner priority” at RPU historically. Many participants shared occurrences of high-level leadership discussions about the importance of transfer but noted a lack of any tactical follow up to further facilitate articulation processes. Participants in academic affairs also discussed not being clear on who holds responsibility for prioritizing transfer articulation or building relationships with transfer partners.

Several administrative participants claimed this responsibility for prioritizing transfer articulation. Jordan noted their role at the administrative leadership level is, “to serve as an advocate for the needs of our transfer population, helping to inform our strategies for enrolling and supporting transfer students, and facilitating relationships with our local and maybe even not so local community college peers.” Owen, another administrative leader, similarly described connecting disparate units across the system of articulation with particular emphasis on catalyzing academic departments to prioritize articulation. “I work hand in hand with staff in the Admissions Office who are in the weeds of these things. A lot of my job is to shake the hands and bring the right people together in a collaboration.” A recently formed institutional
A community college advisory board was also discussed as potentially helping with direction-setting and being responsive to student and transfer partner institution needs.

On this note, most participants alluded to strong and “mutually beneficial” relationships with local community college partners, but enrollment competition was noted as complicating transfer partner relationships. Adrian shared, “The backyard problem is definitely real, and the competition for students, especially in states like ours, is real.” This concern goes both ways, as Cameron described a perception where “community colleges believe we're stealing their students early” when students transfer to RPU before completing a community college degree.

**Leadership and Shared Governance at RPU**

At the time of my study, multiple leadership positions at RPU were in flux. Notably, an interim Chief Academic Officer (CAO) was in place as my study began. In addition, participants discussed that the COVID-19 pandemic caused significant budget shortfalls at RPU, forcing layoffs, and resulting in numerous employee vacancies as hiring freezes set in. These vacancies resulted in long-term staff shortages and gaps within the system of articulation. Participants shared that this turnover resulted in a lack of clarity around whose responsibility articulation work is and left gaps in the system that have disrupted coordinated institutional progress around articulation.

RPU faculty are involved in shared governance of the university through a formal faculty senate organization. My document analysis showed that the senate is tasked with making recommendations to administrators on academic policy and curricular matters; raising and discussing issues related to other areas (excluding contractually negotiated issues); and reporting on activities within and beyond the institution that hold relevance for the faculty body. Multiple councils organize the work of the faculty senate, including one that reviews and recommends
policy matters related to RPU’s undergraduate curriculum. One of three standing committees within this council, a specific subcommittee oversees transfer credit. Subcommittee membership is prescribed, including several executive-level positions and representatives from the Admissions Office, Office of Student Transitions, Office of Military and Veteran’s Affairs, Advising, and representation of faculty from six academic colleges. The subcommittee schedule indicates intention to meet monthly with agenda and minutes posted publicly on the RPU website.

When my data collection began in Summer 2022, the transfer credit subcommittee website showed many vacancies in membership. The meeting schedule was sparse with most recent meetings labeled as canceled and there was no clear charge or purpose noted for the subcommittee. Several participants noted the lack of academic leadership on the subcommittee which, at the time, was effectively being led by one of the administrative staff members who technically held an ex-officio role with the group as non-academic personnel. By February 2023, further document review indicated that all previously vacant membership slots were filled, including the identification of academic personnel as committee officers. In addition, a new 2022-2023 charge for the subcommittee was featured on the website, outlining specific charges of the subcommittee that are to be reported on and drawn from in delineating outcomes for the 2023-2024 academic year on a succinct timeline.

**Structural Elements Underlying RPU’s System of Articulation**

System structure refers to internal and external guidelines for how people within systems behave and, ultimately, how the system operates (Senge, 1990). RPU’s formal institutional policies make up the foundational structure of its system of articulation. The academic catalog “is the official source of the University’s academic programs, courses and academic procedures.”
The catalog lays out RPU’s academic programs and dictates its policies. At the time of my study, RPU’s catalog included more than 150 undergraduate programs of study from eight distinct colleges. This structures articulation since transfer coursework cannot be aligned with RPU coursework unless it shows up in the catalog. The academic year 2023-2024 catalog set the bachelor’s degree minimum at 122 credit hours for all degrees, stipulated specific requirements for each academic degree program and outlined the general education requirements at RPU which include a minimum of twelve courses across multiple disciplinary and proficiency areas.

Several participants highlighted specific institutional regulations that impact transfer articulation. At the time of my study, transfer coursework was required to come from an accredited institution with a minimum grade of C or higher for transfer coursework to articulate. Transfer credit was also regulated via policies around credit hour requirements for graduation. The catalog stated, “Students transferring from an accredited two-year institution must complete a minimum of 60 credit hours of the academic work required at an accredited four-year, degree-granting institution” to qualify for an RPU bachelor’s degree. In addition, for any transfer student, a minimum of 30 hours must be earned from RPU with 10 of the last 30 being taken at the institution. Participants discussed these stipulations as confusing, and even limiting, for transfer students and RPU since they impacted how articulation agreements can be arranged.

**External Structural Forces**

**Accreditation.** Both regional and disciplinary accreditation were discussed by participants as structurally impacting RPU’s system of articulation. RPU is regionally accredited by the Higher Learning Commission (HLC) which requires documented, consistent policies around transfer credit evaluation but no prescribed rules on how to execute such decisions. Although disciplinary accreditation was not noted as a structural element in History nor
Psychology, in Mechanical Engineering, participants discussed that it plays a major role in articulation since graduates must come from accredited academic programs to be hired for work in this field. ABET, or the Accreditation Board for Engineering and Technology (2023), governs the curricular standards, topics and content requirements for degrees, and allowable time frames for applicability of transfer coursework toward the degree. All this impacts how and whether transfer coursework can be aligned with coursework in this accredited program. Participants from Mechanical Engineering described how during ABET site visits, disciplinary accreditors assess transfer credit decisions as part of their standard of review. They described accreditors randomly pulling student transcripts and reviewing transfer courses and articulation decisions. Thus, these must be well documented and validated in the department or they risk losing their ABET accreditation.

**State Policy Environment.** As previously noted, there has historically been no state system or coordinating body formally regulating transfer articulation for public colleges and universities in Michigan. This means individual faculty and departments have long held considerable subjective license around articulation decision-making without much need to consider legislative mandates around transfer as are found in other states (ECS, 2020). Some participants discussed that this lends to the outcomes of these qualitative articulation decisions being inconsistent for students. But, Rowan, faculty member in History, believes this type of a decentralized process with less direction from state policy is the only “fair way to do it,” allowing faculty members to judge transfer curriculum individually based on each transfer course syllabus so they can ascertain true learning in prior coursework and ensure transfer students are ready for more advanced curriculum.
The cooperative statewide transfer initiatives described in Chapter 3 impact the structure of RPU’s system of articulation. These initiatives were largely discussed by study participants as positive efforts that encouraged collaboration between transfer partners, particularly the long-standing cooperative general education transfer agreement known today as the Michigan Transfer Agreement (MTA). Owen discussed how the MTA represents a pseudo state system for transfer, “I think the MTA is an amazing thing because it almost represents a bit of a state system in Michigan.” Participants described the MTA as cutting through the confusion for potential transfer students and standardizing how general education courses will apply to degree requirements even when general education requirements are different across Michigan colleges and universities. Staff advisors also saw much value in the MTA for transfer students. Shawn, staff advisor in Mechanical Engineering, described the MTA as “brilliant,” and called it “gold” from the advising standpoint.

Participants discussed that the MTA is integrated into RPU’s degree auditing software and graduation requirements are updated for RPU transfer students who have completed MTA. Students that have completed MTA are given credit for the first two levels of the institution’s general education requirements but still have two upper-level course requirements left to complete after transferring. While most participants spoke positively about the MTA, one staff advisor noted that when community college transfer students do not have much general education coursework left to complete, their schedules can be heavy since upper-level major coursework can be so rigorous.

Less was known among participants about the more recent MiTransfer Pathways work, though some participants were able to shed light on how they see these voluntary statewide articulation agreements impacting articulation at RPU. Although participants were not able to
consistently confirm RPU’s participation in this statewide transfer initiative, my document analysis showed that RPU participated in several MiTransfer Pathways statewide agreements. Several participants noted that such statewide transfer initiatives are great when students (and institutional personnel) know what they are and how to effectively use them but noted that communication about these efforts does not always make it as far and wide as it could. This is especially true of the MiTransfer Pathway statewide articulation agreements which were not well known among participants. Where there was awareness of this work, it was noted that such statewide projects shine the light on priority areas and put “the onus” on particular academic areas to prioritize transfer and articulation and hold potential to jump start new articulation agreements and new transfer enrollment pipelines into particular programs.

**Mapping RPU’s System of Articulation**

“A system may be defined as a set of elements standing in interrelation among themselves and with the environment” (von Bertalanffy, 1998, p. 252). My study found a dynamic, interrelated set of elements that enact the system of articulation at RPU. Much like the Aristotelian sentiment that originated the definition of a system where “The whole is more than the sum of its parts” (von Bertalanffy, 1998, p. 407), none of the elements within the system are discrete. Figure 3 depicts the overlapping and multi-directional influence of the flow of processes, human actors, and cybernetics that my analysis found enact RPU’s system of articulation at multiple levels. Each of these interdependent components is discussed further in this section.
Figure 3

*Mapping RPU’s System of Articulation*

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**Multi-Level Flow of Processes in the System of Articulation**

The Admissions Office is the main processing unit in RPU’s system of articulation. Numerous participants noted that this is unique as most other universities situate transfer credit processing within the registrar’s office. I interviewed several long-standing RPU employees who said, “it had always been this way” and was likely a decision based on efficiency since credit evaluation is central to the transfer admissions process. Efficiency was also the motivation behind a processing decision within the last few years to stop performing complex transfer credit evaluations for all transfer applicants and only initiate this process for admitted students. Several participants noted that it is much easier to manage the process (and with higher return on tedious time invested) when evaluations are only required for admitted students.

The Admissions Office was described as handling all intake processing, including logging, digital imaging when necessary and matching transcripts received to transfer student applications. Once a transfer student is admitted, this decision cues the transfer credit evaluation process using the students’ imaged transcripts. Initial transfer credit evaluations are handled in
date-order for both transfer and continuing students who need evaluations. Initial transfer credit evaluations may yield the following decisions: no credit, departmental or general elective credit, direct equivalent, or credit by department recommendation only (CBDRO).

