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Systems Leadership on Seamless and Transparent National-Level Transfer Credit

System:

A mixed methods study

Sevinj Iskandarova

A dissertation submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Doctor of Philosophy

School of Strategic Leadership Studies

August 2021

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## **Dedication**

This work represents the culmination of my educational journey, and I dedicate this to my husband, Dr. Samy El-Tawab. He provided unconditional love, endless support, and encouragement to pursue my dream. Ashk, thank you for all of the sacrifices you made and for all of the opportunities. Love you!

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## Table of Contents

<b>Dedication .....</b>	<b>ii</b>
<b>Acknowledgements .....</b>	<b>iii</b>
<b>List of Tables .....</b>	<b>vi</b>
<b>List of Figures.....</b>	<b>viii</b>
<b>Abstract.....</b>	<b>ix</b>
<b>CHAPTER I: Introduction .....</b>	<b>1</b>
Importance of Studying Transfer Credit System .....	1
Determinants of Transferring Issues between Postsecondary Institutions Across States	2
State-Level Higher-Education Policy Concern while Transferring between Postsecondary Institutions Across States.....	6
What Drives Policy Change in Higher Education?.....	8
Problem of Practice.....	9
Research Questions .....	12
<b>CHAPTER II: Literature Review .....</b>	<b>15</b>
Potential Predictive Models for Seamless Transferring Process .....	18
The States and Higher Education System.....	28
<b>Theoretical Framework.....</b>	<b>32</b>
<i>Systems Leadership Theory – Systems Change in Policy Leadership</i> .....	32
Theoretical Justification.....	39
<b>Chapter III: Methodology.....</b>	<b>41</b>
Quantitative Phase .....	42
Sample and Data Collection.....	42
The Unified Model of State Policy Innovation.....	44
Hypothesis Development .....	46
Variables Used in the Quantitative Phase.....	50
Statistical Test.....	57
Event History Analysis .....	59
Qualitative Phase .....	62
Sample and Data Collection.....	63
Data Analysis .....	67
Mixed Methods Integration.....	68

Study Contributions .....	69
<b>CHAPTER IV: Data Analysis .....</b>	<b>72</b>
Phase I – Quantitative Data Analysis.....	72
Descriptive Statistics.....	72
Inferential Statistics .....	84
Model Assessment .....	89
Discussion of Quantitative Study Results.....	94
Phase II - Qualitative Content Analysis.....	97
Content Analysis – Short Interview.....	98
Qualitative Strand Trustworthiness.....	101
Content Analysis – In-Depth Interviews.....	126
Discussion of Qualitative Content Analysis Result .....	132
<b>CHAPTER V: Conclusion.....</b>	<b>137</b>
Summary of the Study .....	137
Interpretation of Results/Findings Related to the Literature.....	138
Implication for Policy and Practice.....	143
Study Limitations and Future Research.....	147
Conclusion .....	148
<b>Appendix A - Interview Questions for States’ Departments of Education.....</b>	<b>149</b>
<b>Appendix B – Methodology Steps of the Study .....</b>	<b>150</b>
<b>Appendix C – States’ Governance Structure .....</b>	<b>152</b>
<b>Appendix D - The List of Interviewed States .....</b>	<b>158</b>
<b>Appendix E – IRB Approval Letter .....</b>	<b>161</b>
<b>Appendix F – Consent Form.....</b>	<b>162</b>
<b>References.....</b>	<b>164</b>

## List of Tables

Table 1: The percentage distribution of transfer students and the percentage of students with no credits transferred and sector relationship: 2003-04 to 2008-09. ....	3
Table 2 : The average credits earned at the origin institution, the average credits accepted at the destination institution and the difference between the credits earned and transferred: 2003-04 to 2008-09 .....	4
Table 3: List of articles that report transfer issues .....	17
Table 4: Berry and Berry’s (1999) Unified Model of State Policy Innovation: Definition of the Equation Terms.....	45
Table 5 : The 48 Continental U.S. States and their Neighbors. ....	47
Table 6: Description of variables used in the quantitative phase of this study .....	50
Table 7: Descriptive Summary for Study Sample .....	73
Table 8: States and the “Adoption Year of Any Transfer Credit Related Policy” (prior to and including 2018), Presented Chronologically.....	76
Table 9: Total Number of Students Enrolled and Transferred in Four or More Years Postsecondary Institutions from 2010 to 2018 Who Were Transfer Students.....	79
Table 10: Total Number of Students Enrolled and Transferred in Four or More Years Postsecondary Institutions State by State, 2018 Fiscal Year .....	81
Table 11: Correlations Study Variables.....	86
Table 12: Tolerance and Variance Inflation Factor (VIF) .....	87
Table 13: Condition Index and The Variance Proportions .....	88
Table 14: Logistic Regression Coefficients.....	90
Table 15: Omnibus Tests of Model Coefficients, Block 1 .....	92

Table 16: Examples of Open Coding of Theme Development.....	100
Table 17: States Response on Which States They Consider Leader States on Transfer Policy .....	105
Table 18: The Interviewee’s Office Located Within the State Government .....	111
Table 19: The Interviewee’s Reponses on Transfer Policy Decision Originate.....	113
Table 20: The Interviewee’s Responses on What Level Priority is Transfer Policy Adoption and Implementation in Their States .....	119
Table 21: The Interviewee’s Responses on State Budget and Resource Allocation .....	125



## **List of Figures**

Figure 1: Sharkansky's (1970) model.....	33
Figure 2: Systems (Subsystems) Theory Related to Transfer System Process.....	37
Figure 3: Qualitative Data Collection Steps .....	66
Figure 4: Line Graph of the Cumulative State Adoption of Transfer Policy.....	75
Figure 5: Total Investment toward to Academic Student Service by All States .....	78
Figure 6: Academic Student Service Expenses State by State, 2018 Fiscal Year .....	80
Figure 7: Total Number of States with Adopted Financial Aid Policy.....	83

## **Abstract**

Transfer students often lose credits that they have earned for completing courses at previous institutions and face other complications during lateral transitions between public four-year institutions because the current process of transferring credits is awkward, which raises barriers to affordable, accessible, and accountable national-level transfers. More research is needed to understand how the transfer policy could best be adapted to create an improved, transparent, and seamless transfer process. This mixed methods study's purpose is to explore how the transfer policies across states are functioning, and determine what states are doing regarding postsecondary transfer policy and which factors influence the decision to adopt a state-wide transfer policy. This sequential explanatory mixed-methods study methodologically, drawing on the systems leaderships model to assess how the national-level transfer system can reform students' transfer experiences and provide a seamless transition from one public four-year institution to another by building robust high-level collaboration among all postsecondary institutions. At the same time, the study assesses political and bureaucratic leadership perspectives to determine what influences leaders in this policy arena. Methodologically, the study employed event history analysis to estimate the coefficients of American states adopting new credit-transfer policies. The statistical analysis and qualitative content analysis revealed insights into adopting transfer credit policies and implementation. State leaders' motivation serves an important factor in advancing the transfer credit system policy and its implementation. A strong positive collaboration with legislators can get the attention of political leaders to advance the four-year-to-four-year public university transfer credit process. The result shows that bureaucratic leaders are looking for

supporting an electronic transfer; a separate system for technical colleges recently merged with the system of higher education governing degree-granting institutions; a clearly displayed state-wide articulation matrix system of common course numbering; and a state-wide well-explained framework for awarding credit and the transfer of assessments (CLEP, IB, AP, DLPT, and DSST), military occupations, and work-based learning. The results create a positive impression and promise a successful implementation of the future nationwide seamless transfer system.

*Key words:* transfer credit; student mobility; student retention; national-level transfer credit system; national-level collaboration; political leadership; bureaucratic leadership

## CHAPTER I: Introduction

### Importance of Studying Transfer Credit System

In the past decade, the higher education system has witnessed slow, inefficient, and disorganized transferring activity, which has resulted in a high “drop-out” rate due to unnecessarily repeated courses, delayed graduations, and higher costs for postsecondary education (Roksa & Keith, 2008; Li, 2010; Jenkins & Fink, 2015; Forbes, Song, Lyon, Maxwell & Tucker, 2019).

One such student, Shannon Dejager, was profiled by Jon Marcus in the *U.S. News & World Report and Hechinger Report* in 2016. Marcus (2016) wrote about how Dejager completed her major courses at Georgia Perimeter College, hoping to continue her nursing degree at the University of Alabama. Upon completion of the transfer process, the university informed Dejager that her credits wouldn’t be accepted and required her to retake some of her courses. Later, the economic decline and a move enforced Dejager to transfer a second time. The second transfer was from four-year public institution (University of Alabama) to a four-year public institution (University of North Georgia). The University of North Georgia informed Dejager that some of the credits that she had already earned at the University of Alabama would not be transferred and that she needed to repeat those credits too. Dejager described her transfer experience as “a waste of time and money” (Hechinger Report, 2016).

Dejager’s story reflects the experience of the majority of transfer students who attempt to transfer at a state or national level. According to the National Center for Education Statistics, in fall 2011, the number of transfer students was about 1,547,436. In

contrast, in fall 2018, the number of transferred students decreased to 1,383,125, due to the complex transfer process. The U.S. Government Accountability Office (2017) expanded the scope of this context by providing recent data analysis, which highlights that “students who transferred between public schools—the majority of transfer students—lost an estimated 37 percent of their credits” (p. 15).

### **Determinants of Transferring Issues between Postsecondary Institutions Across States**

The Beginning Postsecondary Students Longitudinal Study (BPS: 12/17) described students’ reasons for transferring and found a wide variety of variables: desired program/coursework (22%), earning a degree/certificate (18%), personal interest (11%), more affordable/other financial reasons (8%), and reputation of program/school (7%) (National Center for Education Statistics, 2019). However, students’ experiences with and perceptions of their original and future institutions are important indicators of their choice of educational pathways and the possibility of completing their [bachelor’s] degree (Li, 2010). Specifically, the relationship between the origin and destination institutions determines the proportion of students’ credits that will be transferred from their original institution to their destination institution (Simone, 2014). Drawing data from National Education Longitudinal Study (BPS: 04/09), Table 1 outlines the percentage of possible transfer credit(s), the number of credits lost during the transfer process, and institutional relations.

Table 1: *The percentage distribution of transfer students and the percentage of students with no credits transferred and sector relationship: 2003-04 to 2008-09.*

Institutional relationship	Total transfer students (%)	Transfer students with no credits transferring (%)
Total	100.0%	41.4%
Institutional Relationship		
Public to public	62.0	38.1
Public to private nonprofit	14.3	25.7
Public to private for-profit	5.4	68.5
Private nonprofit to public	8.2	46.6
Private nonprofit to private nonprofit	3.4	30.6
Private for profit to other kind of education institutions	6.3	83.0

Source: *U.S. Department of Education, National Center for Education Statistics, 2004/09 Beginning Postsecondary Students Longitudinal Study (BPS:04/09), Postsecondary Education Transcript Study (PETS).*

Across all types of institutions, approximately 41% of students who transferred had no credits to transfer to their destination institution. As shown in Table 1, students lose more credits (46.6%) while transferring from private nonprofit institutions to public ones, in comparison with public-to-public institutional transfers (38.1%).

Table 2 shows the number of credits students lose while transferring from one institution to another. When a transfer happens between public institutions, there is an

average of 13 lost credits. In comparison, when transferring from private nonprofit to public institutions, the number of lost credits increases to about 18.