Participants noted that it is rare for an evaluation to yield no credit. Pre-college coursework, courses from unaccredited institutions, or courses that do not meet the transfer credit grade minimum usually receive the no credit designation. Departmental and general elective credit means the student will get credit for the hours earned but, many times, these transfer credits will not satisfy requirements for the student’s degree progression. Participants discussed more flexibility in awarding general elective or departmental credit as opposed to formally articulating a course as a direct transfer equivalent. Sometimes courses are not approved as directly equivalent, but staff advisors or faculty can make a substitution in the degree auditing system to allow students to move into the next course in a sequence or waive a particular graduation requirement if appropriate. A direct equivalent is matched specifically with an RPU course when deemed equivalent. This is the clearest transfer credit award because these direct equivalent courses will interface with RPU’s degree auditing system to show how transfer coursework meets degree requirements. Participants described a large number of these pre-articulated transfer equivalencies which, though they are input and maintained in the cybernetic systems by humans, can be fairly automatically applied in the initial credit evaluation once they are in the database.

Despite a large amount of these pre-articulated courses, participants from admissions shared that credit evaluators still frequently designate transfer coursework with the credit by department recommendation only (CRBO) decision when an initial evaluation yields no pre-articulated RPU course. Participants discussed that students could request departmental
evaluation of these transfer courses for direct equivalent when appropriate. It was unclear, however, when the Admissions Office initiates such requests for formal transfer credit evaluation from departments and when they assign CBDRO and let the department review process play out if students (or their staff advisors) decide to pursue it. Likewise, I was unable to discover what percentage or articulation reviews yield CBDRO or other credit types that would require single course articulation evaluations within the academic departments.

Once transfer credit evaluations are complete, staff advisors have access to the credit evaluation students see in RPU’s student information system. Participants shared that students receive cybernetic cues from the system but usually need help deciphering what different things mean and how to move forward with transfer credit evaluations when their courses are not pre-articulated. Due to known complexities in this process, participants noted that admitted transfer students are encouraged to wait on scheduling initial academic advising appointments until their credit evaluations are complete so advisors can review their transfer credit decisions with them.

Though the Registrar’s Office is not directly involved in articulation intake processing, its role in facilitating degree auditing processes for students was discussed as critical to transfer student degree completion. If transfer credit awards are not coded accurately in the system, participants noted that graduation audits do not work properly. Thus, both students and advisors will lack accurate information for course planning.

**Academic Department Processing**

When academic departmental reviews ensue, these articulation requests were described as generally ad-hoc, on a student-by-student basis. In these cases, Admissions Office personnel or staff advisors ask students to supply syllabi for prior coursework. Then, these participants described reaching out to relevant academic department leadership (usually the chair) asking to
be connected to the “right person” for a particular course evaluation. The right person to perform the articulation evaluation is usually the faculty member who teaches the course under review for transfer alignment, but these processes and who holds the responsibility for them within the academic departments were described as “murky.” Adrian discussed how this process unfolded when they previously served in a college leadership role with responsibility for routing articulation requests,

        Usually what I would do then is send those to the department chair and let them go through their process. And some chairs and faculty were great and very quick about turning those around. And sometimes it was like sending that to a black hole.

Participants discussed that academic departments usually take a few weeks to respond to articulation evaluation requests. One participant said it could take up to 6-8 weeks for a student to move through the single course articulation process completely. Some departments were said to make articulation decisions quickly using information on the transfer course syllabus since, ideally, syllabi are descriptive enough to allow faculty members to match student learning outcomes for articulation alignment with the appropriate courses at RPU. Other departments were said to take longer and request more artifacts, asking students to submit assignments, grading scales, and the like to determine rigor of transfer coursework and mastery of content before making articulation decisions.

        **Nuances in Academic Processing.** I examined History, Mechanical Engineering, and Psychology as a representative sample of academic programs to better understand nuances in academic processing within RPU’s system of articulation. Each exhibited some differences in how articulation processes were enacted within the programs and their associated departments.
Participants discussed that, in STEM (science, technology, engineering, and math) programs, like Mechanical Engineering, students do not typically take specific major courses until the upper division (usually taken in the final two years of a program). The Mechanical Engineering department rarely awards direct transfer equivalents for these program requirements. Rather, for these transfer students, much of the lower division coursework they transfer will apply to pre-requisite courses, particularly in mathematics and the sciences. Thus, other departments handle the articulation of those courses and there is less need to articulate major-specific courses within this program’s catalog.

Despite less frequency of articulation to their catalogued courses, the articulation processes described in Mechanical Engineering seemed more consistent than what was found in the other programs. Articulation decisions in Mechanical Engineering begin with syllabus review and weigh heavily on course content but also how learning is assessed. Participants described faculty members wanting to see rigorous assessment to ensure mastery in foundational courses. Although RPU does not prescribe formal guidelines for articulation alignment in the departments, the historic “rule of thumb” noted in this STEM college was 75-80% content alignment for transfer articulation. The department was said to house documentation on what to review on syllabi to make articulation processes clearer for faculty. (I requested to see this primer, but it was not shared with me for review.) Some courses are transferred differently depending on if they will be applied in a major sequence or used as an elective in another department. This STEM college seeks to review articulation decisions every five years, though it was noted that this does not always happen consistently.

Participants from this program stressed the importance of careful alignment in articulation decision-making since students need to have mastery of foundational lower-level
academic content to be successful in subsequent major courses. This means students may have to retake a course if their transfer course does not match up to enough content covered in the RPU requirement. Wesley, a Mechanical Engineering faculty member described,

> We cover, let's say, ten topics in the course, but sometimes they cover only seven or six topics from the course. Then the missing 3-4 parts are important for the further study, like for the operator courses. Then we ask them to retake the course from us.

Kelsey, an engineering dean, discussed these processes as clunky but felt faculty course reviews that follow due diligence typically work for the programs and ensure the transfer students’ success in subsequent coursework when done thoroughly. Kelsey said, “It could be cleaner, especially when it comes to the end product of getting it into the system correctly so everybody can actually see it. But, in general, I think it's clunky, but it works.”

In History and Psychology, less defined articulation processes were discussed, though a common theme that surfaced was the primacy of general education coursework in these departments’ lower division courses. When that coursework is transferred in, less students enroll in the affected colleges, which has financial ramifications. Alex, a liberal arts college dean, said plainly, “General education is bread and butter over here. And the more of those courses that transfer in, fewer of those students that we see in our college. That's definitely, from our perspective, a big loss to our college.” They went on to discuss this as a loss of enrollment and a real economic loss “when those students don't take those introductory general education courses from us.” In addition to this economic impact, Alex also noted that community colleges lack the breadth of catalog, which can inhibit students’ finding certain major pathways through broader general education courses available to direct-entry RPU students.
In Psychology, an undergraduate committee was described as holding some responsibility for curriculum proceedings since they oversee lower-level program requirements and occasionally review syllabi for transfer credit awards. Four faculty members are appointed by the chair, and an undergraduate staff advisor also serves on the committee. It was noted that sometimes the committee must route articulation requests to individual faculty for alignment review depending on course content.

A similar process was described in History where the department chair routes articulation evaluation requests to the appropriate faculty member(s) and closes the loop with the requesting advisor. Like Mechanical Engineering, the History department evaluates content and assignments to determine the appropriate level of course alignment within their offerings. Sometimes “intent” ascertained from a syllabus can facilitate a transfer credit award but, sometimes, general credit is the only option because RPU does not offer an equivalent course to what was previously taken. Course leveling was discussed among participants a few times, but not with much clarity as to what determines a particular level (e.g., 1000 vs. 3000). A desire for consistency was expressed as related to a recent change in levels among core courses in the program. It was noted that such consistency could create a parallel structure for improved efficiency with transfer.

**Human Actors in the System of Articulation**

von Bertalanffy (1998, p. 70) described how, “in a highly differentiated community, each member is determined for a certain performance, or complex of performances” that enacts a complicated system. The complex system of articulation at RPU is enacted at multiple levels by human actors grouped in the following categories: students, Admissions Office staff, staff advisors, and academic department personnel (including both administrative leaders and faculty
members). The roles of and interactions between these system actors are further described in this section.

**Students**

Prospective transfer students cue the system of articulation when they apply for admission and send prior transcripts to RPU. They are the primary human actors served by the system of articulation which facilitates how transfer credit awards will be applied to their RPU transcript for their prior coursework. Once a transfer student is admitted, the transfer credit evaluation process is initiated within the Admissions Office. After it is completed, students receive the results of their transfer credit evaluation via email.

Participants described these results as sometimes being difficult to access or confusing for students to understand, especially when they receive the credit by department recommendation only (CBDRO) designation discussed earlier. Though most participants indicated the articulation process to be quick, all the staff advisors I interviewed noted that students need quicker and clearer information about what will transfer and how many courses they have left to complete their degrees, or what Shannon characterized as, “… that million-dollar question of … how much more time do I have?” When articulation evaluations are delayed or the results are difficult for students to understand, it can impede their matriculation decision-making process.

When students pursue credit evaluation further for CBDRO courses attempting to get direct transfer equivalency awards applied to fulfill their graduation requirements, they must supply the artifacts necessary for academic departments to make articulation decisions about their prior coursework. Several staff advisor participants discussed students occasionally having
a difficult time garnering documentation (syllabi, etc.) for prior coursework, especially if it has
been some time since the courses were taken. Rowan shared,

A lot of students, especially students who are not 22 and coming after two years at a
community college, they don't have syllabi. Their professors may not still be there. That's
the part … that I think is very clunky.

This complicates access, especially for older students or students who have stepped out for a
period of time, and delays articulation processing.

**Admissions Office Staff**

Admissions Office staff are front-lines actors in the system of articulation, handling
inputs from and outputs for prospective transfer students who are served by the system.
Admissions Office staff were described as responsible for coordinating internal transfer credit
evaluations. They are also responsible for management and upkeep of RPU’s internal and
external transfer equivalency databases, important cybernetic components of the system. While
Admissions Office staff are noted as directing most process flows and cybernetic components of
the system of articulation, participants also noted their limited authority in the system they do not
have influence for prioritizing institutional support for transfer articulation nor authority over
transfer credit articulation decisions which rests with the academic departments.

**Staff Advisors**

Participants shared that, in recent years, RPU shifted away from direct faculty advising to
an embedded advising structure where each program area has designated staff advisors from the
central college to specialize their expertise in advising students within certain programs. This
gives designated staff advisors primary responsibility for guiding transfer students through the
system of articulation at RPU. One participant noted that this move “elevated” the role of staff
advisors and got them more involved in curriculum processes where they can advocate more for transfer students, but this also removed faculty from more direct advising responsibilities. Adrian observed:

I think the advisors have become more consistently involved in the process, which is good because they're in such a good position to be advocates for students … and then can sometimes be in a good position to help direct those conversations with departments.

In this way, staff advisors are the primary system actors to engage directly with transfer students in the system, often acting as liaisons linking students with interacting units involved in the articulation system. The staff advisors themselves are not course evaluators, but they hold significant responsibility for facilitating transfer course evaluation between participating units, particularly getting academic department personnel to sign off on single course articulation decisions. As Shannon, staff advisor in History, described,

I play the middleman, I call it. So, I'll go to the student and say, I need your syllabus. And then what I do is I take that syllabus and then I give it to the chair. Then the chair will give it to the faculty member that teaches that particular course. And then they comb through that syllabus and then they'll come back to me saying yes or no.