Table 2 : *The average credits earned at the origin institution, the average credits accepted at the destination institution and the difference between the credits earned and transferred: 2003-04 to 2008-09*

Institutional Relationship	Total Credits		Difference between credits earned and transferred
	Earned at	Transferred to	
	origin	destination	
	institution	institution	
Total	29.6	16.9	12.7
Public to public	31.3	19.6	11.7
Public to private nonprofit	25.6	17.1	8.5
Public to private for-profit	19.6	5.2	14.4
Private nonprofit to public	32.8	15.3	17.6
Private nonprofit to private nonprofit	34.0	16.2	17.8
Private nonprofit to private for profit	24.5	6.9	17.6
Private for -profit to public	27.0	1.9	25.1
Private for-profit to private for-profit	20.9	3.7	17.2

Source: *U.S. Department of Education, National Center for Education Statistics, 2004/09 Beginning Postsecondary Students Longitudinal Study (BPS:04/09), Postsecondary Education Transcript Study (PETS).*

Losing credits and facing other relevant issues during the transfer process negatively affects the motivation of students who are planning to transfer; these issues urge institutions to assess all factors of the transfer process and present an effective approach to solving these issues (Wang, 2009). The factors that result in transfer issues include institutional factors, student factors, and state-wide regulation factors. Institutional factors can be due to the institutional level relationship, accreditation status, institutional selectivity relationship, and accreditation relationship (Simon, 2014). Student factors, such as changing degree programs, can also be an issue during the transfer process (Simon, 2014). State-wide regulation factors often include articulation agreement, implementation of transfer rules and regulations.

Some public colleges and universities within states implement rules and regulations to transfer and accept each other's credits. For example, All Florida State Community Colleges guarantee that students can transfer their credits to any Florida public four-year university (FDE, 2015); in the state of Washington, all four-year universities recognize associate degrees that are earned from the state's community colleges (SBCTC, 2005); in the state of Virginia, all public four-year universities accept general education courses and recognize associate degrees (SCHEV, 2016). However, it is still questionable for higher education professionals as to "how to promote academic, administrative, and advising improvements to the transfer process in a national level," since a great number of students transfer or attempt to transfer across state lines (Sherman



& Shea, 2020, p. 9). According to the Education Department, students lose about 14 to 18 credits when they attempt to transfer credits at the national level or lose an average of 17 to 25 credits when moving from public institutions to any other kind of education institution (Department of Education, 2017).

The U.S. Government Accountability Office (2017) explored potential issues in the transfer process such as affordability, accessibility to transfer information, and articulation agreements. By losing the previously earned credits, the current transfer system affects the time and cost of completing the degree. According to the study, almost half of the transferred students (who transferred from 2004–2009) received Pell Grants, and about two-thirds received Federal Direct Loans. It is suggested that the aim of the states should be in supporting transfer students by providing additional financial aid to those who paid for the repeated courses or lost credits. This way, students do not pay additional out-of-pocket costs and the education system retains students. Further, it is recommended that transfer credit information be accessible. The general key information, such as articulation agreements applicable among states and institutions, should be published on the institutions' websites. The GAO advocates these measures to “help students to avoid making uninformed transfer decisions that could add to the time and expense of earning a degree” (The U.S. Government Accountability Office, 2017).

### **State-Level Higher-Education Policy Concern while Transferring between Postsecondary Institutions Across States**

Despite the fact that states are increasing their efforts to advance state education levels as part of state economic-development endeavors (Smart Asset, 2018), receiving financial support remains a significant challenge for students (especially transfer

students) in continuing their education (The U.S. Government Accountability Office, 2017). Instinctively, financial support directly affects students' decisions to either continue attending a university or complete the degree (Li & Zumeta, 2015). Indeed, public higher-education institutions receive the greatest amount of funding from the state government (National Center for Education Statistics, 2017). Further, state policymakers utilize different ways (influenced by economic, demographic, and political factors) to distribute funds to public institutions to increase the affordability of continuing education (Gándara, 2019; Li & Zumeta, 2015; Tandberg & Griffith, 2013; Parmley, Bell, L'Orange, & Lingenfelter, 2009). Yet, some analysts find that in the United States, within the context of higher education funding, economic, demographic, and political factors matter most depending on the state's political and economic environment. In some states political orientation plays a key role in that state's higher education funding (Li & Zumeta, 2015; McLendon, Hearn, & Mokher, 2009). Thus, a Republican-controlled legislature and Republican governor may reduce state spending on higher education while, in contrast, a Democrat-controlled state and Democratic governor support higher education more (Li & Zumeta, 2015; McLendon, Hearn, & Mokher, 2009; Tandberg, 2009, 2010). Other researchers point out that economic factors are crucial in some states when contrasting demographic and political factors [there is a positive relation between per capita income and state higher education funding] (Li & Zumeta, 2015, p. 472). On the other hand, the enrollment rate in many states is different, directly affecting student's distribution geographically (Li & Zumeta, 2015). And indeed, this geographical distribution may support certain demographic factors and increase legislative support (Li & Zumeta, 2015).

As the U.S. Government Accountability Office (2017) stated, the accessibility of information is as vital as affordability in the transfer process. Despite the widely accessible information about the transfer process and financial support that can be found on websites, books, and brochures, many families (especially low-income families) are poorly informed (Li & Zumeta, 2015, Perna, 2006). Knowledge gaps increase this concern and negatively affect enrollment (Perna, 2006). Improving access to information, predominantly among underrepresented populations, is a strategic approach for research and policy investigators as they seek to understand the successes and failures of higher education funding. Notably, these limited resources mobilize policy and call for better transparency as well as justification for an institution's actions (Li & Zumeta, 2015).

To further understand the factors that influence transfer decisions, this study explores the foundational factors that could assist decision-makers, namely the creation of seamless and transparent nationwide transfer regulations. The focus for these regulations will be primarily among four-year public institutions as state policy has more influence on public institutions than private ones (Hicklin & Meier, 2008). Specifically, the variables used in this study will be those which the state might influence.

### **What Drives Policy Change in Higher Education?**

In the 20<sup>th</sup> century, the higher education system developed and expanded rapidly through the state government (Dolye & Kirst, 2015). In this time period, most state policy makers supported developing the nation's higher education system, assuming that this support would be sufficient for higher education to serve its societal role (Dolye & Kirst, 2015; Kerr, 1991, 2001). The main challenges of this time were in adapting, adjusting,

and coordinating initial systems of governance within higher education and ensuring the efforts of that system met public need (Dolye & Kirst, 2015; Glenny, 1959).

In 21<sup>st</sup> century, the higher education system has become more stable and policy makers have expanded in an effort to connect institutions and create institutional arrangements adequately (Dolye & Kirst, 2015). In the current higher education system, public opinion takes an important position in policy development, as public demands for change are required to be addressed by policy makers (Dolye & Kirst, 2015). In 2010, McDonnell suggested four factors in determining and assessing the prospects for policy change within the current higher education system. These factors are: 1) an interest by and from a wide range of stakeholders; 2) an acknowledgement of the stakeholders' needs, wants, and values which can vary from state to state depending on the state's economic, demographic, and political orientation; 3) different policy arenas (different rules and norms with respect to decision making); and 4) the importance of principal national organizations that can communicate new ideas to state and local members.

### **Problem of Practice**

Public dissatisfaction with the transfer process (especially losing credits when transferring from one public four-year institution to another), along with financial challenges, have led policy makers to fundamentally rethink how they interact with institutions nationwide and create new rules and regulations, specifically among four-year institutions (Dolye & Kirst, 2015; Sherman & Shea, 2020). The main focus of many states regarding the launch of state-wide initiatives, such as articulation agreements, is to facilitate the transfer among two- to four-year institutions (Creech, Lord & Cornett, 2007). Li (2010) stated that "policymakers have not adequately realized the inefficiency

in four-to-four transfer,” and few states explicitly include a four-year institution transfer process in their state regulations (p. 208). This lack of state-wide practice and coordination complicates the transfer process, delaying students’ degree completion (less efficient transfer process between four-year institutions) and “increas[ing] the cost of postsecondary education for both individual students and governments” (Li, 2010). Currently, the efforts of policymakers and researchers focus on assisting institutions, providing clear two-to-four-year transfer path regulations (Creech, Lord, & Cornett, 2007), enhancing transfer rates (Anderson, Sun & Alfonso, 2006), facilitating the transfer process (Long, 2005), and preventing the loss of credits (Roksa & Keith, 2008). However, four-to-four transfer students often still find themselves negotiating with officials at their destination public institutions (Li, 2010).

The problem is that leadership in this policy arena is not consolidated, and such leadership is required to make institutional, state, or national policy change. The 21st-century higher education system requires strong, visionary, professional state policy leadership to meet the current transfer challenges (Perna, Finney & Callan, 2014). Such leadership relies on mutual trust and respect, one that can cultivate governors, legislators, and institutional leaders to where they are willing to work together and recognize that a unified policy is in their collective best interests (Perna, Finney & Callan, 2014). This joint work would serve to “strengthen state policy leadership, the national system of higher education and the nation [would] benefit” (Perna, Finney & Callan, 2014, p. 43).

Roksa and Keith (2008) acknowledge the importance and utility of articulation policies. Their research highlights that the implementation of a well-documented, easy-to-follow articulation policy is important because it ensures that students will not be

punished by losing credits when transferring from one institution to another.

Correspondingly, creating transfer policies to help students transfer from one state's four-year institution to another may not inspire students to leave their original institutions; conversely, such policies may organize and coordinate transfers among different state's four-year institutions, advance the effectiveness of such transfers, and help more students obtain bachelor's degrees in a timely manner (Rosa & Keith, 2008).

It is important to keep in mind that postsecondary institutional environments and their methods are quite different from one another. However, there are surprising similarities with "what students are expected to know [about the transfer credit system] and be able to do as a result of that part of their higher education experience" (Sherman & Shea, 2020, p. 10). That perspective in institutions may impact the crafting of effective national transfer policies. A more successful strategy is the identification of potential nationwide implementation and matrices of articulation. An effective national transfer policy can also be a great support during the unpredictable and unstable enrollment period of postsecondary education that institutions currently face (McGee, 2016). With these challenges and promises in mind, this mixed methods study's purpose, therefore, is to explore how transfer policies across states are functioning, and determine what states are doing regarding postsecondary transfer policy and which factors influence a state's decision to adopt a state-wide transfer policy. This study can lead to an increased understanding of the inclination and incentives for students to transfer credits from one institution to another across states.

A critical component of creating a seamless and transparent process for the transfer of credits from one institution to another, both in-state and across state lines, is

that institutions recognize and accept all credits in some capacity (“no loss” credits philosophy). This seamless transfer of credits was defined by Kintzer and Wattenbarger (1985) as "the mechanics of credit, course, and curriculum exchange" (p. iii). There are three main aspects of the transfer issue that have been investigated by the U.S.

Government Accountability Office: 1) understanding institutions’ regulations and rules regarding the transfer credit process; 2) understanding the states and accrediting agencies’ perspectives regarding the transfer process; and 3) understanding the implications of transfer agreements, regulations, and active challenges to transfer credits (GAO, 2005; Simone, 2014). These three approaches can be tailored specifically to the interests of the states to increase efficiency and transparency in the transfer credit process. The national transfer system currently supports certain aspects of the U.S.

Government Accountability Office. By aggregating the relevant information regarding these three given approaches, a customized (with minor details) and adaptable national-level transfer system can be designed by implementing state-wide common course numbering systems, state-wide articulation agreements between public institutions, standardized general education requirements, and mandated acceptance of transfer credit for specific courses and policies (GAO, 2005, pp. 28 – 34).

### **Research Questions**

In contribution to the emerging literature on transferring credits at a national level through the use of a transparent and seamless transferring system, articulations and agreements related to transfer credits, and a few other related variables, this study addresses several research questions:

- What results emerge from comparing the explanatory qualitative data about the transfer process with outcomes from the quantitative data at the institutional, state and/or national level? (Mixed-methods question)
- What factors are important to the adoption of a policy when providing an effective transfer credit process? (Quantitative question)
- What kind of articulation agreements and guidelines are currently governing transfer processes at the state level? What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system? (Qualitative question)

The answers to these questions are relevant for individual institution transfer credit systems and for state-level transfer credit systems as well as the national conversation. It is important for decision-makers to know if the suggested regulations and rules align with the states and institutions' standards, if they meet the criteria, and if the suggested national-level transfer process is a proper and useful appropriation of government funds.