Staff advisors indicate frequently needing to educate students on how to navigate this transfer credit articulation process.

As noted earlier, many times students’ initial transfer credit evaluation from the Admissions Office yields a designation of “credit by department recommendation only” (CBDRO) which awards generic departmental credit for transfer coursework but does not apply directly to program requirements necessary for graduation. Staff advisors indicated that many students do not know they can pursue articulation review for direct equivalent awards in these
cases. In some of these CBDRO cases, staff advisors noted feeling like they must advocate for students to get them the “credit they deserve” from academic departments. Staff advisors described “tricky dynamics” in advocating around curriculum issues with faculty members where an air of tension was described between traditional faculty values of upholding academic rigor and staff advisors’ interests in supporting transfer students’ academic momentum. Shannon described,

So, then I've got to go back to the department and say, this is what we have. Can we do this for the student? And if they can't, then I have to go back and I have to deliver that bad news. Or sometimes I can plead my case, and really advocate for the student.

It was discussed that having relationships with faculty members can help in cases like this when credit articulation may be contested. However, it was also noted that not all advisors feel empowered to question faculty decisions. Navigating the human complications of the system can be a challenge for all system actors but, particularly staff advisors who play a critical role in their interactions with academic departments and students.

**Academic Department Personnel**

The role of academic department personnel in the system of articulation was discussed at length throughout my interviews. Two clear themes that emerged were that these human actors hold considerable authority in the system of articulation, and there is much variation in how departmental personnel perceive and execute their role(s) in RPU’s system of articulation. Some of the inconsistency and variation in department processing can be attributed to historic decision-making for common lower-level coursework that has not changed in decades. Relying on these historic pre-articulations often means that departments are not in regular practice of evaluating
single courses for articulation decisions. These processes are less documented and described as less consistent throughout the system.

Departments vary in the personnel who handle articulation processes and the steps they take to complete the evaluation and make articulation decisions. In most cases, the first ask for articulation evaluation goes to the academic department chair. Some department chairs were described as more involved in directing and more earnest about prioritizing transfer articulation in the department. Others were described as unsure about what the role of the department chair should be in this system. Several participants noted that it is common for priorities and standard operating procedures around things like articulation to change when department leadership changes. Participants also noted that the department chair holds final authority on articulation decisions for curriculum within the department, particularly if the articulation process became contentious or faculty members do not respond to the request for articulation review.

In some departments, undergraduate curriculum committees and even senior staff advisors were said to handle articulation decisions. Most of the time, however, articulation requests were described as handled by the faculty member that teaches the course in the department that seems most comparable to the transfer course under review for articulation. Even when multiple faculty members teach a particular course, participants described one identified “keeper of the content” who would be tapped for articulation decisions on that particular course.

**Faculty Authority in the System.** As the diffuse articulation processes play out in academic departments, individual faculty members have limited involvement in system processing, but hold considerable authority as key articulation decision-makers. Participants all pointed to individual faculty members as holding responsibility for articulation evaluation. Despite this authority, outside their involvement with the ad-hoc articulation requests they field
when students, Admissions Office personnel, or staff advisors request them, faculty members were described by participants as not always keen on the need to prioritize articulation. Some participants noted that faculty members do not see the value-add for tedious articulation work as this work does not fit neatly into the research, teaching, and service categories required of faculty work and often mitigated through faculty union contracts. Faculty members were also said to be genuinely unaware of issues in the transfer pipeline. Adrian said it well,

That's just sometimes how faculty are. Sometimes they're overburdened or they're not particularly good about managing all the tasks that come through their inboxes. And this might not be particularly pressing, or they might not see it as a priority. So, I think just the kind of individual quirks of faculty and chairs probably explain some of it, but I think a lot of times our faculty don't understand, and we haven't properly educated them or … made them aware of what it means to articulate a course and what that can mean for students’ success.

I reached out to several faculty members within the departments I studied and found this theme validated. Several faculty members did not respond at all, and several declined my request to interview, indicating that they were not involved with articulation, referring me instead to their chair or a staff advisor for better information. The Mechanical Engineering faculty member I spoke with briefly gave some helpful information on the process they use to review transfer curriculum but referred me to other units and system actors for most of the questions I posed.

On the other hand, Rowan, a faculty member in History, responded to my request immediately and praised the topic of this study, “This is very important work. I mean, I think it's one of those huge gray areas in higher education and it's something that a lot of people sort of dance around instead of trying to talk directly about it.” Rowan spoke directly about a pervasive
educational problem in the U.S. being a lack of consistent standards and assessment protocols between and among educational sectors, and even academic disciplines, which they believe leads to mistrust of rigor when it comes to transfer articulation evaluation. This contributes to the complicated nature of articulation where transfer curriculum materials are inconsistent, and it is difficult to ascertain what students have learned or how they have demonstrated their learning in prior courses. Rowan claimed this makes the idea of unilateral transfer policies common in other states where universities are required to accept community college coursework uncomfortable for many faculty members.

**Faculty Mental Models.** Participants discussed several faculty mental models that impact RPU’s system of articulation. Most prominent was non-faculty participants’ perception of an air of stigma against community colleges among faculty members as articulation system actors. They described this stigma of inferiority extending to community college students, instructors, and curriculum and felt this mental model can make articulation an “uphill battle” with faculty members that make articulation decisions. Some faculty members were said to not engage in the system of articulation at all or engage and apply negative mental models to articulation decisions about the fitness of community college coursework for alignment with their own courses. As Adrian noted,

> There is an elitism about it that is very prevalent. And even without knowing the data, without looking at syllabi, without having conversation with their colleagues at a two-year institution, they just assume that the instruction at a two-year school is inferior, the students are inferior. And so, the idea that their course could somehow be equivalent to that is like, absolutely not. That's not even a discussion.

Rowan, a faculty member in History, validated this mentality directly,
I think a lot of people are telling students now, well, just go to community college. You get two years out of the way and it's real cheap. Well, it's cheap for a reason because it's sort of like a cheap car. It isn't necessarily quality.

This territorialism was discussed as stemming from a high value placed on academic rigor, but also concern for students’ sequential learning if lower-level content mastery cannot be assured. As Owen discussed, some faculty members are more rigid with their standards for articulation “because there's a lot of the line. If a student is given credit, but they weren't ready for that next level course, that is very poor form on our part.” Rowan agreed, saying that sometimes students can transfer, “but are they ready for higher level work?”

Likewise, maintaining the rigor of their program is important to faculty members because traditional shared governance structures give them clear authority over curricular matters in their programs and, as Adrian described it, they are “putting their stamp on” their program’s degrees. This value coupled with the stigma described against the quality of community college education means some RPU faculty members are hesitant to award direct equivalent transfer credit for community college coursework. As Cameron said, “There are departments on our campus that believe they are the only ones that teach a course well, and, thus, going to be very hesitant toward any credit.” Ryan, interim CAO at the time of the study, elaborated,

This will be too diplomatic but, I would say we have some faculty who think … only we at [RPU] really teach it the right way to be successful. And I don't think that benefits the student at all. And so, we have to get rid of that mindset because when you talk about these things, that impacts time to degree completion. It impacts the cost of education.
This mentality and the “broad latitude” faculty have to make decisions about transfer courses manifest inconsistencies among departments where some faculty are “pickier” than others about how they evaluate community college coursework for transfer credit awards. Shawn discussed, There are faculty that I know to be pickier about community college coursework, then say, maybe a four-year institution because of, well, I have theories about their values around community colleges and the education to provide, and that’s impacting their evaluation. And I do have a lot of concerns about that and how much individual power faculty may have about that.

This concern was discussed by multiple participants, in both staff and leadership roles, as a dated paradigm that educating faculty members further about may alleviate potential strain within the system of articulation and result in better results for transfer students.

On the other hand, some faculty members were noted as “using their power for good” in the system of articulation. Several participants described earnest faculty members and academic program leaders as transfer “champions” that put in extra work around articulation because they care deeply about students and understand the equity imperative of transfer. These champions were described by several participants as “passionate” and were noted as being responsible for the motivation of certain academic departments to more proactively articulate transfer coursework with community college partners. In addition to their heart for students, some of these champions were discussed as becoming savvy to the changing market and reacting to the reliance on enrollments for budgeting in the current landscape. Owen shared appreciation for a faculty member who has gone above and beyond to build community college transfer pathways to his major, “He recognizes his program needs students. I'm sure that's his central motivation. He's got a passion for his program, and I think he loves transfer students. He loves his discipline,
too.” Participants discussed that education and discourse with faculty members can go a long way in activating momentum around articulation.

**The Cybernetics of Articulation**

Cybernetics are system control mechanisms regulated through flow of information, intersecting feedback loops, and interacting flow of processes (von Bertalanffy, 1998). In RPU’s system of articulation, cybernetics are multivariate and work to automate system business processes. Kelsey noted how critical cybernetics are to RPU’s system of articulation, “I think the articulation between content is the easy part. You know, it's really now getting all of the things in the system, right?” This is because there are variable cybernetic components and interacting mechanisms that enact process flows and close feedback loops within the system.

I identified several broad cybernetic categories within RPU’s system of articulation including documents, computer systems, and databases. Participants also discussed technology that facilitates interacting feedback loops between and among system actors and processing units. Finally, I identified several cybernetic shortfalls. I describe these cybernetic issues further in the sections to follow.

**Articulation Documents**

Student transcripts are the basic cybernetic input to the system of articulation. Course syllabi are also critical documents in the system as most articulation decisions are made from the information that appears on the syllabus. At a minimum, the syllabus should include the course and instructor’s name, schedule of content topics, textbooks used, and assessments (assignments, exams, etc.). Several participants discussed more extreme variation in syllabus documentation and noted that, sometimes, it can be difficult to find the appropriate information needed for proper articulation alignment on transfer course syllabi.
Although participants discussed formal articulation agreements as discrete from the single course articulation decision-making processes I sought to examine, it was clear that these agreements were also an important cybernetic component to the system of articulation. This is because such agreements are typically based on the alignment of foundational courses in a given program which means, in the end, more students receive more credit for direct equivalent courses generated through articulation agreements. Formal articulation agreement processes involve higher level leadership, are much more structured, and time intensive to develop. Even after executing these agreements, maintaining them was described as highly complex. With no one centrally coordinating articulation, participants discussed that it is difficult to even pin down how many articulation agreements RPU has (and in which programs).

Several participants questioned the impact of articulation agreements compared to the heavy burden they are to create and maintain. Cameron said the agreements felt disingenuous and seemed ineffective. They described the thought process as, “Let's design this so we can pat ourselves on the back and have some cake.” Another participant discussed the “fancy pens” used at articulation agreement ceremonies, likening these to public relations events for marketing but questioning the utility of the agreements for students.

As my study was concluding, RPU and a local community college partner held a ceremonial event to announce over 50 new articulation agreements meant to streamline the transfer of credits between the institutions. Held at RPU’s new student center building, the event “celebrated the highest number of transfer agreements ever signed between the two institutions.” These new program-specific agreements follow a more basic agreement signed between the institutions in January 2023 designed to minimize credit loss for students from the local community college. In press following that precursor event, the community college’s president
noted the initial agreement and more specific program agreements yet to come were designed to “eliminate unintentional barriers created by our institutions in the past.” The agreement included three innovative programs that will allow community college students to earn their associate, bachelor’s, and master’s degrees in five years.

**Computer Systems and Databases**

Computer systems and digital databases provide cybernetic infrastructure in the system of articulation. Participants discussed a customer relationship management (CRM) system used to facilitate RPU’s Admissions Office process as the first computer system tapped in the system of articulation. The transfer admissions application and associated transcript(s) imaged in the CRM initiate various cybernetic functions that work together to execute and, ultimately, communicate transfer articulation decisions with students and advisors. The initial transfer credit evaluation is performed in the Admissions Office by comparing the students’ imaged transcript against RPU’s transfer articulation databases. When a transfer course is already articulated, RPU’s computer systems and associated digital databases make the cybernetic process behind the system of articulation fairly seamless.

Document analysis showed that the main cybernetic work horse in RPU’s system of articulation is the College Source transfer evaluation system (TES) to which the university is a paid subscriber. TES facilitates internal processes around articulation evaluation and management of RPU’s transfer equivalencies. TES is also embedded on the institution’s website as the public-facing transfer equivalency database, housing thousands of established course equivalencies from colleges and universities around the country. A second transfer equivalency database was found on RPU’s website, though the distinctions between the two are unclear other than the output display, and none of my participants referenced a use for this other database.
Several participants discussed the Michigan Transfer Network (MTN) as another cybernetic tool. The MTN is a statewide transfer equivalency database that public colleges and universities are required to participate in through language associated with their respective funding appropriations bills. While this database was noted as being helpful to prospective transfer students and staff advisors, several participants also noted that this tool is not well-known by students and frequently does not include as comprehensive a list of equivalencies as RPU’s database. In addition to providing helpful information about transferability of coursework, the MTN was noted by administrative participants as helpful to directing strategy around relationship-building with community college transfer partners since it can be queried to see where articulation is lacking.

Separate software was described for tracking program requirements for graduation auditing. In this system, students and staff advisors can see how transfer credits apply to degree requirements. Transfer credit awards must be correctly reflected in the auditing system to be accurate as transfer students track their progress to their degree. When courses are pre-articulated and correctly loaded to RPU’s database, participants described the transfer credit evaluation process as quick, efficient, and relatively clear since the degree auditing system ascribes the appropriate transfer course and correlated degree requirement met. Participants noted that confusing codes such as credit by department recommendation only (CBDRO) cause difficulty for transfer students in tracking their progression to degree and describe it as onerous to change CBDRO designations in the auditing system if departments award direct credit down the line.

Interacting Feedback Loops

Email was discussed as a critical cybernetic process initiating and closing feedback loops between and among multiple system actors. Physical meetings were also described as an
important cybernetic component of the system of articulation at both the micro student level and
the more macro institutional level. Many participants described how important initial in-person
advising appointments are for transfer students. Even more pointed, several participants
discussed how important it is for transfer credit evaluations to be complete before such meetings
so staff advisors can gauge how much time students have left to complete their degrees, usually
an important decision-making factor for transfer students. Shawn, staff advisor, reflected:

    I'm a student and … I've been admitted. I have submitted all my documentation. I should
be good to go. And that's kind of what admissions is communicating to them. And then
on the advising end, we're saying we don't have everything we need to be able to help
you effectively. And there's a little disconnect there.

Morgan, another staff advisor, underscored the importance of advising appointments for
contextualizing transfer credit evaluations for prospective students. “If they never come see me;
if they look just at the number of credit hours that they have received, and they're like, well, so-and-so university has given me 15 more credit hours, so let's go there.”

Even if students are certain they will attend RPU, without a comprehensive transfer credit
evaluation, staff advisors cannot direct students in scheduling appropriate coursework. In these
meetings, staff advisors can walk students through their transfer credit awards and explain how
to pursue articulation evaluations when they receive the credit by department recommendation
only (CBDRO) designation.

    Human meetings are also important between other RPU articulation system actors.
Frankie, department chair in History, indicated that such meetings or, “confirmed sightings of
colleagues,” offer important opportunities to discuss and prioritize issues like transfer
articulation in the department. The importance of meetings (and campus visits) to building and
maintaining relationships with community college transfer partners was also punctuated throughout my interviews.

In part, this is because RPU recently held a large event intended to facilitate academic relationships between community colleges and RPU departments. This event was described as collaboratively coordinated where the Admissions Office did the outreach to get community college partners there and coordinated the event itself while academic affairs leaders directed RPU’s internal academic personnel who participated. The administrative staff described this event very positively but also noted it was resource intensive. Cameron indicated, “We had an amazing articulation workshop last spring. I hope somebody brought it up. We need the money to keep doing that.” Adrian further expounded, “I mean, we hosted people overnight, we did a dinner, we did a whole thing. And, it was a good test case, but it came from leftover money, COVID money.” Participants shared this COVID relief money was helpful to jump starting innovations but the dismal budgeting forecast at RPU would not likely allow the institution to continue such efforts.

Indeed, participants from the academic departments also discussed this meeting, though their feedback was mixed. These participants noted communication issues, including key personnel who were not informed about the event or its purpose. The initial invitations were described as not giving enough detail or going to the right person in the departments to be involved since the departments all process articulations differently. In some cases, there were no community college personnel from particular departments, making the time less useful for RPU faculty from those departments that attended to facilitate meaningful connections for articulation. Within the meeting itself, participants described a lack of structure for what to do with the time together. They shared that no real outcomes were identified and there was no tactical follow up
after the meeting to progress articulation work. It was also noted that timing was off for the event as many faculty members are off contract during the summer when this meeting was held.

**Cybernetic Shortfalls**

Participants discussed articulation systems as difficult to maintain for both single course equivalencies and formal articulation agreements since curriculum is dynamic and it is tedious to keep things up to date. While participants described some departments being more proactive about course articulations, with thousands of courses to maintain detail for, it is not realistic that all would be prioritized for pre-articulation given the complexities and time-intensity of such processes. Likewise, the complexities of the system are exacerbated due to lack of documentation on how articulation proceedings occur for training new faculty and staff members.

Sloan alluded to reliance on “oral tradition” for transferring knowledge about how to do transfer credit evaluation for articulation. Shawn, staff advisor, says they received a “crash course” overview on “navigating” articulation when they started their role and discussed a transfer policy document that guides the process flow in Mechanical Engineering. Rowan, faculty member in History, had a different experience, discussing their surprise that there was no “manual” for transfer articulation, “Things like transfer articulation, one would think, well, gosh, there should be a little handbook or something maybe. But as far as I know, in my experience, there wasn't.”

This lack of documentation also extends to public-facing transfer policies. Owen discussed where, “it might be a fragment of a policy over here or there's something in the department that they must be aware of. And then to put it all together is challenging.” Shawn described in further detail,
RPU has an incredibly diffuse transfer evaluation process. It’s great because it allows departments to have flexibility and make sure their students have what they need, and they can control that. But the flip side of that is that it is necessarily opaque … that level of specificity you need is really hard to communicate to students on a broad scale. Communicating the complexity around transfer and articulation is not just about how many credits a student needs but how to apply transfer coursework to complete specific degree requirements and graduate.

Chapter 4 Conclusion

This qualitative case study allowed for an in-depth examination of the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university (RPU). My findings demonstrate the complex, multi-level system in which articulation processes operate where structural elements, inconsistent process flows, interactions between and among human actors, as well as cybernetics must all operate smoothly in tandem to make the system work. With humans central to the system, there is a high need for consistent two-way communication to link disparate process flows within the system, clear shared understanding of roles among system actors, and attention paid to ensuring smooth cybernetic functioning within the system. My study’s findings reveal gaps in each of these system components that could be leveraged to improve system functioning and, hopefully, transfer student success. In the next section, I will interpret these findings further by discussing implications for policy, practice, and future research.
CHAPTER 5
DISCUSSION

I came to this study with strong convictions about the social justice imperative of improving the community college transfer pathway where too few students intending to do so are able to complete a bachelor’s degree (Faris, 2018; Hodara et al., 2017; Xu et al., 2018). The systems theory framework I applied to my study offered tools to comprehensively examine the localized, multi-level system of articulation at the Midwestern regional public university (RPU) selected as my case site. Organizational and systems theories informed the tactical research questions below which guided my study of the interacting process flows, human actors and cybernetic components that make up RPU’s organizational system of articulation.

1. How does a Midwestern regional public university enact the system of articulation that serves to award transfer credit for community college coursework?

2. What roles do various organizational actors play in the system of articulation that serves to award transfer credit for community college coursework at a Midwestern regional public university?

Discussion of Key Findings

In Chapter 1, I introduced my conceptualization of the “Transfer Systems Iceberg” (see Figure 1) depicting how I see four-year institution transfer and articulation systems contributing to the social phenomenon of low community college transfer student completion rates and excess transfer credit accumulation. The systems thinking iceberg concept informed my study design, including the research questions above, which were answered in Chapter 4 where I discussed what my study revealed about the structural elements underlying RPU’s system of articulation,
roles and patterns of behavior of various human actors in the system, as well as the interacting flow of processes and associated cybernetics used to enact the system at multiple levels.

I initially expected to find underlying structures and patterns strongly influencing RPU’s system of articulation. In reality, I found these system elements to be less pronounced with a high degree of emphasis on the human element involved with transfer articulation. RPU’s tactical system of articulation is entirely mitigated and mostly impacted by human actors and their associated mental models at multiple levels within RPU’s organizational hierarchy. The flow of processes in the system are primarily facilitated by system actors from the Admissions Office, though academic department personnel and staff advisors are also heavily involved. These flow of processes are contingent on critical cybernetic components that make the system function by regulating the stream of information and closing feedback loops between and among interacting system actors at various levels within the system. At certain levels, the flow of processes and cybernetics seem to operate smoothly, however, system breakdowns were noted at other levels. This relates to the two major takeaways from this research presented in this section. First, I discuss the centrality of human touch in the system of articulation, including the importance of interpersonal relationships to system functioning and impact of human mental models across the system. Then, I note the sheer complexity of the multi-level system which can impede system functioning and requires careful attention to cybernetics to ensure information access and exchange among system actors.