The format of this paper has been developed in order to best provide context and detail about the process and decision-making strategies surrounding credit transfer between institutions in the same state, across states, and at a national level. In Chapter Two, this study will provide an overview of the current literature and relevant empirical studies that use constructs that comprise an overall concept of previous predictive models for seamless transfer processes and will also discuss the systems leadership theory. The mixed methods question, including a description of the participants, study design, and measures, is described in Chapter Three. A discussion of the quantitative section method and results, followed by the qualitative section method and results, will be presented in Chapter Four. In Chapter Five, a discussion of the implications of this research and



suggestions for future study is offered. Together, these chapters will offer a contribution to the discussion around national level transfer credit rules and regulations. This proposal will cover the key literature, theories, and proposed methodology for the study.

## **CHAPTER II: Literature Review**

### **Literature Review Protocol**

The review of extant literature on the transfer credit system and its issues was made possible by utilizing certain inclusion criteria that narrowed the scope of the review. The summary of the inclusion criteria set the perimeters around the search for the literature. First, seminal works in the form of federal reports discussing the concept of institutional-, state-, and national-level transfer credit systems have been published. The following publications were included: the US Government Accountability Office (2017) report; the US Department of Education, National Center for Education Statistics report, and the Postsecondary Students Longitudinal Study report (2008–2009). The federal reports were included in the literature review because the reports present timely information that is objective, fact-based, non-ideological, fair, and balanced. Besides the federal reports, a group of academic papers discussing the concept of transfer issues has also been published. These academic papers were selected according to their units of analysis, specifically their institutional-level articulation agreements, state-level transfer agreements and national-level transfer agreements among states or institutions, or both. The number of scholarly works addressing this selected concept are limited. Selected quantitative and qualitative studies for the literature review and the scholarly works addressing the potential issues of credit mobility were included. Similarly, articles focusing on assessing the state transfer agreements rather than the institutional-level agreements were integrated. Finally, in recognition of the potential predictive model, only articles that investigated the presented potential model or, at the very least, implementing or attempting to implement the model within more than five states, were included.

## **Transfer Credit Issues**

In 2017, the US Government Accountability Office crafted some reports addressing transfer credit issues and found some determinants of transfer issues across states, including affordability and accessibility of the transfer information. For the affordability of the transfer system, the GAO (2017) suggests recrafting the current articulation agreements and creating a new one for the states, if needed. For the accessibility of the information, the GAO (2017) suggests an adjusted financial aid process for transfer students who lose their credits while transferring from one institution to another. In response to these issues, the US Government Accountability Office (2017) investigated three main aspects of the transfer issue: 1) understanding institutions' regulations and rules regarding the transfer credit process; 2) understanding the states and accrediting agencies' perspectives regarding the transfer process; and 3) understanding the implications of transfer agreements, regulations, and active challenges to transferring credits.

Outside of federal reports, a group of academic papers have emerged on the transfer issue (Table 3). Hodara, Wenzl, Stevens, and Mazzeo (2016) identified that the articulation agreement is one of the biggest enhancements needed among institutions for a seamless and transparent transition. The authors explored the potential issues of credit mobility in ten states: California, Florida, Georgia, Kentucky, New York, North Carolina, Ohio, Tennessee, Texas, and Washington. The qualitative study explains every state's rule and transfer processes that do not align with each other. The study further shows how students navigate the transfer system and includes a recently adopted system-wide rating for transfer pathway complexity. They found that continuous evaluation of state-level and

system-level transfer policy reforms is important, and that the implementation of extensive policies will be helpful to reach the goal of transparent and seamless transitions. This notion of identifying factors related to transfer issues will be expanded upon in forthcoming sections of this chapter as well as in Chapter Three.

Table 3: *List of articles that report transfer issues*

<i>Author</i>	<i>Unit of Analysis</i>	<i>Method of the Study</i>
Ignash and Townsend (2000)	Transfer agreements within states	Qualitative Study
Wellman (2002)	Financial aid and/or rewarding transfer performance	Qualitative Study
Chen, AP, Christy, Owens, Bortz, Greene, and King (2012)	Articulation agreements between four-year and two two-year core programs.	Quantitative Study
Santos and Sutton (2012)	transferability of credits among and between institutions	Qualitative Study
Tobolowsky and Cox (2012)	Institutional support and transfer student experience	Qualitative Study
Layton, Brawner, Mobley, and Shealy (2013)	the different types of transfer patterns (reverse [4-year to 2-year institutions]) and lateral [4-year to 4-year institutions])	Mixed-methods study involving a longitudinal analysis
Clemetsen, Furbeck, and Moore (2013)	State-level articulation agreements between four-years institutions	Qualitative Study
LaSotal and Zumeta (2015)	Regulations on upward transfer processes and	Quantitative Study - multi-level logistic regression
Gross and Berry (2016)	the link between state policy and transfer student mobility.	Quantitative Study- event history analysis
Hodara, Wenzl, Stevens, and Mazzeo (2016)	Issues of credit mobility within state	Qualitative Study
Sherman and Shea (2020)	articulation agreements among nation-wide institutions	Implementing an interstate passport model

### **Potential Predictive Models for Seamless Transferring Process**

Ignash and Townsend (2000) used content analysis to ascertain which states had state-wide transfer agreements. In illustrating the state-wide articulation agreement evaluation process, Ignash and Townsend (2000) categorized the agreement types under four-key indicators: 1) Transfer Directions — the kinds of transfer among colleges and universities covered in the agreement; 2) Sectors — the types of institutions included; 3) Transfer Components — degree-related aspects affecting ease of transfer; and, 4) Faculty Involvement — the extent to which faculty at community colleges and four-year institutions are actually responsible for crafting and maintaining the state-wide articulation agreements (p. 2). According to the study's results, the authors revealed that, by 1999, 34 out of 43 states had a developed state-wide articulation agreement (seven states — Alaska, Minnesota, Nebraska, New Hampshire, New Jersey, North Carolina, and Vermont — did not respond to the survey questions). Further, the remaining nine states did not have any state-wide agreements: Delaware, Maine, Michigan, New York (both CUNY and SUNY systems), Pennsylvania, South Carolina, Tennessee, Texas, and Wisconsin.

Similarly, Ignash and Townsend (2000) asserted which states' state-wide transfer agreements were crafted, comprehensive, and itemized for public institutions. Based on the study's results, 19 states have "strong" agreement on the measure of Transfer Direction due to the agreements, including reverse transfers. California and Florida were considered “fairly strong” since their articulation agreements included both vertical and horizontal transfer directions, but they were missing the reverse transfer. 12 states were considered in a “moderate” agreement on the measure of transfer directions (Arizona,

Colorado, Iowa, Kansas, Massachusetts, Mississippi, Nevada, Oregon, South Dakota, Virginia, Washington, and Wyoming) as these states covered only traditional and vertical transfer patterns in their articulation agreements.

In addition to presenting the state-wide transfer agreement concept, Ignash and Townsend (2000) demonstrated that the majority of participant states had included only the public sector in their transfer agreements. As these participant states mentioned, the institutional culture and curriculum structure is very comprehensive within private institutions (Ignash & Townsend, 2000). Nevertheless, California, Connecticut, Florida, Idaho, Illinois, North Dakota, and Washington demonstrate a unique state-wide transfer agreement by including in-state private, nonprofit colleges in their agreements. In addition, California, Florida, Illinois, and North Dakota included independent for-profit institutions, and California, Idaho, Illinois, and North Dakota included private institutions.

As the authors (Ignash & Townsend, 2000) ten years ago stated “state-level higher education policy makers still need to do a better job at developing or improving existing articulation agreements based upon actual student transfer behavior. Only in so doing can a "seamless" education become a reality for all students” (p. 17). Ignash and Townsend’s (2000) scholarly work is a great foundation for this study as Ignash and Townsend examine state-wide articulations and this study’s research adds to this nation-wide transfer agreements approach.

Wellman (2002) expands the dialogue on the role of state policy by broadening the context to articulation agreements, core curricula, a common course numbering system, and state-wide transfer guides. The comparative analysis of the study

recommends having a fresh look at the student flow and performance. One of these new approaches to the transfer system is to stimulate transfer performance through financial aid and/or rewarding transfer performance. Specifically, the policy of the financial aid approach provides inducements for four-year institutions to enroll more transfer students (Wellman, 2002). According to Wellman's (2002) study report, few states have already adopted financial aid policies for two to four-year transfer students. These states include Arizona, Maryland, Massachusetts, Texas, and Virginia. Wellman's study determines these policies generally encourage effective transfers and improve the rate of attaining a bachelor's degree at four-year institutions. Meanwhile, these financial aid policies also apply to broken enrollment and provides strict financial aid rules and regulations that encourage students to complete their degree in a timely manner (Wellman, 2002).

In 2012, Chen, AP, Christy, Owens, Bortz, Greene, and King examined formal articulation agreements between one four-year and two two-year construction management programs. The authors focused on how the state level agreements impact a single institution, specifically an institution that adopted a 2+2 transfer program (the student studies two years at a community college and then transfers for their remaining two years to a four-year university). The authors argued that the system construction segment is important for a seamless transition. Even though these institutions provided the agreement information (universities' policies, procedures, and general rules and guidelines about transfer for prospective students) via online platforms, the degree audit process is time-consuming and often presented limited information (p. 8). The authors' recommendation for creating a good articulation agreement and establishing a seamless transition was that the institution should concentrate on a well-designed set of matrices

that includes course equivalencies. This matrix then allows students to complete their transfer more easily and consistently track curriculum changes for either institution (Chen et al., 2012). The authors also emphasize the timing of the transition (from quarters to semesters) is a new challenge in the articulation process since the 2012 academic year.

Layton, Brawner, Mobley, and Shealy (2013) examined the different types of transfer patterns (reverse [four-year to two-year institutions]) and lateral [four-year to four-year institutions]) and explored the presence of articulation agreements on an institutional level. In this mixed-methods study involving a longitudinal analysis, the authors focused on recognizing the differences between lateral versus vertical transfer pathways to improve the student transfer experience. The authors stated that a dual degree program agreement among institutions, also known as 3+2 and 2+2 program, common course numbering systems, and state-wide articulation agreements among public institutions, help to facilitate seamless transfers among states' institutions and eliminate the guesswork. Nevertheless, the authors highlighted that there is a significant misperception about the acceptability of transfer credits and the applicability of the transfer process on four-year lateral transfer students and policies, despite the development of the articulation agreements and "promising practices" in state-wide transfer systems (Layton, Brawner, Mobley & Shealy, 2013, p. 4). Layton, Brawner, Mobley, and Shealy (2013) displayed the reason for misperception and confusion related to the lateral transfer because most articulation agreements are focused on two-year and four-year institutions, and there is a gap regarding the four-year lateral student transfer process.



Tobolowsky and Cox (2012) extend the discourse on the transfer process by incorporating the public institution's efforts and abilities to facilitate transfer-student success. The study employs organizational theory (rational, natural, and open system perspectives) to look closer at the institution and its agents. The authors state the importance of articulation agreements to manage the students' transition between institutions. Meanwhile, the authors highlight the many articulation issues that an institution juggle including multiple missions (for example: state, institution, college, and department missions).

According to the authors' study findings, for a seamless transition to the institution and to fulfill the institutional mission in a timely manner, formal articulation agreements are necessary because staff members must evaluate each academic record for each incoming transfer student to confirm their acceptability to the institution. When course titles and numbers are standardized via articulation agreements, it helps the review process be more straightforward and transparent. Otherwise, it can be a challenging and time-consuming task (Tobolowsky & Cox, 2012, p. 402).