**Humans Are the System**

Even with computer systems and other technology meant to automate and streamline communication within the system, humans enact the system of articulation at RPU at all levels. Human-mitigated policies, practices, interactions, and mental models are the system. Humans
are also responsible for the technical aspects of the system that are automated through cybernetic tools like equivalency databases, degree auditing systems, etc. With so many interacting units and human actors within them, the responsiveness of the system hinges on each interaction and it can delay the whole process when just one human actor is slow (Senge, 1990). While intake processing in the Admissions Office was mostly discussed as smooth, system processing within academic departments was not as fluid. This level seemed to be where system delays or breakdowns occurred. Ryan described these delays as “slowdowns” that can lead to “inaction” in articulation processing. Likewise, Jordan explained that within RPU’s system of articulation, “place turns into people rather quickly” which leaves much room for human error and concern for consistency in articulation proceedings across the system. Put together, this contributes to systemic inequities in how students’ transfer coursework is evaluated and applied to their degree requirements since decisions may differ depending on which human actors are involved in a given articulation review.

This reliance on human actors also means the system can be heavily impacted by personnel shortages and turnover among system actors. My participants described multiple vacancies in ground-level, student-facing roles (e.g., credit evaluators, admissions recruiters, academic advisors) that impacted RPU’s functional system of articulation at the time of my study. These personnel gaps strain transfer systems. In addition, the lack of documentation and training available on transfer articulation, particularly within academic departments, means the archives that guide articulation decision-making turn over with the staff that frequently vacate critical roles in the transfer articulation system.

Staff turnover, persistent vacancies, and severe segmentation in the process flows that enact the system of articulation caused confusion among participants over which human actors
hold which responsibilities within RPU’s system of articulation. Sloan, department chair, described well how this confusion inhibits system functioning:

I know for me and for most of the faculty, the assumption has been that all of this is handled by the university. And it's only when we get into like subject matter expert content analysis that we should be involved. Otherwise, it's the university that sets the standards and makes those connections. So, there's an assumption that a system exists and that it is well designed and that it is there to help students as they navigate through this. I think the other assumption is that where that system doesn't do it, that advising would be stepping in and supporting.

As Alex shared, this confusion leads to inaction and frustration, “It is a long-standing frustration to me that we have not had consistency and a clear system and clear personnel in charge” of making connections and keeping tactical articulation processes moving since “busy people” in the departments may not be able to see this through. This is an issue of role clarity, but also general confusion over the interacting process flows various system actors hold responsibility for within RPU’s system of articulation. Without clearly defined roles and centralized systemic oversight of articulation, these processes rely on individual actors’ motivation and functional interpersonal relationships among system actors (Senge, 1990). When these break down or staff turnover, organizational chaos ensues, and students are not well served by the system.

Time and again, my participants highlighted the importance of functional interpersonal relationships between individual human actors within the system of articulation. Adrian noted,

I think one of the insights that I've taken away after ten years of working on this kind of stuff in various ways is how much of this relies not on systems or processes, but on relationships. And that's true of the relationship that admissions might have with the
Adrian went on to discuss how easy articulation can be when people are “all on the same page” but also discussed the other side of that coin where when “people leave, people turn over and things go dark. So, the politics and the relationships and the personalities that are involved have an outsized, disproportionate impact on transfer policies and procedures and, ultimately, on transfer student success.”

There is a lot to unpack in these statements. First, Adrian described the influence of both intra-institutional and inter-institutional relationships on articulation system functioning. When these relationships are not productive, the institutional system does not function properly, and transfer students’ experiences are negatively impacted. Adrian also drew attention to the human element in prioritizing transfer articulation work and the impact of different “personalities” on transfer student success. When system actors do not embrace the plight of transfer students as their responsibility or, worse, apply negative mental models to articulation decision-making, systems of articulation can stall out or shut down entirely, with negative impact on students. Overall, my analysis indicated that human mental models disproportionately impact RPU’s system of articulation compared to other system elements. Mental models of academic elitism and stigma against community colleges perceived among faculty members as key articulation decision-makers were noted by several participants as problematic, and unfair to students. Several other assumptions related to articulation review, such as transfer students being a sunk cost to departments and assuming that students have access to prior course materials—which may not be the case for students who stopped out or entered the workforce prior to moving into
baccalaureate studies—also impact how the system of articulation is structured and enacted. These types of assumptions create lag time at best or points of stoppage at worst.

**System Overload – Patterns of Complexity in the System**

Likely because of the prominence of human elements within the system, it quickly became apparent throughout my data analysis that complexity is a hallmark of the transfer articulation system. Participants used the words “complex,” “complicated,” and “intense” frequently to describe the system of articulation and processes within it. Shannon described dealing with transfer credits as “a beast.” Some participants discussed wanting RPU to be more transfer friendly but pointed to shortfalls in the system as difficult to overcome due to the complexities involved with articulation and lack of resources (human and financial) to address such complexities.

These complexities relate to extreme variation and segmentation of work within articulation process flows where academic personnel exhibited lack of familiarity about how articulation system processes and cybernetics operate. Administrative staff were similarly befuddled by academic norms and curricular oversight protocol which often differ by department, and even by program within the departments (Birnbaum, 1988). Participants noted both difficulty in understanding and explaining nuances at multiple levels within the system of articulation and the gravity when transfer students’ credits are not appropriately applied or their course taking sequence gets off track. When there are system breakdowns, it can seriously impact progression toward students’ degrees. This also has financial impacts on students, both in sunk cost for courses not applied to degree requirements but also lost income when their graduation is delayed, and they cannot enter the workforce more expediently.
**Relationship to Existing Literature**

In this section, I interpret my findings against the literature reviewed in designing my study. First, I discuss my findings as applied to the organizational and systems theories that framed my study (Birnbaum, 1988; Clark, 1983; Cohen & March, 1974/1986; Kintzer, 1996; Morgan, 2006; Senge, 1990; von Bertalanffy, 1998; Wang, 2020; Weick, 1976; Wheatley & Kellner-Rogers, 1996). Then I discuss my findings related to transfer student success research, closing by reinforcing the social justice imperative of improving faulty systems of articulation (Chase et al., 2014; Crisp & Nuñez, 2014; Gardner et al., 2021; Jain et al., 2020; Rosenberg & Koch, 2021; Taylor & Jain, 2017; Wang, 2020).

**Articulation as an Organizational and Systems Issue**

My findings support the idea that human behavior and mental models are what make complex systems function (Senge, 1990; Wheatley & Kellner-Rogers, 1996). While some participants discussed a passion for better serving transfer students, participants also discussed conflicting mental models at play around the importance of academic rigor that impact how articulation is approached in academic departments. This aligns with Clark’s (1983) assertion of an almost hallowed primary purpose embraced by the academy around knowledge development and dissemination. Indeed, the faculty I spoke with were deeply committed to assuring academic rigor and placed high value on their role in perpetuating such rigor. The flip side to this, however, was skepticism participants perceived toward the instructional rigor of community college coursework and subsequent preparedness of community college students for success in the RPU setting (Wang, 2020). This skepticism manifests as blatant bias in systems of articulation when transfer curriculum review is not approached with the same care and rigor faculty speak of relevant to curriculum design and assessment.
Kintzer (1996) similarly focused on tacit structures guiding articulation, including mental models, relationships, interpersonal interactions, and communication norms. My findings underscore the importance of these tacit structures to articulation system functioning where clear breakdowns in the system were discussed by my participants when relationships or communication between interacting units broke down. These breakdowns were the result of human delays, unproductive relationships between internal and external system actors, and clunky cybernetics where clear documentation was not available to guide complicated articulation processes.

The complexities found throughout RPU’s system of articulation clearly illustrate an organizational ambiguity where articulation proceedings are not well-documented nor are roles and responsibilities within the system clear (Cohen & March, 1974/1986). Loose coupling between disparate units disrupts the system of articulation by impeding intra-institutional relationships, diminishing flow of communication, and upending feedback loops (Weick, 1976). In addition, my participants described complicated layers of bureaucracy (Birnbaum, 1988; Stroup, 1966) and deep reliance on multivariate cybernetics (von Bertalanffy, 1998) in RPU’s system of articulation. This means that the system of articulation is heavily reliant on technology and a clunky flow of processes between interacting units and organizational actors within the system. Thus, there are numerous opportunities for communication breakdown or technical failures within the system, illuminated by the many times participants described the system as “confusing,” “frustrating,” or “complex,” particularly for students.

Much like Clark (1987), I found dynamic and varied subcultures across academic departments where different norms, communication protocols, and authority around articulation were noted in the programs I examined within the system. Where Canada (2021) noted that
department chairs and deans held articulation decision-making authority, I found it more typical for RPU department chairs to be responsible for routing articulation requests. Individual faculty members were consistently noted as the ultimate decision-makers for single course review.

Despite this authority, I also heard that faculty members were unfamiliar with articulation issues and demonstrated an inconsistency in approaches employed for articulation review in addition to some degree of bias described against community colleges and even transfer students. This is consistent with Gardner et al.’s (2021) assertion that the role of faculty in articulation is paramount, yet less understood. I had hoped to further examine the faculty role in the system of articulation and was disappointed that I was unable to recruit any more than two participants serving in direct faculty roles. Several faculty members that I invited either did not respond altogether or felt they were not involved enough in articulation proceedings to serve my study.

Bell (2021) asserted that state policy dictates the context within which institutions, and even departments within them, make transfer articulation decisions. However, I found departmental subjectivity more pronounced within my own study, likely due to Michigan’s unique decentralized transfer policy environment. Many of my participants openly expressed lack of familiarity with the statewide transfer work in Michigan that I asked them about. Interestingly, though some participants expressed support for more centralized state articulation policy, one faculty participant felt a decentralized approach was the only “fair” way to review curriculum for transfer alignment.

At the same time, much like Diamond (2008), I found a lack of shared understanding on how to approach articulation review for specific learning outcomes and correlated assessment strategies. Several participants in my study discussed difficulty in assessing what was learned in prior transfer coursework due to inconsistent standards and unclear assessment tactics across
sectors. These organizational complexities directly influence both the localized and more global system of articulation that heavily influences transfer student momentum and, ultimately, student success outcomes (Bell, 2021; Bers, 2013; Chase, 2016; Faris, 2018; Roska & Keith, 2008; Senie, 2016; Shoenberg, 2004; Taylor & Jain, 2017). Thus, considering the organizational chaos of institutional articulation systems as a compounded issue brings articulation front and center as a macro-level barrier to transfer student success.