The authors also demonstrated the institutions' concerns about the academic ability of transfer students to fulfill the state's mission (Tobolowsky & Cox, p. 402). On the one hand, when institution administrators observe under-prepared transfer students, they will reject those applicants as they do not want to have less-academically qualified students at their institution. On the other hand, the state has a desire to increase the public institution's national reputation by serving in-state students and welcoming transfer students (p. 402). Limiting the number of transfer students means the institution is refusing to follow its state service mission, which puts the institution in a politically

unsafe position (p. 402). Tobolowsky and Cox's (2012) study analysis indicated that it is crucial to enhance the articulation agreements between all public institutions and keep developing consistent advisory communication among all institutions for a seamless transfer process.

Lending their support to prior research that touched on the darker side of state-level articulation agreements, Clemetsen, Furbeck, and Moore (2013) identified that articulation agreements fail because they are signed for the public's sake. In the end, institutions often will often fail to follow the rules of such agreements. Furthermore, these authors highlighted the advantages and disadvantages of adopting a course numbering system that has already been utilized by other higher education state systems and fully trusting that system's role in generating a more transparent and seamless process.

According to the authors, the shared course numbering system may ease the transfer process for many students and may also help institutions to regularly modify and update their transfer information, improving the success rate of transfers. Nevertheless, implementation and maintenance of the shared course numbering system can be challenging and time-consuming. Another important consideration is that "this system does not eliminate the potential that a student may take unneeded courses, and it does not guarantee that the credits earned will apply to a specific degree program" (Clemetsen, Furbeck, & Moore, 2013, p. 135). Finally, the author indicated that state-level policies could make the transfer process easier and stress-free while also supporting the design of reasonable pathways between institutions. Such policies can increase transfer rates

(Anderson, Sun, & Alfonso, 2006) and prevent the loss of credits (Ellis, 2013; Roska & Keith, 2008).

LaSotal and Zumeta (2015) used multi-level logistic regression models based on six sources of data: 1) Beginning Postsecondary Study (BPS) 2003-2009 (n=5010); 2) Integrated Postsecondary Education Data System (IPEDS) for all community college characteristics; 3) U.S. Bureau of Labor Statistics (BLS) for county-level unemployment rates where colleges are located; 4) U.S. Bureau of Economic Analysis for 2003 per capita Gross State Product (GSP) as a measure of state wealth at the beginning of the time period; 5) Barron's Selectivity Index data from the National Center for Education Statistics (NCES) for nearest public four-year institution for each public two-year institution in the dataset; and, 6) Education Commission of the States (ECS) for state policy data on articulation and transfer (p.162). The study also used variables based on: a) the student's background (gender, race, income, marital status, etc.); b) the student's precollegiate academic aspirations and experience (plan to transfer or not); c) various risk factors associated with retention and persistence (dependent, part-time, work hours, etc.); d) the student's college experience, integration, and performance; e) community college institutional characteristics (e.g. size, total enrollment, number of minority students, etc.); f) current state policy (policy is present or not); and, g) college and state context variables (e.g. average county unemployment rates) to determine how variations in students' upward transfer probability are related to the given variables. The model provided support for two main factors in the transfer credit system, the influence of state articulation and transfer policies, and the effects of community college characteristics on students' upward transfer. LaSotal and Zumeta (2015) also found a high positive

correlation with the association between the variable precollegiate academic aspirations and experiences, which were defined as having at least one student planning to continue their education at the four-year institution. The study analysis points out the need to consider relative state articulation and transfer policies among public institutions.

Gross and Berry (2016) expand the discussion by examining the link between state policy and transfer student mobility. The debate on state policies related to transfer student mobility is necessary to increasing the number of adult students who continue their education, and it encourages student flow modeling at both the institutional, system, state, and even national levels (Gross & Berry, 2016). In their study, the authors conceptually explore the mobility of students in postsecondary institutions.

Methodologically, they implemented event history analysis to record variations on student enrollment behaviors on an annual basis. According to their findings, transfer student mobility and state policy contribute in three ways: diffusion of state policies, diffusion of accountability policies, and diffusion of financial aid policies. The study focuses on only one state (Indiana). However, the results of this study display the importance of state policy in transfer and mobility in general (Gross & Berry, 2016). This scope adds credibility to their study, which aims to explore the relationship between state policies (such as transfer and articulation agreements), state grant aid, and the transfer credit process using event history analysis. According to these authors, one of the successes of the higher education system is that the National Center for Higher Education Management System (NCHEMS) and the Center for Law and Social Policy (CLASP) have developed state-wide student flow models for academic movement within all 50 states in the United States. The student flow models aim to enhance efficiency and

increase degree completion as “[s]tudent flow focuse[s] on the transitions and milestones within an educational context” (Gross & Berry, 2016, p. 3). Noticing a lack of empirical evidence linking state policies and transfer credit processes, Gross and Berry (2016) emphasized that it is crucial to clearly understand state policy benefits and barriers in order to improve transfer student mobility. The authors conclude by mentioning certain state policy areas that are relevant to seamless transfers: funding models, financial aid, admission policies, articulations, and transfer agreements, as well as the ways these specific policies are coherent and connect to support a seamless transfer process.

The most current study in the field is Sherman and Shea’s (2020) proposed interstate passport – the general education transfer highway model. General education was selected as a fundamental source since general education courses are common in all institutions. The authors reviewed the general education requirements in 15 states by adding all commonalities and differences. The study continued to develop towards the advanced version of the interstate passport for the next five years. The purpose of this model was to create a national program based on lower-division general education attainment and serve as a mega articulation agreement among nation-wide institutions. The idealized final version of the model promises students’ a seamless transition into upper division schools without losing any credits. The limitation of this study is that the model is still at its beginning stages, and, as of today, remains limited within just a couple of states.

When viewing the nationwide aggregate of articulation agreements, and state-wide policy, it is obvious that there has been enormous progress on the transfer process throughout the years. In contrast to Kintzer and Wattenbarger’s study in 1985, where

only eight states had formal and legal agreements, Ignash and Townsend's 2000 study, 34 out of 43 states (79%) reported they had articulation agreements (Kintzer & Wattenbarger, 1985; Ignash & Townsend, 2000). Noting the gap in the literature, the majority of states performed well on transferring only students' general education coursework. Almost three-fourths of states (71%) have developed agreements only on general education (Ignash & Townsend, 2000). However, as stated in a study by Layton, Brawner, Mobley, and Shealy (2013), there is a misperception and confusion related to lateral transfers because most articulation agreements are focused on two-year and four-year institutions. Although, during the last decade, almost every single research study has stated that a state-wide articulation agreement helps to increase the systemic efficiency and effectiveness of transfers in the postsecondary education system, articulation agreements still fail to implement transfer rules and regulations over all programs (e.g., business, computer science, hospitality, and others) (Ignash & Townsend, 2000; Chen et al., 2012; Hodara, Wenzl, Stevens, & Mazzeo, 2016). More specifically, the four-year lateral student transfer process depends on a "promising practice" on an institutional level between individual students and the public university administration. The authors pointed out the seriousness of state-wide articulation agreements as they relate to lateral transfers in eliminating guesswork and facilitating seamless transfers among public institutions (Ignash & Townsend, 2000; Chen et al., 2012; Layton, Brawner & Shealy, 2013; Hodara, Wenzl, Stevens, & Mazzeo, 2016; Gross & Berry, 2016). In addition to the literature gap, all of the studies are single states' efforts, and none of them can be utilized on a nationwide basis (Sherman & Shea, 2020). Further, the majority of these studies are theoretical rather than empirical.

## **The States and Higher Education System**

It is an obvious observation that the 50 states differ significantly in history, culture, and political and economic dynamics, which all affect the overall performance of their higher education systems (McGuinness, 2016). The differences among states are reflected in each state's structure and the relationship between government and higher education. Most states have founded state-wide policies for higher education.

Despite the complexity of such differences, the approaches that states take are similar, such as approving and reviewing academic programs and coordinating postsecondary institutions (Bastedo, Altbach, & Gumport, 2016; McGuinness, 2016). All states are assigned to govern public colleges and universities. The names of the coordinating bodies may vary ("board of trustees" or "board of regents"), but their functions are the same. According to Clark Kerr and Marian Gade in *The Guardians* (1989), public governing boards have been structured in three ways. In the first structure, a governance system (one board) governs all public two- and four-year institutions. In the second structure, separate boards govern campuses, such as community colleges, research universities, postsecondary technical institutes, and so on. In the third structure, there is campus-level governing. This type of governing is not part of multicampus systems. The State University of New York, the University of Maine, and the University of Maryland have campus boards, and the representatives are largely advisors. North Carolina and Utah have campus-level boards, that are empowered to make some decisions on their own.

There are 21 states that have state-wide coordinating boards with the responsibility to conduct strategic planning, provide advice for the governor, and carry

out state-level administrative functions (McGuinness, 2016). There are 10 states, and the District of Columbia and Puerto Rico, that have a single state-wide governing board for all public institutions. The remaining 19 states have multiple systems but no state-wide entity. There are 14 of these states that have higher education services and regulatory agencies (McGuinness, 2016; Jaffe, 1991; National Center for Higher Education Management System, 2020). Most of the time, coordinating and governing boards are appointed by postsecondary education executive officers. Meanwhile, the board members for state-wide and systemwide coordinating and governing boards are appointed. In some boards, there are student and faculty representatives who are selected from their professional association. (Please see Appendix C.)

### **State Motivation to Advance the Legislation**

Receiving support from states, especially financial support, tends to be very critical and cyclical for public higher education (Doley, 2014). In this pattern of support, states slowly increase the budget, specifically capital expenditures, for the institution's category, usually during good budget times (Delaney & Doley, 2007). In economic declines, the opposite is true: states cut higher education funding in all budget categories. This form of budget cut usually takes a longer time to return to the prior funding balance, and, indeed, this decline directly affects the state's motivation to advance legislation addressing credit transfer challenges (Santos & Sutton, 2012; Ignash & Townsend, 2000). In addition, states also compete with one another for education rankings and status, as well as the creator/developer state status (Sabatier, 2007). This form of competition increases the states' motivation to advance, monitor, and serve potential outcomes toward



its higher education system as the states need to achieve high scores in state ranking systems to win these titles.

According to Smart Asset (2018), Virginia, California, Wyoming, Iowa, North Carolina, Connecticut, New Jersey, Delaware, New York, and Michigan are the top 10 in best-educated states. The best-educated state objective is related to educational attainment, access, and affordability (note that affordability remains a concern (Smart Asset, 2018)) student success, innovation and investment, and economic and cultural prosperity. As legislation related to the transfer system continues to grow, it is important to include a measure of an institution's ability to provide affordable, accessible, and accountable transfer pathways as it relates to their status with the best-educated state ranking system

Being creator or developer states brings high prestige to the state in any political arena, and the follower states are considered to be in a learning process (Sabatier, 2007). In higher education, the system is more decentralized (except the states of Florida and Nevada – these states are more centralized by the board of regents), which means less oversight from a state-wide higher education board (Wieder, 2020). Nevertheless, the characteristics of these leading systems and their successive adoptions are diffused down through a hierarchy, from the most successful and the least successful as establishing policy for their constituents (Sabatier, 2007). In this ranking system, the following states are leading or considering creator states on various categories of the higher education policy system: California (categories: student loans; free college; college athletics), Colorado (categories: immigration — financial aid to eligible undocumented and DACA populations; student loans), Florida (categories: free speech and political polarization),

New Jersey (categories: student loans, students' basic needs, and free college), Oregon (categories: state budgets and college affordability; free college), South Dakota (categories: demographic shift — in-state tuition rates to out-of-state students), Texas (categories: dual enrollment), and Virginia (categories: state budgets and college affordability — state's financial aid; political polarization; economy and workforce development) (AASCU Government Relations and Policy Analysis Division, 2019).