**Articulation as a Barrier to Transfer Student Success**

A long-standing issue in the study of transfer student success is data accessibility. This stems from difficulty in longitudinally tracking student progression across educational sectors (Baker, 2016; D’Amico & Chapman, 2019; Gross & Goldhaber, 2009; Spencer, 2019). Even when data has been available to study transfer student success, the outcomes have been mixed and, largely unconvincing as to what works at the state policy level (Anderson et al., 2006; Baker, 2016; D’Amico & Chapman, 2019; Gross & Goldhaber, 2009; LaSota & Zumeta, 2016; Roska & Keith, 2008; Spencer, 2019; Worsham et al., 2020). Much like I heard from my participants, this issue is exacerbated by a lack of prioritization on transfer where, historically, student success data have only been readily available for first-time, direct-entry students, leaving transfer students out of these discussions altogether. Although transfer student data access is improving in contemporary times, the historic lack of data has long denied the opportunity to examine deep-rooted inequities and systemic barriers impacting transfer students, particularly for historically marginalized community college students who often aspire to transfer.

Prior qualitative study of transfer student success has documented an inhospitable culture for transfer students that surely does not help in their educational pursuits (Carrell & Kurlaender, 2016; Tobolowsky et al., 2014; Townsend, 1995). Wang’s (2020) more recent mixed methods
study involved interviews with transfer students who described experiencing an inhospitable culture. The students specifically pointed to a lack of transparency leading to much confusion around transfer processes. Participants in my study described a similar lack of transparency at RPU. This is concerning as a barrier to both access and success since the system of articulation is often the first encounter potential transfer students have at RPU and the application of transfer credits obviously impacts degree progress and completion for transfer students.

**Articulation as an Equity Issue**

Like other scholars whose work informed my own, the social justice imperative of the community college transfer pathway motivated my research (Chase et al., 2014; Gardner et al., 2021; Jain et al., 2020; Rosenberg & Koch, 2021; Wang, 2020). Rosenberg and Koch (2021) define social justice “as equal access to social mobility, opportunity, and privilege within society” (p. 51). Jain et al (2020) used critical race theory as a backdrop for their analysis of transfer receptive culture as an equity issue that breaks down the democratizing purpose of community college education. The social justice imperative of the community college transfer pathway is especially striking when you consider the diverse student populations typically served by community colleges who often face systemic barriers throughout their lives and educational pursuits. Indeed, this remains true where gaps in transfer access are prominent for racially minoritized populations (Crisp & Nuñez, 2014). This underscores the equity imperative of improving transfer pathways, starting with the key element of articulation.

My study exposed some of the institutional failings around articulation that are consistent with how the students interviewed for Wang’s (2020) mixed methods study described their own uneven access to information and resources to help them self-navigate the complexities of transfer processes. Wang asserted that clunky articulation proceedings, like those I found at
RPU, serve as “counter-momentum friction” (p. 138) that block students’ academic momentum and, ultimately, end up costing them money when transfer coursework must be repeated. She surmised that these inequities further advantage students with preexisting privilege and sharply impact the marginalized populations typically served by the community college sector. These inequities run deep as my study’s participants described their experience with biased sentiments against community colleges that faculty members exhibit as key articulation decision-makers. This data affirmed Wang’s (2020) supposition that a lack of trust and clear stigma against community colleges interact with issues of power and control over curriculum to make articulation a systemic barrier to transfer student success.

**Implications for Policy, Practice and Future Research**

The results of my study have implications for policy, practice, and future research. In this section, I summarize recommendations for each arena given my findings. First, I share implications for policymakers and transfer advocates seeking to impact transfer policy. Then, I offer practical advice that centers on RPU’s context but is also useful for other universities interested in bolstering their articulation systems to better support transfer student success. Finally, I offer suggestions for future opportunities for further research.

**Policy Implications**

Higher education policies, especially those which seek to influence transfer articulation, are often mimetically isomorphic (ECS, 2020; Wellman, 2002). However, given findings from this and other studies (e.g., Bell, 2021; Wang, 2020, etc.) that illustrate organizational variation in articulation system processing, state transfer policy must be appropriately contextualized both within the state and the variable institutional (and even departmental) contexts within which articulation policies are implemented. Too often, policy decisions focus on structure, ascribing
requirements, or limits on transfer credit awards. Many specific transfer policies focus on
transfer as an operations issue which “depersonalizes a very human phenomenon” (Rosenberg &
Koch, 2021, p 57) and does not fully consider nuances at the academic department level that
impact articulation proceedings. Rather, policies should consider the breadth of the system of
articulation, particularly the system’s reliance on human actors and interaction with less
prescribed academic norms. Transfer policy must focus on improving interacting process flows,
connecting loosely coupled human actors, and implementing functional cybernetic technologies
to effectively close feedback loops within the system to encourage stronger implementation and
campus-level awareness among all system actors.

Attention to cybernetics also ensures implementing system actors, and transfer students
served by systems of articulation, are more aware of state policies and have access to clear,
accurate information to help them avoid dead-end transfer pathways (Fink & Jenkins, 2021).
These dead-end pathways disrupt students’ momentum toward completing their degrees (Wang,
2020), and can make transfer students ineligible for financial aid due to satisfactory academic
progress (SAP) rules that can further disadvantage transfer students with excess credit
accumulation (Taylor, 2021). In addition to financial aid, transfer policy is impacted by
contemporary policies around free community college (Wang, 2020), high school dual
enrollment (Fink & Jenkins, 2021), and longitudinal data systems (Bell, 2021), just to name a
few. Policymakers and advocates must consider intersections between and among these efforts
so as not to inadvertently inhibit progress between multi-functional policy arenas.

The best way to contextualize transfer policy is to involve representation from the
breadth of human actors involved in systems of articulation in developing state transfer
initiatives. Not only will this help policymakers better consider tactical implementation from the
start, but it will also begin to address the human element of improving transfer systems since, as Wang (2020) notes, policy alone will not disrupt dysfunctional transfer articulation systems. “Removing friction in the curricular domain is a major feat, a conundrum where systemic change must happen, and politics must be navigated” (p. 147). Such politics include addressing trust issues between community college and university faculty and incentivizing university accountability for making transfer work (Handel, 2021; Jain et al., 2020). This is a tall order, but also represents an opportunity for policymakers and advocates to embrace statewide transfer initiatives to fulfill multiple strategic purposes. Incentivizing university involvement both encourages a smoother path for students and generates a wider coalition of transfer change agents with the power to structurally improve the transfer pathways between sectors. Multi-sector working groups, or advisory committees can provide important representative perspectives to ensure comprehensive transfer policies are thoughtfully designed. An additional benefit to involving the breadth of articulation system actors is increased awareness of and accessibility to cybernetic resources to support transfer students’ academic momentum.

**Implications for Practitioners - Tending to Systems of Articulation**

Senge (1990) wrote extensively on approaches to refresh system functioning to maximize output. He noted that large, complex systems contain many microcosms which are ultimately the vehicles for systemic change. This was very apparent in my findings. While the diffused control mechanisms I found in RPU’s system of articulation complicate the opportunity for consistent implementation of more broad policy at the local level, institutions can mobilize articulation system actors at multiple levels to yield better outcomes for students and improve institutional efficiency. My participants described an elusive system of articulation that exists against the organizational ambiguity common in higher education (Cohen & March, 1974/1986). Tending to
the system means all system actors, but particularly faculty members and other academic
department personnel, must better understand interacting process flows, cybernetic tools and
feedback loops, institutional policies, and academic decision-making around articulation.

I heard many times in my interviews that transfer was not on the agenda at RPU because it was not a designated priority for faculty or executive decision-makers given mounting workloads in the face of personnel vacancies that have disrupted the organizational culture of RPU and impacted articulation system functioning. Where possible, the institution should gather articulation system actors to discuss and parse out roles and responsibilities, particularly related to cybernetic mechanics that are critical to closing feedback loops between system actors and communicating clear information about articulation to prospective transfer students. This includes evaluating transfer credit review proceedings and considering how to better align curriculum with community college partners more proactively. This also presents the opportunity to audit system processes to avoid duplication of effort, and further consider the impact of tacit structures such as personal bias on articulation outcomes. Such efforts also allow institutions to ensure that transfer articulation processes and policies are clearly documented and made available to both prospective transfer students, but all system actors who hold responsibility for processes within the system of articulation. Using such documentation for training of new staff will bolster the cybernetic infrastructure of RPU’s system of articulation.

Prioritizing Transfer as an Equity Imperative

As calls to address equity gaps in student access and success continue to gain momentum in state and federal policy arenas, institutional leaders have new opportunities to reset priorities and embrace the equity imperative of transfer (Bensimon, 2020; Jain et al., 2020; Wang, 2020). Several of my participants pinned the responsibility for transfer on community colleges, noting
that it was “their job” to advise transfer students, but this seems short-sighted. Rather, I join
other scholars in calling on baccalaureate-granting institutions to embrace their responsibility for
improving transfer receptive culture, particularly the chaotic organizational systems that
underpin articulation (Bahr et al., 2013; Jain et al., 2020; Wang, 2020).

In so doing, Wang (2020) recommends centering equity to galvanize a coalition of
change agents and embrace the social justice imperative of improving the community college
transfer pathway in practice, policy, and structure. My recommendations are also aligned with
Rosenberg & Koch (2021) who encouraged a broader contingent of personnel becoming
involved in transfer system improvement by focusing on the relationship of transfer to
institutional mission, identifying and engaging all pertinent stakeholders, and establishing clear
points of communication and cybernetic feedback loops within the system. Examining the
structure of systems of articulation will allow institutions to find pain points that can be
leveraged to improve system functioning and, in turn, student experiences and outcomes. Such
structural analysis, however, must also be accompanied by efforts to give authentic voice to
transfer students to reflect on and analyze barriers they have faced so efforts to improve transfer
pathways are rooted in transfer students’ own diverse experiences (Jain et al., 2020; Wang,
2020). The role of staff advisors must also be acknowledged and elevated for the critical role
they serve in systems of articulation, particularly as student advocates.

**More Authentic Faculty Engagement in Articulation Systems.** My participants were
clear about the power held by faculty members in the system of articulation. They were less clear
about faculty members’ motivation and desire to address transfer issues more authentically. It is
clear to me, however, that faculty members must be more engaged in transfer systems across the
board to better understand the plight of transfer students, embrace their authority in systems of
articulation, and redefine their own roles in such systems (Wang, 2020). This involves deepening faculty understanding of and engagement with transfer students, transfer processes, and both intra- and inter-institutional transfer partners. A good first step in mobilizing faculty members as transfer champions is to consider where transfer lies in the organizational hierarchy. Placement matters, and delegating transfer to administrative functions alone sends a strong message about whose responsibility transfer becomes (or does not become). Transfer cuts across traditional academic and student affairs silos, but, when it comes down to it, transfer of curriculum is an academic affairs issue and should be embraced and treated as such (Jain et al., 2020).