Notwithstanding the numerous reasons for confidence or concern in the higher education system, state leaders, legislatures, gubernatorial administrations, and higher education advocates help states to meet their goals and build a cost-effective foundation for the next generation (AASCU Government Relations and Policy Analysis Division, 2019). Through these ranking competitions, every year, state leaders can distinguish and prioritize the work of public postsecondary institutions and invest in the development of strong and inclusive higher education systems while advancing democratic ideals (AASCU Government Relations and Policy Analysis Division, 2019).

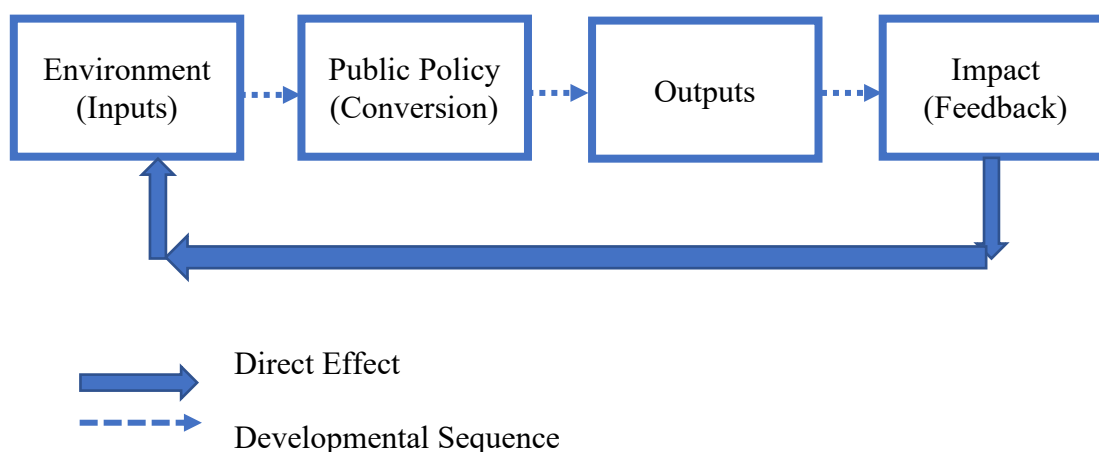
## **Theoretical Framework**

### ***Systems Leadership Theory – Systems Change in Policy Leadership***

This research study will reflect on and embody the concept of systems theory. This theory is a holistic approach to searching for the big picture through connecting dots by mapping connections. A system is usually created with many smaller systems or subsystems. Systems leaders are defined as ambitious visionaries who mobilize large-scale action for systems change and who enable and support widespread action (Sabatier, 1999).

The advantage of the systems theory is that it enables decision-makers to uncover rather than assume coherence (Sabatier, 1999). Sometimes, crafting or accepting policies does not find coherence or solve a problem (Stone, 1988; Zahariadis, 1996). The key is determining the linking point between problems and solutions (where and what is it?). Kingdon (1995) cited two types of windows: “those that open in the problem stream, and those that open in the politics stream” (p. 169). Kingdon (1995) expands the dialogue on the problem windows by defining the functions of them. Problem windows direct us to search for an appropriate solution and fit with a problem already in mind. For example, the current transfer credit process urges the decision-maker to focus on state-level and institutional-level articulation agreements that address the cause of lost credits or decrease transfer retention and other related policy rules and regulations. Thus, the process begins with a search for the appropriate solutions to an already existing problem (Kingdon, 1995). In contrast, the politics window concentrates on finding and inventing a problem for an already existing solution. Raising these problems encourages policymakers to evaluate the policy process and decisions constantly (Kingdon, 1995).

Sharkansky (1970) expands the understanding of the systems theory approach by providing a model that has been applied to a variety of settings, such as cross-national, interstate, and interlocal studies (Figure 1). This model explains that the systems theory incorporates either the entire system or an individual decision as the unit of analysis to accomplish various goals in multiple ways. Consequently, systems theory concentrates on feedback loops and the practice of transforming inputs into outputs. Feedback loops determine which policies should be corrected and which work well for the organization.



*Figure 1: Sharkansky's (1970) model*

In addition to presenting a theoretical analysis of the concept, Kingdon (1995) puts forth the multiple streams model, which is a basic outline of the approach, and adapts the garbage can model; both are systems models. The multiple streams model explains how policies are made (Zahariadis, 1999) and provides responses to three fundamental questions: 1) How is the attention of policymakers rationed?; 2) How are issues framed?; and, 3) How and where is the search for solutions and problems conducted? (Zahariadis, 1999, p. 73). In the multiple streams model, Kingdon (1995) refers to the entire national

government as a unit analysis and the model deals relatively with centralized political systems and the entire procedure of policy communication.

Consistent with the multiple streams approach, Zahariadis expanded Kingdon's ideas on appropriately characterizing policymaking at the national level. Yet, decision makers face a dynamic and unstable environment where ambiguity is widespread and beyond the decision makers' control. Keeping the dynamic and unstable environment in mind, systems theories share common ground with chaos theories in their concentration on complex processes. The idea of concentrating on complex processes means that policy decisions must operate under conditions of ambiguity (Sabatier, 1999; Zahariadis, 1999). Ambiguity refers to "a state of having many ways of thinking about the same circumstances or phenomena" (Feldman, 1989, p. 5). In other words, ambiguity means that organizations are not able to predict solutions/policy decisions accurately (Zahariadis, 1999). "Although more information may (may not) reduce uncertainty" (Wilson, 1989, p. 228), "more information does not reduce ambiguity" (Zahariadis, 1999, p. 74).

The garbage can model, which was developed by Cohen, March, and Olsen (1972) and adapted by Kingdon (1995), describes decision-making processes in organizations where ambiguity is widespread. For example, in public institutions and national governments, turnover is high; the decision makers are often ambiguous about whether to focus on public service or on private practice, which takes considerable time and effort (Zahariadis, 1999). Meanwhile, policymakers deal with ambiguous rather than crystal-clear objectives (Zahariadis, 1999). And ultimately, the decision process turns out an unclear product within the organization (Zahariadis, 1999). In this frustrating situation,

past experiences usually guide the decision-makers' actions through the implementation of their trial-and-error learning tools (Zahariadis, 1999; Sabatier, 1999). The garbage can model, much like the multiple streams model, "strives for understanding and explanation more than prediction" (Zahariadis, 1995, p. 86). On a slightly different note, policy communication and development are related to policy implementation (administration), and these models are capable of addressing these challenges with applicable modifications and credentials. Ultimately, these models, within the systems theory context, recognize the structural importance, hierarchical influence, and multiple levels of government and how they interact.

This system analysis provides a framework to answer the disaggregate policy questions in both whole (nation-wide transfer system) and part systems (institutional level, state level) (Sabatier, 1999) (Figure 2). This systems model may still be unable to justify how the entire nationwide policy process works; however, with this model's guidance, we have a much better idea of how policy outlines are formulated and how policy alternatives are presented (Sabatier, 1999; Bardach, 1977). John Maynard Keynes' famous phrase supports our approach: "It is better to be roughly right than precisely wrong" (1898), especially when we know that the "precisely wrong" aspects in public policy will certainly be discovered.

A leader model in system theories assumes that, under two behaviors (follower and leader) states will be innovators in the adoption of a policy, and other states will follow their lead (Walker 1969, p. 893). Several scholars (Walker 1969, 1973; Grupp and Richards, 1975; Foster, 1978) stated that the leadership in the system should be local and that one or more states are always going to be the creators within that region. Being a

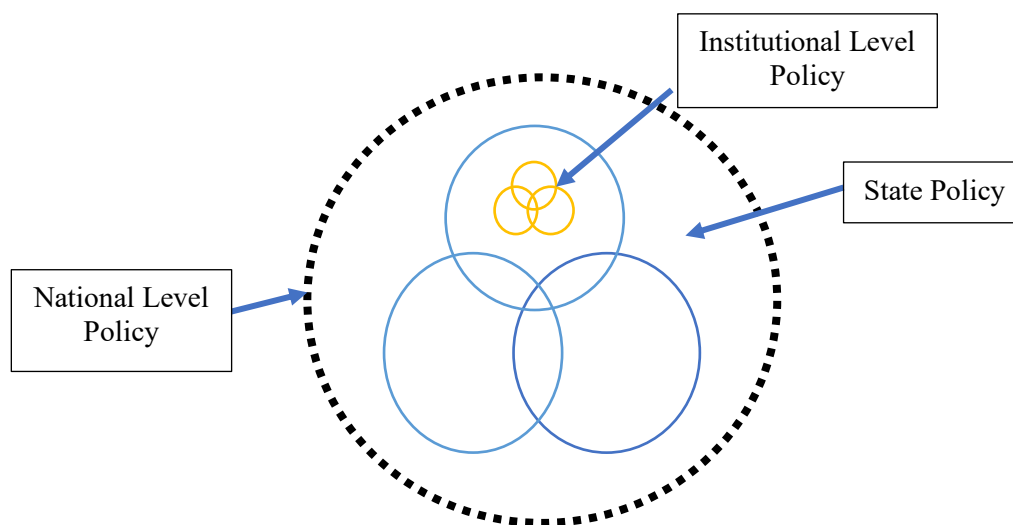
creator or developer results in higher prestige within any policy arena, and the follower states are considered to be within a learning process (Sabatier, 2007). The characteristics of leaders and successive adoption are diffused down a hierarchy from most-developed to least-developed states (Sabatier 2007).

In systems theory, the most important unit of analysis to understand the policy communication and implementation is not any specific government, state, or institution, but a policy subsystem. The decision-makers within the policy subsystem consist of diverse public and private institutions actively concerned with policy issues (such as transferring credits on an institutional, state or national level) who consistently pursue a guiding role in policy solutions in that domain (Sabatier & Jenkins-Smith, 1995). In terms of decision-making in systems theory, both in whole and/or in part, systems will be sufficiently complex because of relevant rules and regulations and the concern of individual institutions (Sabatier & Jenkins-Smith, 1995). As Dawson and Robinson noted in 1963:

“The fifty states share a common institutional framework and general cultural background, but they differ in certain aspects of economic and social structure, political activity, and public policy. Therefore, they provide a large number of political and social units in which some important variables can be held constant while others are varied” (p. 265).

Consequently, the implementation of policy in the transfer credit process often occurs at a local/operational level and in a single dominant program. The systems theory encourages decision-makers to find solutions. This approach then, usually, results in an initiated clarification that works for different levels of government and enables local

initiators to pursue and apply new policy that is relevant to their own goals (Sabatier & Jenkins-Smith, 1995).



*Figure 2: Systems (Subsystems) Theory Related to Transfer System Process*

By focusing on the transfer articulation agreements across states, clear policy communication needs to be attained at the state and legislature level, among coordinating boards, board of regents, and the governing board. Ignash and Townsend (2000) further articulate the need to increase articulation agreements with public institutions and targeting attention toward transferring credit across states, cautioning that successful transfer is required for institutions to be successful in future seamless nationwide transfer efforts. (Sabatier, 1999). As Walker (1969) stated, some system leaders are inventors in the adoption of a policy, and other states follow these leaders, but motivation is key to implementing a seamless transfer system (Santos & Sutton, 2012; Ignash & Townsend, 2000). And, finally, in a 2012 article, Santos and Sutton warned of policy accountability at every single policy level (institutional, state, and national) so that legislators may apply new policy relevant to their own goals. It is clear at the present day that system leaders



will need to develop robust and sophisticated analyses to target and focus their educational sectors' strategies.

It is important to look at the systems leadership in the states from two perspectives: political and bureaucratic. The postsecondary institutions are usually bureaucracies structured to perform the states' educational core tasks with stability and consistency, and resist change or disruption of these tasks (Wilson, 1989).