As my participants from academic affairs described, a central unit needs to take responsibility for steering and maintaining transfer articulation strategies. Thus, institutional leadership, particularly chief academic officers, shoulder responsibility for prioritizing transfer centrally, and within academic departments which are influential in the system of articulation. However, shared governance protocols require that CAOs operate delicately “through influence, not control” (Canada, 2021, p. 201) and engage the critical roles of program and department chairs to help incentivize transfer work among faculty members which many academics see as “zero-sum” (p. 201) since it does not seemingly correlate with faculty roles around research, teaching, or disciplinary service. This may even become a negotiated issue depending on the presence of faculty unions and stringency of contract negotiations. The presence of unaffiliated adjunct faculty members exacerbates the complexities of these issues, however, Canada (2021) notes that, while curricular change processes are often the most difficult for institutions to execute, they “may make the greatest difference in the success of its transfer students” (p. 212). Thus, regardless of barriers to mobilizing faculty members to become more authentically involved with transfer articulation, the potential payoff on student success in doing so is huge.
These administrative issues aside, moving toward a more a transfer friendly culture should certainly encourage relationships between articulation system actors. My participants in student services roles discussed long wait times and vague explanations of how transfer coursework evaluation happens within academic departments as barriers to functional intra-institutional relationships within RPU’s system of articulation. At the same time, faculty members I spoke with expressed impatience with the tedious business processes involved with articulation, and a strong desire to maintain curriculum control. This power imbalance must be dismantled in place of collegially shared understanding of the mutual responsibility of articulation system actors for transfer student success. A call from leadership for university faculty members to prioritize transfer along with resources to encourage their education on transfer issues as well as relationship-building efforts among multi-sector articulation system actors will go a long way in resetting institutional transfer culture.

Such a call to action should be accompanied by institutional infrastructure to allow for “confirmed sightings of colleagues,” as Frankie described, which will help generate positive relationships and role clarity between and among system actors. Though the faculty senate transfer credit subcommittee may offer a formal opportunity for such involvement, more informal transfer student success convenings would allow for wider participation and provide ongoing opportunities for training and development around articulation and other transfer student success issues across units. In addition to setting the stage for more generative relationships between faculty and staff, this would also provide an opportunity to empower and elevate the roles of staff advisors and admissions personnel with great expertise on transfer student needs. These working groups could go a long way to developing more streamlined system process flows and additional cybernetics, including documentation that is largely missing from certain levels of
RPU’s system of articulation. On this note, my participants were complementary about recent articulation meetings that included an array of articulation system actors from RPU and local community colleges. However, they expressed concern over resource constraints to continue regular communications between and among articulation system actors. Continuing and prioritizing these practices will deepen trust between sectors. Such relationship building may also help to reconceptualize negative mental models about community college quality that contribute to inequities in the treatment of transfer students and help universities embrace the notion of “community colleges as centers of diverse scholar production” (Jain et al., 2020, p. 48).

Finally, to take an equity-focused approach to improving transfer pathways, articulation system actors must consider their role in perpetuating an elitist system that systematically biases community colleges and their students (Jain et al., 2020). This entails moving away from deficit-based mindsets toward a more collaborative, supportive perspective that shifts the focus on supporting students rather than focusing solely on their limitations from embedded social inequities faced by such students throughout their educational pathways. As faculty members take up this cause, they are poised to be true champions for progressive change. This has the potential to positively impact transfer student outcomes and increase enrolment pipelines into their major programs in the face of declining enrollments across nearly all sectors and disciplines. This seems like a win-win, and not out of the question as several faculty transfer champions were described by study participants as catalyzing RPU’s system of articulation.

**Recommendations for Future Research**

In general, scholars note a lack of university perspectives on transfer (Baher et al, 2013). This goes together with the lack of accountability for universities in the transfer process and should be further considered in future research pursuits. In addition, more in-depth examination
of articulation proceedings overall, and in other academic program areas, would provide greater understanding of the complex academic nuances in systems of articulation. Likewise, additional qualitative research that seeks to better understand and more directly leverage the role of faculty as primary articulation decision-makers is warranted. It was striking to learn how much authority single faculty members have in RPU’s system of articulation even when they have little direct interaction with the cybernetics or process flows that enact the system. Along these lines, more inquiry into the perverse incentives uncovered in the system of articulation is warranted, including lack of incentive for faculty work on articulation since such work may not be recognized as service in tenure considerations. Also ripe for further examination are the perverse incentives to departments when academic budgets are based solely on student enrollment, and faculty members or department chairs may see awarding transfer credit as taking money out of their already lean budgets. In much the same way, due to the central role syllabi play in documenting and aligning course learning outcomes for transfer articulation, a deeper analysis of syllabi as an academic artifact is warranted. In addition, many participants discussed the difficulty in developing sound learning outcomes and associated assessment strategies necessary to ascertain student learning and accurately align curriculum for transfer credit awards. Thus, further, and more nuanced study on these academic processes, including curriculum design, assessment of learning, and a deepened examination of the role of faculty as primary owners of curriculum processes would be illuminating across the board. This type of inquiry would also allow for a more nuanced understanding of which academic programs may foster more prolific positive or negative mental models for transfer. As related to curriculum control processes, the role and influence of accreditation (at all levels) should be further studied, particularly as it relates to student success outcomes, whether transfer or otherwise.
Tracking process flows in articulation systems to better understand how many transfer credit reviews engage single course articulation processes and how many are covered by pre-articulated courses housed in the institution’s database would give a more relative idea of how pervasive leaks in the transfer credit pipeline are for students. It would be very interesting to engage transcript-level studies as part of this type of research endeavor to see what types of transfer credit awards happen most frequently, and potentially track decisions for credit by department recommendation only (CBDRO) type of evaluations. This type of research would also allow institutions to illuminate where gaps in articulation may be concentrated to direct future articulation priorities.

Finally, though recent work has centered on the equity imperative of transfer (e.g., Wang, 2020, etc.), more explicit social justice-oriented studies will further illuminate these issues. This includes quantitative students to disaggregate impact of transfer student success barriers on minoritized populations. Just as importantly, new qualitative studies will allow for comparison of institutional equity statements or mission goals with practical experiences of transfer and articulation systems.

Study Limitations

The primary limiting factor of this study was the breadth of participants. While I spoke with many individuals who all held some role within RPU’s system of articulation, my study did not fully present the faculty voice that is critical in the system of articulation. In part, this was because several faculty members declined to speak with me or did not respond to my request for an interview. Even those that did were not clear on the technical aspects of the system of articulation, speaking exclusively about how they approach transfer curriculum review and expounding on the difficulties in assessing rigor and student learning from the minimal detail
provided on course syllabi. In much the same way, although my participants spoke loosely about the involvement and influence of transfer partners as human actors in the system of articulation, this study did not fully consider the role and impact of transfer partners within the system.

**Concluding Thoughts**

Extensive experience with transfer and articulation led me to this case study where I sought to better understand the complex landscape around articulation that I believe heavily influences community college transfer student success. I used an organizational and systems theory framework to answer two direct research questions in my study. These questions had me seeking comprehensive understanding of how a regional public university enacts the organizational system of articulation that serves to award transfer credit and examining roles of various system actors responsible for enacting RPU’s system of articulation.

My findings indicate this landscape is strongly impacted by humans that mitigate the operational flow and interacting cybernetic processes that enact the system of articulation at a regional public university. Most of these system actors were situated in RPU’s admissions office, though academic department personnel and staff advisors were also found to be key actors. Although they were noted as less actively involved in the system, faculty members were still said to hold ultimate decision-making authority in RPU’s system of articulation. I learned from my study participants that, when these humans, processes, and technologies are out of sync, the system breaks down and becomes both inefficient for the institution and inconsistent for the students the system is meant to serve. This inconsistency makes the system inequitable since the students’ outcomes will vary depending on which system actors or processing units are involved in their articulation decisions.
I also learned that human mental models have tremendous impact within the system of articulation. In many cases, I was surprised by the fervor with which my participants spoke on all sides of transfer articulation issues. As further described in Ch 4, I was disappointed to hear participant perceptions that reinforced clear bias against community colleges, but also struck by the sanctity with which faculty members discussed their responsibility for ensuring academic quality in articulation decision-making. Other participants’ accounts of faculty champions who work tirelessly to smooth articulation pathways leave me optimistic about opportunities to leverage systems of articulation to strengthen the community college transfer pathway. More dialogue between and among all system actors and attention paid to cybernetics to ensure clear communication will progress this issue further and, hopefully, set the stage for systems change that will allow more community college transfer students to complete postsecondary degrees.
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Mi. Const. art. VII, § 3.


Appendix A
Participant Recruitment Protocol

Desired participants
- University system: Statewide Transfer Liaison, Registrar, Chief Academic Officer, Other (snowball)
- Program A: College/School Dean, Department Chair, Undergrad Program Coordinator, Other (snowball)
- Program B: College/School Dean, Department Chair, Undergrad Program Coordinator, Other (snowball)
- Program C: College/School Dean, Department Chair, Undergrad Program Coordinator, Other (snowball)

Communication 1: Initial Recruitment Message to Transfer Liaison

To: RPU Transfer Liaison
Re: Request for Referral to Participants for my Study Seeking Input on Transfer Articulation

Dear NAME:
You may already know that, in addition to my work with the Michigan Community College Association’s Center for Student Success, I am also pursuing my doctorate in higher education leadership at Western Michigan University. Building on 10+ years of work with statewide articulation projects, my dissertation research is focused on better understanding the organizational system of transfer articulation. After careful review, I am excited to have selected your regional public university as the site for my case study research.

To this end, I am hopeful that you would be willing to talk with me as part of my study and help me connect with other individuals at the institution who I would like to interview for my study titled, “A case study of the organizational system of articulation at a Midwestern regional public university.” This project has been approved by WMU’s HSIRB as of <add date>. In addition, your institution approved my study within your setting on <add date>. I was hoping you might be willing to connect me with the following individuals who I would like to speak with in my initial sample: <list names and titles>. If they are willing to participate, I will coordinate the scheduling of a 60–90-minute virtual interview via Zoom scheduled in the coming weeks. For your and their reference, the attached consent form gives more detail about the research study. Please respond to this email or give me a call (517-898-7731) if you have questions. Otherwise, I hope you will help me connect with these potential participants soon so I can move ahead with scheduling time to talk further with them. A response before <add date> (10 days out) is appreciated.

With thanks,
Katherine J. Giardello
Doctoral Student in Educational Leadership – Higher Education
Department of Educational Leadership, Research, & Technology
College of Education and Human Development, Western Michigan University
Communication 2: Snowball Sample Recruitment Message

To: Name
Re: Please Participate in my Study Seeking Input on Transfer Articulation

Dear NAME:
I recently spoke with one of your colleagues for my dissertation study entitled “A case study of the organizational system of articulation at a Midwestern regional public university.” During the interview, I asked about personnel at the university who participate in articulation processes that serve to evaluate community college coursework for transfer credit awards and you were mentioned as someone who plays a role in this system of articulation which is the focus of my dissertation study. As such, I am hopeful that you would be willing to talk with me about your role in the system of articulation in a 60–90-minute virtual interview via Zoom scheduled at your convenience in the coming weeks.