The relationship between political and bureaucratic leadership is crucial to encouraging bottom-up innovation and partnership between both perspectives. Policy and bureaucracy within the educational system can sometimes motivate leaders to micro-manage their response to crisis situations (Borins, 2002). Politicians have a sense of the importance of the duties and educational missions they face, and this sense drives their standpoint towards the bureaucracy (Borins, 2002; Wilson, 1989). The bureaucracy, in turn, can be a professional and capable partner in future innovations. Thus, this political-bureaucratic interaction can raise performance expectations of the postsecondary higher-education system and drive them towards undertaking new initiatives and providing additional resources toward that vision (Borins, 1998; Borins, 2002). Consequently, political leaders must take responsibility to analyze the challenge, define the problem, and find a workable solution, while bureaucratic leaders should provide information and alternatives, before making and making a final (as making a valid choice is often as hard as finding the solution) (Sabatier, 1991; Borins, 1998).

## **Theoretical Justification**

### **Institutional, State and National level Collaboration.**

Ignash and Townsend (2000) note that in the mid-1980s, state- level articulation agreements were only focused on transferring credit within public institutions (from a two-year college to a four-year college). In the 2000s, because of demand, the state articulation agreements increased concentration to the varied transfer patterns (Ignash & Townsend, 2000). The authors cite studies showing that the transfer credit system, and those articulations related to that system, were receiving close attention from state higher education agency officials, legislatures, colleges and universities, as well as the public. Four out of five states have adopted state-wide articulation agreements, and because of these agreements, the states demonstrate growth in the number of transfer students (Ignash & Townsend, 2000).

In 1989, Santos and Wright's scholarly work presented that slightly more than half of states had articulation agreements specifically acknowledging the transfer process between and within states. However, the majority of states acknowledge the same state or regional higher institution agreements, which made the transfer process easier, and, in most cases, schools provided automatic acceptance of associate degrees as that meant their general education credits were already satisfied (Santos & Sutton, 2012). A key consequence of developing seamless transitions among educational sectors in some states is the state's motivation to develop a strong articulation agreement regarding legislative mandates; however, some states are avoiding this obligation (Ignash & Townsend, 2000). Currently, only a handful of states acknowledge the transfer of credits among state, private, and for-profit institutions (Santos & Sutton, 2012). Santos and Sutton (2012) also

noted that effective articulation policies are a triple win for the states as: “a) students are able to validate their learning into a baccalaureate degree, b) higher education accomplishes its mission of educating = graduating students, and c) the state reaps the rewards of an educated workforce” (p. 971).

Collaboration on higher education within an institution, state, and across states (on the national level) will improve articulation agreements and increase transparency (Anderson, Sun, & Alfonso, 2006, p. 267). In the current educational environment, the transferability of credits among and between institutions within and across states is more important than ever. “Students cannot afford to have any credits earned at one institution not being accepted by other institutions to which they want to transfer. Neither can parents and taxpayers afford to pay twice for the same courses or for additional courses” (Santos & Sutton, 2012, p. 968).

From a policy perspective, the multiple-streams model serves to direct decision-makers by providing responses to essential and foundational questions: “1) how is the attention of policymakers rationed? 2) how are issues framed? And 3) how and where is the search for solutions and problems conducted?” (Zahariadis, 1999, p. 73). According to Kingdon’s (1995) multiple streams model, the model deals relatively with centralized political systems and the entire procedure of policy communication. As mentioned earlier, public awareness is one of the critical issues inherent to the transfer process (Santos & Sutton, 2012), and every step in this process has to be absolutely clear to both students, parents, institutions, and state representatives. This issue directs decision-makers towards approaching public awareness as a level of multiple streams (e.g. the political stream, etc.) (Zahariadis, 1999; Kingdon, 1995).

### **Chapter III: Methodology**

The purpose of this research study is to explore how transfer policies across states are functioning and to determine what states are doing regarding postsecondary transfer policy and which factors influence their decision to adopt a state-wide transfer policy.

The following chapter will clearly define the methodological procedures that the researcher used to design the instruments, determine the samples, and create the procedures used for collecting and analyzing data. This study sought to investigate the following research questions:

RQ 1: What results emerge from comparing the explanatory qualitative data about the transfer process with outcomes from the quantitative data at the institutional, state and/or national level? (Mixed-methods question)

RQ 2: What factors are important to the adoption of a policy when providing an effective transfer credit process? (Quantitative question)

RQ 3: What kind of articulation agreements and guidelines are currently governing transfer processes at the state level? What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system? (Qualitative question)

This study employs a sequential, explanatory mix-methods design (see Appendix B). The mixed-methods approach is “a procedure for collecting, analyzing and mixing or integrating both quantitative and qualitative data at some stage of the research process within a single study” (Creswell, 2015, p. 69). An explanatory sequential design is one of the core design types of mixed-method study, and it is commonly used to investigate

research questions from different disciplinary approaches. (Creswell, 2015). An explanatory sequential design uses quantitative data as the initial steps, followed by qualitative data. This design type focuses on the two phases, and their step-by-step analysis is then merged into a final, collective product. These phases will provide more insight into the states' four-to-four, public institution transfer experience and those factors that influence the school's decision to adopt a state-wide transfer policy. By utilizing a combination of quantitative and qualitative data, the researcher will be able to obtain a more holistic picture of this study. An explanatory sequential mixed-method design type also has some challenges such as implementation, which often takes a long time, and determining which "quantitative result needs further explanation" (Creswell, 2015, p. 38).

## **Quantitative Phase**

### **Sample and Data Collection.**

This study will use a deductive approach to test the outlined hypothesis:

*Hypothesis:* The adoption of state articulation agreements is influenced by legislative changes, the school's financial aid policy approach (only for transfer students), and the state's political orientation and resources.

The hypothesis is framed to answer the main research question: What factors are important to the adoption of a policy when providing an effective transfer credit process? To answer this question, the study utilizes secondary data from the Educational Testing Service (2017), the policy-focused Education Commission of the States (2020), National Center for Education Statistics (2018), National Association of State Student Grant and Aid Programs (2018), and Fording's State Ideology Dataset (2015).

The Educational Testing Service (ETS) created the state-by-state Department of Education database, which contains the articulation policies of the individual institutions within the states. The Education Commission of the States (ECS) is a developed database that tracks transfer policies such as active and improved articulation agreements across all 50 states. The ETS and ECS databases provide similar information, but there are some differences between the datasets. ETS provides direct access to the raw data of individual states' transfer procedures through each state's Department of Education website, while ECS provides an assessed, compared dataset that displays a state's articulation agreements, transfer policy regulations, and changes that have occurred over the years in the state's transfer systems. Utilizing the ETS and ECS databases, I collected the existing articulation agreements for individual states, categorizing the states that have developed a transfer policy across states, checking if there are any work-in-progress policy collaborations within and across states, and capturing the changes and development in states' transfer policies over the years. The National Center for Education Statistics (NCES) database is "the part of the United States Department of Education's Institute of Education Sciences that collects, analyzes, and publishes statistics on education and public-school district finance information in the United States" (NCES, 2020). I employed specific relevant statistical results in the quantitative section published on the NCES website. The National Association of State Student Grant and Aid Programs (NASSGAP) provides data that covers government-sponsored postsecondary student financial aid, access and/or program completion, and the benefits available within these programs and other postsecondary education opportunities (NASSGAP, 2020). Further,

the Fording State Ideology Dataset (2015) also provides state-citizen and government ideology measures for each state.

### **The Unified Model of State Policy Innovation**

For this study, I adopted the unified model of state policy innovation. This model provides the framework for my study hypothesis and the states' intra- and inter-transfer credit policy adoptions. Earlier policy adoption models state that internal characteristics or regional factors play a key role in a state's decision to adopt a policy (Eaton, 2013). In 1990, Berry and Berry introduced the Unified Model of State Policy Innovation that explains how state policy adoption uses both internal determinants and regional factors. In 1999, Berry and Berry (p. 187) proposed that "models of state government innovation should take the following general form:  $ADOPT_{i,t} = f(MOTIVATION_{i,t}, RESOURCES/OBSTACLES_{i,t}, OTHER\ POLICIES_{i,t}, EXTERNAL_{i,t})$ "

According to the Berry and Berry's (1999) equation,  $t$  explains a state's eligibility to adopt a policy in a particular year (in the case, of course, when a state has not already adopted that policy).  $i$  is the probability that a state will adopt the policy in year  $t$ , and  $f$  explains internal determinants (p. 187-188).  $ADOPT_{i,t}$  is the probability that state  $i$  will adopt the policy in year  $t$ .  $EXTERNAL_{i,t}$  represents the behavior of the states at time  $t$  or in the recent past.  $MOTIVATION_{i,t}$  represents those variables that indicate the state's motivation to adopt the policy in state  $i$  at time  $t$ . The  $RESOURCES/OBSTACLES_{i,t}$  variable reflects available resources for realizing the innovation (new policy). Finally,  $OTHER\ POLICIES_{i,t}$ , indicates a set of dummy variables that demonstrate the presence or absence of other policies in state  $i$  and the likelihood the state will adopt the new policy (Berry and Berry, 1999). The data source will be collected from ECS, ETS, and

NCES. Table 4 presents the definition of the equation terms for Berry and. Berry's (1999) Unified Model of State Policy Innovation:

Table 4: *Berry and Berry's (1999) Unified Model of State Policy Innovation: Definition of the Equation Terms.*

UNIT OF ANALYSIS:	Is the American state eligible to adopt a policy in a particular year?
DEPENDENT VARIABLE: $ADOPT_{i,t}$	Is the probability that state $i$ will adopt the policy in year $t$ .
INDEPENDENT VARIABLES:	
Internal determinants: $MOTIVATION_{i,t}$	Represents variables indicating the motivation to adopt the policy of public officials in state $i$ at time $t$ ; they would include the character of public opinion and electoral competition in the state and other ad hoc motivation factors.
$RESOURCES/OBSTACLES_{i,t}$	Denotes variables reflecting obstacles to innovation and the resources available for overcoming them. For many policies, the state's level of economic development and the professionalism of its legislature would be included.
$OTHER\ POLICIES_{i,t}$	Indicates a set of dummy variables demonstrating the presence or absence of other policies in state $i$ and the likelihood that the state will adopt the new policy.
External Influences: $EXTERNAL_{i,t}$	Denotes variables reflecting diffusion effects on state $i$ at time $t$ ; thus, they would measure the behavior of other states at time $t$ , or in the recent past.



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SOURCE: Berry, & Berry, (1999). Innovation and Diffusion Models in Policy Research. In P. Sabatier (Ed.), *Theories of the Policy Process* (p. 187-88). Boulder: Westview.

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## Hypothesis Development

The hypothesis tests an important question for the study: What are the conditions that endorse and hinder the adoption of new government policies? The main focus of the research hypothesis is explaining the propensity of individual states to adopt specific policies.

The adoption of state articulation agreement formula follows (Sabatier, 1999):

ADOPT- Adoption of State Legislation Agreements =  $f$ (MOTIVATION -State Motivation to Advance the Legislation, RESOURCES/OBSTACLES- Budget (*Expenses* of Public Postsecondary Institutions regarding Academic Student Service), OTHER POLICIES - State Financial Aid Policy, EXTERNAL - State Political Orientation).

This study will consider analyzing the realistic formulation of states' adoption approaches. For example, the neighbor-to-neighbor influence model (Berry & Berry, 1992) cannot assume that states have equal influence on their neighbors, yet states do often influence one another. This is one of many different nuances that should be considered in order to reach a meaningful conclusion regarding policy adoption (Berry & Berry, 1990 & 1992; Hays & Glick, 1997). (See Table 5 for Berry and Berry's study on neighboring states (1990).

Table 5 : *The 48 Continental U.S. States and their Neighbors.*

State	The State's Neighbors
Alabama	MS, TN, GA, FL
Arizona	CA, NV, UT, CO, NM
Arkansas	LA, TX, OK, MO, KY, TN, MS
California	OR, NV, AZ
Colorado	NM, AZ, UT, WY, NE, KS, OK
Connecticut	NY, MA, RI
Delaware	MD, PA, NJ
Florida	AL, GA
Georgia	FL, AL, TN, NC, SC
Idaho	WA, OR, NV, UT, WY, MT
Illinois	WI, IA, MO, KY, IN, MI
Indiana	KY, IL, MI, OH
Iowa	MO, NE, SD, MN, WI, IL
Kansas	OK, CO, NE, MO
Kentucky	TN, AR, MO, IL, IN, OH, WV, VA
Louisiana	TX, AR, MS
Maine	NH, MA
Maryland	VA, WV, PA, DE, NJ
Massachusetts	RI, CT, NY, VT, NH, ME
Michigan	WI, IL, IN, OH
Minnesota	ND, SD, IA, WI, MI
Mississippi	LA, AR, TN, AL
Missouri	AR, OK, KS, NE, IA, IL, KY, TN
Montana	ID, WY, SD, ND
Nebraska	KS, CO, WY, SD, IA, MO
Nevada	CA, OR, ID, UT, AZ
New Hampshire	MA, VT, ME
New Jersey	DE, PA, NY, MD
New Mexico	AZ, UT, CO, OK, TX
New York	PA, NJ, CT, MA, VT
North Carolina	SC, GA, TN, VA
North Dakota	SD, MT, MN
Ohio	KY, IN, MI, PA, WV
Oklahoma	TX, NM, CO, KS, MO, AR
Oregon	CA, NV, ID, WA
Pennsylvania	DE, MD, WV, OH, NY, NJ
Rhode Island	CT, MA
South Carolina	GA, NC
South Dakota	ND, NE, WY, MT, MN, IA
Tennessee	NC, GA, AL, MS, AR, MO, KY, VA

Texas	NM, OK, AR, LA
Utah	AZ, NV, ID, WY, CO, NM
Vermont	NH, MA, NY
Virginia	NC, TN, KY, WV, MD
Washington	OR, ID
West Virginia	VA, KY, OH, PA, MD
Wisconsin	MN, IA, IL, MI
Wyoming	CO, UT, ID, MT, SD, NE

*SOURCE: Berry, F.S. & Berry, W.D. (1990, June). State Lottery Adoptions as Policy Innovations: An Event History Analysis. American Political Science Review, 84 (2), 395-415.*

### **State's type of agreements:**

Furthermore, the transfer student enrollment and adoption have four categories of transfer and articulation agreements:

1. The transferable core of lower-division courses.
2. State-wide common-course numbering.
3. State-wide guaranteed transfer of associate degree.
4. State-wide reverse transfer.

Since this study focuses on only four-to-four year transferring credit processes, the state-wide common-course numbering transfer agreement type is used in the analysis.

The state-wide common course numbering means “a uniform numbering convention used at all public postsecondary institutions for lower-division courses” (ECS, February 2020). Currently, 18 states have a course numbering system, 32 states do not have a course numbering system. The states that have adopted a state-wide common course numbering system are highlighted in Table 5a with purple.

Table 5(a): The State Neighbors - Adoption of Common Course Numbering Agreement

State	The State's Neighbors
Alabama	MS, TN, GA, FL
Arizona	CA, NV, UT, CO, NM
Arkansas	LA, TX, OK, MO, KY, TN, MS
California	OR, NV, AZ
Colorado	NM, AZ, UT, WY, NE, KS, OK
Connecticut	NY, MA, RI
Delaware	MD, PA, NJ
Florida	AL, GA
Georgia	FL, AL, TN, NC, SC
Idaho	WA, OR, NV, UT, WY, MT
Illinois	WI, IA, MO, KY, IN, MI
Indiana	KY, IL, MI, OH
Iowa	MO, NE, SD, MN, WI, IL
Kansas	OK, CO, NE, MO
Kentucky	TN, AR, MO, IL, IN, OH, WV, VA
Louisiana	TX, AR, MS
Maine	NH, MA
Maryland	VA, WV, PA, DE, NJ
Massachusetts	RI, CT, NY, VT, NH, ME
Michigan	WI, IL, IN, OH
Minnesota	ND, SD, IA, WI, MI
Mississippi	LA, AR, TN, AL
Missouri	AR, OK, KS, NE, IA, IL, KY, TN
Montana	ID, WY, SD, ND
Nebraska	KS, CO, WY, SD, IA, MO
Nevada	CA, OR, ID, UT, AZ
New Hampshire	MA, VT, ME
New Jersey	DE, PA, NY, MD
New Mexico	AZ, UT, CO, OK, TX
New York	PA, NJ, CT, MA, VT
North Carolina	SC, GA, TN, VA
North Dakota	SD, MT, MN
Ohio	KY, IN, MI, PA, WV
Oklahoma	TX, NM, CO, KS, MO, AR
Oregon	CA, NV, ID, WA
Pennsylvania	DE, MD, WV, OH, NY, NJ
Rhode Island	CT, MA
South Carolina	GA, NC
South Dakota	ND, NE, WY, MT, MN, IA
Tennessee	NC, GA, AL, MS, AR, MO, KY, VA

Texas	NM, OK, AR, LA
Utah	AZ, NV, ID, WY, CO, NM
Vermont	NH, MA, NY
Virginia	NC, TN, KY, WV, MD
Washington	OR, ID
West Virginia	VA, KY, OH, PA, MD
Wisconsin	MN, IA, IL, MI
Wyoming	CO, UT, ID, MT, SD, NE

### Variables Used in the Quantitative Phase

The quantitative phase will employ the following variables to test the previously proposed hypotheses:

Table 6: *Description of variables used in the quantitative phase of this study.*

Dependent Variables		
<i>Variable Name</i>	<i>Description</i>	<i>Variable Type</i>
Adoption of State Legislation Agreement	A binary variable representing whether a state has adopted (common- course numbering) articulation agreements in a given year	Binary
Independent Variables		
Legislative Changes (in the event history analysis this variable equals <i>Motivation</i> )	Representing the total number of transfer credit laws a state has enacted during the last decade	1-low motivation = 0-4 2- high motivation = 4 and above
Financial Aid Policy Approach for Transfer Students	A dichotomous variable representing whether a state has crafted a state policy and state regulation related to financial aid in a given year	Dichotomous
Political Orientation	Represents the state's ideology	0-100 scale (from 2010-2017 years) 50 and below = Conservative state 50 and above = Liberal state Changes every election time = Swing state

Budget - Expenses of Public Postsecondary Institutions regarding Academic Student Service	Represents the individual state budgets for academic student service and how this available resource will reflect for realizing the innovation	Continuous (Currency)
Control Variable		
Number of Transfer Student Transfers within the State as a Percentage of State Population	Representing how many students transfer every year within the state and across the state to compare with the individual state population	Continuous (Percentage)

*Dependent Variable (source of data ECS and ETS):*

*Adoption of State Legislation Agreement.* The adoption of a state legislation agreement was measured by examining whether a state has an articulation agreement related to common course numbering in a given year. It is significant because adopting rules and regulations is the most important factor in the state's implementation of policy initiatives and creation of a seamless transfer process. In addition, by measuring this variable, I was able to assess how a time-varying covariate affected the states' development of a successful transfer policy that aims to facilitate the process of moving credit from one institution to another successfully and to guide students' complete credentials in a timely manner with the least number of lost credits.

*Independent Variable (source of data – ECS, NCES, NASSGAP and Fording's State Ideology Dataset):*

*Legislative Changes* (variable equates *Motivation piece in the event history analysis*). The first independent variable used in this analysis is the total number of transfer credit laws enacted during the last decade (2010 – 2020). This variable reflects a different avenue to adoption and implementation, whereas the number of enacted

regulations demonstrates the state legislatures' activity. Adoption and implementation of articulation agreements and transfer policies within state-level legislation offers a pathway for students toward undergraduate degrees (ECS, 2020). Changes within state-level policies, alongside an increase in the number of state-level transfer articulation agreements over the past decade, confirms that state legislatures recognize the need for, and the prominence of, the legislative changes related to the transfer process. As mentioned in the literature review, according to Kintzer and Wattenbarger's study in 1985, only eight states at that time had formal legal agreements. Ignash and Townsend's 2000 study determined that the number of countries implementing state-level policies had, by that time, increased to 30. In 2010, Smith's Transfer and Articulation Policies report showed that state-level legislative acts had been created in 36 states (Kintzer & Wattenbarger, 1985; Ignash & Townsend, 2000; Smith, 2010). Continuous updates in the legislation related to the transfer process appear as an essential factor and reinforce those legislative improvements to the transfer process can make transfers smoother for students (ECS, 2020). As Walker (1969) discussed and their study, some system leader will be inventors in the adoption of a policy and other states follow these leaders, but motivation is a key to implementing the seamless transferring system (Santos & Sutton, 2012; Ignash & Townsend, 2000). Consideration of this variable provided a fuller understanding of the initiatives' effects on the state policy environment and on the state's motivations for legislative change. In this study the data for legislative change - motivation variable was gathered from the Education Commission of the States (ECS) which is a developed database that tracks transfer policies such as active and improved articulation agreements across all 50 states. The ECS provides an assessed, comparative dataset that displays a

state's articulation agreements, transfer policy regulations, and captures changes that have occurred over the years in the state's transfer systems. Note that this variable equates to the motivation piece within the event history model (ECS, March 2020). In other words, the legislative change–motivation variable is crafted based on the states' total number of transfer credit laws adopted, implemented, and advanced during the last decade (2010 – 2020). The number of changes (adoption and/ or advance the transfer credit policy) explains the motivation level of the states; meanwhile, it also displays how states are motivated to adopt/advance new policy in the near future. Thus, in this study, the data for legislative change (motivation) is categorized into two levels: high and low levels. If the state leaders often adopted and implemented transfer policies within state-level legislation (such as every other year or every two years), the state labeled highly motivated state to adopt/ advance the legislation. On the other hand, if the state leaders adopted and implemented transfer policies within state-level legislation rarely (such as one time during the ten years, or two times during the ten years), the state's motivation level is labeled as low motivated state.

*Financial Aid Policy Approach Only for Transfer Students.* The second independent variable is dichotomous: 1. it represents whether a state has crafted state policy; and, 2. it represents whether a state has established regulations around the financial aid provided to transfer students in a given year.

Providing financial aid and/or rewarding a transfer student's performance is a new approach to the transfer system. As mentioned in the literature review, in 2002, Wellman's comparative analysis recommended taking a fresh look at the flow and performance of transfer students by adopting financial aid policies. According to



Wellman (2002), the financial assistance policy's approach provides inducements for four-year institutions to enroll more transfer students. Meanwhile, financial aid policies also support transfer students in completing their degrees in a timely manner (Wellman, 2002). In 2016, Gross and Berry expanded the dialogue by emphasizing the importance of understanding state policy benefits and barriers that support transfer-student mobility. The authors highlighted the funding model's financial aid policy as one of the crucial state policy areas needed to support a seamless transfer process. In 2017, the U.S. Government Accountability Office also determined affordability as one of the issues in the transfer process. As a solution to the given point, the U.S. Government Accountability Office (2017) also suggested that the intention of the states be supporting transfer students by providing additional financial aid to those who paid for repeated courses or lost credits. This way, students do not pay additional out-of-pocket costs, and the education system retains students. Thus, consideration of this variable is essential since this policy and articulation signify how states support postsecondary education. The data for the 'financial aid policy approach only for transfer students' variable was collected from the National Association of State Student Grant and Aid Programs (NASSGAP). NASSGAP provided a dataset that includes data about government-sponsored postsecondary students with financial aid; those transfer students that accessed and/or completed their program; the benefits of these programs; and, additional postsecondary education opportunities (2020). These variables were explained through two-fold (yes and no) answers, asking if the state had a financial aid policy or not. The discussion related to this 'financial aid policy approach only for transfer students' was

expanded in the qualitative phase of the study as well. Note that this variable equates to the policies piece in the event history model.