For some background information, my dissertation research builds on 10+ years of work with statewide articulation projects and is specifically focused on the organizational proceedings of transfer articulation systems at a regional public university. This project has been approved by WMU’s HSIRB as of <add date>. In addition, your institution approved my study within your setting on <add date>. Please respond to this email or give me a call (517-898-7731) if you have questions in deciding if you wish to participate in the research study. A response before <add date> (10 days out) is appreciated.

With thanks,
Katherine J. Giardello
Doctoral Student in Educational Leadership – Higher Education
Department of Educational Leadership, Research, & Technology
College of Education and Human Development, Western Michigan University
Appendix B
Semi-Structured Interview Protocol

Thank you for your agreeing to participate in my study! You may recall that, to facilitate my research project, our conversation today will be recorded. The recording will be stored in a secure digital file and only accessible to myself as the principal investigator on this project. I have not begun recording yet because I wanted to confirm that I have your permission to record our conversation today. Can you please confirm that it is OK to begin recording now?

Great. I have started the recording. Before we begin with the protocol, I want to acknowledge that you have signed and returned the informed consent document I provided you with which states that: (1) all information you provide will be held confidential, (2) your participation in the study is voluntary, and you may stop at any time if you feel uncomfortable, and (3) I do not intend to inflict any harm in this study. Do you have any questions about this consent?

Thank you. I am really glad to be talking with you today as part of my dissertation study! I expect our conversation will take about 60-90 minutes. During this time, I have several topics that I would like to cover related to my interest in better understanding the system of articulation that facilitates the evaluation of community college coursework for transfer credit awards. It is important that you know I am not evaluating your policies, techniques or experiences in this study and this project is not related to any current statewide transfer work with which I am affiliated. Rather, my objective is to analyze the processes you describe from an organizational and systems perspective to deepen our collective understanding of the system of articulation and its impact on transfer student success. To that end, I will be asking questions today about rules, policies, and processes that make the articulation system here work. Do you have any questions you would like to ask me before I begin with the questions that I have prepared for you?

Interview Protocol

OK, let’s begin! I thought we could start by sharing a little bit about ourselves and our experiences with transfer. As for myself, I have worked on statewide transfer and articulation initiatives for more than 10 years now, first in Ohio and now, in Michigan since 2015. I am a community college advocate and believe in the democratizing function of community colleges. I am particularly fascinated by the transfer articulation piece of the puzzle which brings me to this case study of how a regional public university evaluates community college coursework for transfer credit awards.

So, that’s a little bit about me. Before we get into the other topics I would like to discuss, I would like to get to know you a little better. Can you please tell me a little bit about your career background – what brings you to your present position?

1. Can you please walk me through what happens at your institution when a new transcript comes in for transfer credit evaluation? Probes (as needed): Where does the transcript go first? Where does it go next? Do you interact with the transcript at all? What can you tell me about what happens behind the scenes to move from a prospective student’s transcript
being received to the student receiving information about their transfer credit awards?

2. What formal rules and policies guide the process of articulation here?
   a. Follow up: Can you share any documentation with me or tell me where to find such documentation about these formal rules, policies, or processes that you described?

3. How familiar are you with the statewide Michigan Transfer Agreement (MTA) and more recent MiTransfer Project? How has that statewide work impacted the way articulation happens here? Probe (as needed): Are there other state policy/initiatives that guide how your system of articulation operates?

4. What other external influences impact your system of articulation (e.g. accreditation, etc.)?
   a. Follow up: Can you share any documentation with me or tell me where to find such documentation about these other influences on the system of articulation?

5. Who decides what transfer credit to award? Probe: Are there different decision-makers depending on what type of coursework is being evaluated?

   Follow up (choose either a or b depending on answers)
   a. If they indicate that they review curriculum for transfer award evaluation, ask: How do you determine whether and how a course should transfer? Probes (as necessary): Please describe what materials are used, meetings or conversations that might take place, factors you consider, or policies that might guide your decision making. What happens when a student has prior credit for a course that you have not previously evaluated for transfer credit?

      i. How do you decide what type of transfer credit to award when you are reviewing transfer curriculum? How do/don’t these different types of credit apply to degree requirements?

      ii. What are some reasons a course may not transfer or apply directly to degree requirements?

      iii. How do prospective transfer students learn about your transfer credit decisions?

      iv. How were you trained on aligning/evaluating curriculum for transfer credit? If not, how did you learn or develop this skill/process for evaluation?

   b. If they indicate someone else decides, ask: Can you tell me how you think those transfer credit decisions are made? Probe (as necessary): Do you know what materials are used, meetings or conversations that might take place, or policies that might guide such decision making?
v. How do you interact with those decisions to award transfer credit?

vi. How is this information communicated with prospective transfer students?

6. Which other offices, departments, or units do you work with to articulate transfer students’ prior coursework for transfer credit awards? Probe (as needed): Which personnel in these office(s) are involved, and how/when do you communicate with them to make the articulation system work?
   a. Follow up/snowball: I have spoken with XX so far and now, yourself. Is there anyone else you think I should interview to ensure I have a comprehensive understanding of the organizational actors and influential variables in the system of articulation at the institution/in the program?

7. Before we close, I want to be sure you have a chance to share anything else you think I should know to comprehensively understand how your institution/program evaluates community college coursework for transfer credit?

Closing: I want to thank you for spending some time talking with me today. I appreciate your support and wish you well as the semester continues. Once I have analyzed and summarized the transcription of your interview, I will be back in touch to ask you to review the summary and confirm that I have accurately represented the data that you provided in this interview.
### Appendix C
#### Document Review Catalog Snapshot

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### Appendix D
Provisional Systems Theory Coding Schema

#### 1. Surface Events/Problems/Patterns

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<td>1b</td>
<td>Transfer student experience</td>
</tr>
<tr>
<td>1c</td>
<td>Transfer complexity</td>
</tr>
</tbody>
</table>

- **1a** Enrollment, persistence, and completion: Any comments related to student enrollment, retention/persistence, and completion.
- **1b** Transfer student experience: Any comment that refers to the experience of transfer students.
- **1c** Transfer complexity: Any comment that illustrates the complexity of transfer, or transfer maze.

#### 2. Structure

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<td>Disciplinary regulation</td>
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<td>Accreditation</td>
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<td>2d</td>
<td>Institutional regulation</td>
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<td>2e</td>
<td>State policy/practice</td>
</tr>
<tr>
<td>2f</td>
<td>Undefined practices</td>
</tr>
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</table>

- **2a** Hierarchy/Authority: Allocation/assertion of power and control in the system.
- **2b** Disciplinary regulation: Regulation or standards imposed by academic disciplinary body.
- **2c** Accreditation: Regulation or standards imposed by regional or industrial accreditor.
- **2d** Institutional regulation: Formal institutional rules/policies, often dictated by the academic catalog.
- **2e** State policy/practice: Regulation by government policy or state practice/initiative (e.g. MiTransfer Pathways).
- **2f** Undefined practices: Practices that facilitate articulation systems but are not dictated by formal policy or other regulation.

#### 3. Processes

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<td>3c</td>
<td>Registrar process</td>
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<tr>
<td>3d</td>
<td>Academic affairs process</td>
</tr>
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</table>

- **3a** Student process: Process initiated by, mitigated by, or completed by transfer students.
- **3b** Admissions process: Process initiated by, mitigated by, or completed by staff in the admissions office.
- **3c** Registrar process: Process initiated by, mitigated by, or completed by staff in the records or registrar’s office.
- **3d** Academic affairs process: Process initiated by, mitigated by, or completed by faculty or administrators in the academic affairs division or associated colleges/schools, departments, and programs.

#### 4. Cybernetics - Technology & Communication Loops

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<td>Communication loop</td>
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<tr>
<td>4d</td>
<td>Demarcation of transfer credit</td>
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</table>

- **4a** Transcript: Detailed record of postsecondary education.
- **4b** Computer system: Computer systems, website, or other online procedure involved in articulation system.
- **4c** Communication loop: An instance where a sender must encode a message for the receiver to decode and offer feedback.
- **4d** Demarcation of transfer credit: Type of transfer credit awarded on transcript and applied to student record after evaluation of prior curriculum/learning.

#### 5. Human Actors (roles, relationships, responsibilities)

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>5a</td>
<td>Assumptions</td>
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<tr>
<td>5b</td>
<td>Beliefs</td>
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<tr>
<td>5c</td>
<td>Values</td>
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</tbody>
</table>

- **5a** Assumptions: Something accepted to be true (sometimes without evidence).
- **5b** Beliefs: Conviction that something is true (often without evidence).
- **5c** Values: A judgement about what is important.

#### 6. Mental Models

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<tr>
<td>6a</td>
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<td>Values</td>
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Appendix E
Research Compliance Office Letter

March 27, 2022

To: Regina Garza Mitchell, Principal Investigator

Re: Initial - IRB-2022-121
A Case Study of the Organizational System of Articulation at a Midwestern Regional Public University

This letter will serve as confirmation that your research project titled "A Case Study of the Organizational System of Articulation at a Midwestern Regional Public University" has been reviewed by the Western Michigan University Institutional Review Board (WMU IRB).

Based on that review, the IRB has determined that approval is not required for you to conduct this project because you are not conducting human subject research.

HHS Office of Human Research Protections (OHRP) does not consider research involving only coded private information or specimens to involve human subjects as defined under 45 CFR 46.102(f) if the following conditions are both met:

1. the private information or specimens were not collected specifically for the currently proposed research project through an interaction or intervention with living individuals; and
2. the investigator(s) cannot readily ascertain the identity of the individual(s) to whom the coded private information or specimens pertain.

http://www.hhs.gov/ohrp/policy/cdebiol.htm

If a dataset has been stripped of all identifying information and there is no way it could be linked back to the subjects from whom it was originally collected (through a key to a coding system or by other means), its subsequent use by the Principal Investigator or by another researcher would not constitute human subjects research, since the data is no longer identifiable. "Identifiable" means the identity of the subject is known or may be readily ascertained by the investigator or associated with the information. In general, information is considered to be identifiable when it can be linked to specific individuals by the researcher either directly or indirectly through coding systems, or when characteristics of the information obtained are such that a reasonably knowledgeable person could ascertain the identities of individuals. Even though a dataset has been stripped of direct identifiers (e.g., names, addresses, student ID numbers, etc.), it may still be possible to identify an individual through a combination of other characteristics (e.g., age, gender, ethnicity, place of employment).

The Board wishes you success in the pursuit of your research goals.

Sincerely,

Amy Naugle, Ph.D., Chair WMU IRB