*Political Orientation.* The third independent variable describes political orientation. This variable captures the political orientation of the states' governors and legislatures, offering a more comprehensive picture for decision-makers so that they can better provide a seamless and transparent transfer process. As Dawson and Robinson noted in 1963, "The fifty states share a common institutional framework and general cultural background, but they differ in certain aspects of economic and social structure, political activity, and public policy" (p. 265). Consequently, the implementation of the policy specified in the transfer credit process often depends on the state's political orientation and state ideology. As mentioned in the theoretical review, in systems theory, the essential unit of analysis to understand policy communication and implementation is not any specific government, state, or institution, but a policy subsystem. The decision-makers within the policy subsystem are diverse public institutions actively concerned with policy issues and the state's political ideology, and they consistently pursue guiding roles in policy solutions in that domain (Sabatier & Jenkins-Smith, 1995). The data for the "political orientation" variable drawn from Fording's State Ideology Dataset (2015), provides a state-citizen and government ideology measure for each state. A state government's liberalism data is available from the State Politics and Policy Quarterly (SPPQ) website's database, and includes data from the Berry, et al. (1998) study "Measuring Citizen and Government Ideology in the American States." This dataset relies on convergent validity, which is one of the most powerful empirical tests for validity. In the NOMINATE version of the dataset, a state government's ideology

indication corresponds with a theoretical expectation, and each score serves to accurately reflect a members' ideation. The data is presented using a 0-100 scale with the higher numbers representing increasing liberalism. This dataset constructed dynamic measures related to state ideology by using the "average location of the elected officials in each state on the same continuum" (Berry, Fording, Ringquist, Hanson, & Klarner, 2010, p. 117).

Adding this ideology indicator variable to the event history model, especially when validating the governmental ideology index in comparison to other state level ideologies, has proven valuable in examining the impact of public opinion and/or the policy preferences of elected officials (Berry, Fording, Ringquist, Hanson, & Klarner, 2010, p. 117). The government ideology measure values are included in this dataset for all 50 American states, beginning in 1960. This study was also used for a 2018 publication of the data, which included data collected throughout 2017 for the NOMINATE version of state government ideology. Berry et al. (2010) acknowledged that "a legislator's policy orientation was not likely [to] vary greatly from one year to the next, but this does not suggest complete stability" (p. 124). According to the given index, the highest score indicates that the state is more conservative; the lowest score means the state is more liberal. The comparison of years displays a great understanding of how the state's government ideology changes during the last decade. Note that this variable equates to the external environment piece in the event history model.

*Budget.* The fourth independent variable is the state's budget for academic student service. Academic student service includes academic standing, transfer agreements, and academic success programs. This budget variable represents individual state budgets for

this service and how this available resource reflects the success or need for innovation.

The data is secondary data from the U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data Systems (IPEDS), and is also the finance component for the 2018 fiscal year's provisional data. This data was collected from public postsecondary institutions used Government Accounting Standards Board (GASB), and the expenses were based on 1,933 public institutions. Note that this variable equates to the resources/obstacles piece in the event history model.

*Control Variable (source of data - NCES):*

*Number of Transfer Student Transfers within the State as a Percentage of State Population.* This control variable represents the number of transfer students per capita. It explains financial aid policy implementation and adoption (including the reasoning for any delays or lack of action); the state's interest in transfer policy updates; and, the need for states to adopt new regulations based on the needs of that state. The data for the control variable was taken from the National Center for Education Statistics (NCES) database. NCES is the "part of the United States Department of Education's Institute of Education Sciences that collects, analyzes, and publishes statistics on education and public-school district finance information in the United States" (NCES, 2020). The statistical data presented in this study used percentages based on NCES 2018 published data.

### **Statistical Test**

The goal of the quantitative phase was to examine what factors determined a states' adoption of transfer agreement policies. Since the quantitative phase was more

robust, the data was collected from multiple sources. The data analysis employed both univariate and multivariate statistical procedures to analyze the collected secondary source of data (descriptive statistics, binomial correlation, and regression). In this sequential, explanatory mixed-method design research study, the priority was given to the quantitative approach, and following with the qualitative approach as a second phase (Creswell, 2016).

Descriptive analysis of the quantitative data depicted the current adopted and implemented state policies and guidelines related to the credit transfer process and state leaders' ideology in this process. Inferential statistics (binary correlation and regression) indicated whether the selected six variables significantly contributed to a leaders' decision to adopt a nationwide transfer policy that facilitates successful transfers between postsecondary institutions with no (or the fewest possible) lost credits. Meanwhile, the Systems Leadership model analysis helped to explain the environment where leaders must make decisions regarding transfer policy. As mentioned in the theoretical review, the systems leadership model analysis provides a framework to answer the disaggregate policy questions in both whole (nation-wide transfer system) and part systems (institutional and state-level) (Sabatier, 1999). The systems leadership theory-model encourages decision-makers/leaders to find solutions. Usually, one finds an initiated clarification that works for the different government levels, and local initiators pursue it in order to apply new policy relevant to their own goals (Sabatier & Jenkins-Smith, 1995). Thus, it is vital to understand which factors are essential for decision-makers and which ones influence a leader's decision to adopt state-wide transfer policy. Accordingly, these results answered the quantitative research questions and tested the proposed

hypothesis. The second-phase qualitative data and its analysis secured the critical explanation as to what decision-makers explicitly seek in order to provide a seamless transfer system.

### **Event History Analysis**

The term ‘event history analysis’ has various names within different contexts. For example, social science researchers apply event history analysis to their research because “survival,” “failure,” and “risk” concepts are also related to social science (Box-Steffensmeier & Jones, 2004). “Economists call this concept as duration analysis or transition analysis (risk analysis), and engineers call it lifetime or failure-time analysis” (Guo & DiPietro, 2010, p. 5). In event history analysis, “survival time” is defined as the length of time until the event occurs (e.g. policy adoption).

Given the approach toward adopting policies, the event history model (“hazard rate”) is a superior and efficient analytical procedure (Mankins & Steele, 2005). A hazard model is a regression model in which states’ “risk” of adopting a new policy at a certain time point is predicted with a set of covariates. There are two special characteristics that differentiate the hazard model from other types of regression models (Vermunt and Moors, 2005). The first characteristic is that the hazard model enables researchers to handle the data with only partial data-information on the timing of the event of interest. The second characteristic is that covariates may change their value throughout the observation period (Vermunt and Moors, 2005).

The dependent variable in an event history analysis (“hazard rate”) represents the probability that a state adopts a transfer policy during the period of observation (1965

through 2018), given that the state is in the risk set at the time. An observable variable is used to indicate whether a state adopts the common course numbering articulation agreement in a given year or not (coded 1 if the state did not adopt an articulation related to the transfer credit system in a year; coded 2 if the state adopted an articulation related to the transfer credit system in a year. Event history allows for testing the adoption of transfer credit articulations by creating a pooled, cross-sectional time series of data. In this study, the 50 U.S. states are the units of analysis.

Event history analysis requires “a starting date to demark the beginning of a possible determinant’s influence on the enactment of a state law” (Eaton Corporation, 2013, p. 45). To determine the start date for this study, I reviewed the states’ adoption year of transfer credit articulation. Texas was the first state to adopt a transfer credit policy in 1965. Therefore, I confined the analysis to transfer policy adoption from 1965 and later, because it is practical to assume that no state is “at risk” of adopting a policy prior to the year of adoption by the first state.

Event history analysis has numerous advantages in state policy innovation research. First, the event history analysis method explains policy adoption by internal determinants and regional diffusion impacts within a single model (Berry & Berry, 1990). Second, the event history analysis utilizes data that is cross-sectional and longitudinal. Third, the event history analysis observes both whether and when, in this study, adoption of a transfer policy occurred. Finally, the event history analysis is a valued procedure for studying exceptional events occurring at a specific point in time, such as adoption of a policy.

The event history analysis technique also has disadvantages and thus includes time-varying explanatory variables. Agresti and Finlay (1997) share that "...[if] the values for some of the variables change over the observed period of time" it can become problematic. However, this factor should not cause any complications in the research because these variables are being used as annual measures that ratify adoption of the transfer credit system (e.g. annual state budget, election cycle data, etc.). These variables are generally measured once a year because they do not vary much during the span of a year.

For policy adoption studies, a discrete-time or a continuous-time model of an event history analysis can be used. Berry and Berry (1990, 1992, 1994), Mintrom (1994), and others who have used discrete-time models versus continuous-time processes are correctly and accurately modeling policy adoption. A continuous-time model is also an applicable model and has been chosen to study policy adoption as it is accurate to assume that a legislature could adopt a policy anytime within a legislative session (Steffensmeier & Jones, 1997, pp. 1423-1424; Box-Steffensmeier & Jones, 2004).

There are three systematic approaches to the event history model analysis: 1) nonparametric (e.g., the Kaplan-Meier estimation); 2) semi-parametric, also called the Cox regression (including the discrete-time hazard modeling); and 3) parametric, which incorporates a number of modeling techniques, such as exponential, log-logistic, Weibull, etc. (Ishitani & Flood, 2018). The choice of the approach relies on the time dependency (Ishitani & Flood, 2018).

For this study, the parametric model was chosen to conduct the event history analysis. The reason of selection of the parametric model was that this logistic regression



model is the most recognized and implemented version of the event history model analysis as it is related to the dependent variable, in which the event of history is the adopting of a new policy and influenced determinants (Cox, 1972; Myers, Hankey, & Mantel, 1973; Byar & Mantel, 1975; Brown, 1975; Thompson, 1977; Mantel & Hankey, 1978). Logistic regression predicts the probability of a placement on a dependent variable that is relying on multiple independent variables (Starkweather & Moske, 2011). This particular modeling technique allows us to classify the study algorithm to observe the probability of the event of success or the event of failure, such as successfully adopting the new policy or failing to adopt it.

In the next chapter, Chapter Four, the results of the statistical analysis, and an explanation of the results as they relate to the hypothesis, will be provided.

### **Qualitative Phase**

The qualitative data was gathered and examined second in the sequence and then clarified, while the quantitative results were acquired in the first phase. The second, qualitative phase builds upon the first, quantitative phase and the two aspects are then associated midway in the study (Creswell, 2016). The rationale for this method is that the quantitative data analysis delivers a general understanding of the research problem (Creswell, 2016). And the qualitative data analysis enhances and clarifies those statistical results by exploring participants' views in more depth (Rossman and Wilson, 1985; Tashakkori and Teddlie, 1998; Creswell, 2003; Creswell, 2016). In this study, the quantitative phase findings provided expanded information about high performing and low performing states in the transfer policy area. According to these performance categories, the researcher generated the interview phase groups. Moreover, the

quantitative findings supplied a general understanding of the state's financial aid policy, but only for transfer students (a policy piece in the event history model). In the qualitative phase, the interview responses increased the researcher's understanding of the states' approach to the financial aid process for transfer students and informed the researcher of any ongoing discussions related to this process. The quantitative results rendered relevant information about the legislative changes in the states (motivation piece in the event history model), and further informed the interview questions. These interviews with state leaders clarified if there were any barriers that may decrease the state leaders' motivation. The state leaders were members of the State Higher Education Executive Officers Association (SHEEO). SHEEO "serves the chief executives of state-wide governing, policy, and coordinating boards of postsecondary education and their staffs" (SHEEO, 2020).

### **Sample and Data Collection.**

The qualitative phase was an inductive process that attempted to explore the nuances in current articulation agreements by specific partnering institutions as well as programs and types of articulations that can provide a seamless nationwide transfer system (Merriam & Tisdell, 2016). The qualitative part of the study looked for responses to the following research questions: 1) What kind of articulation agreements and guidelines are currently governing transfer processes at the state level?; and, 2) What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system? In the qualitative phase, insights and perceptions about the phenomena that are central to this study were captured in depth through phone interviews with the states' State

Department of Education officials. The officials were also SHEEO members, and the researcher contacted them through SHEEO's website contact list.

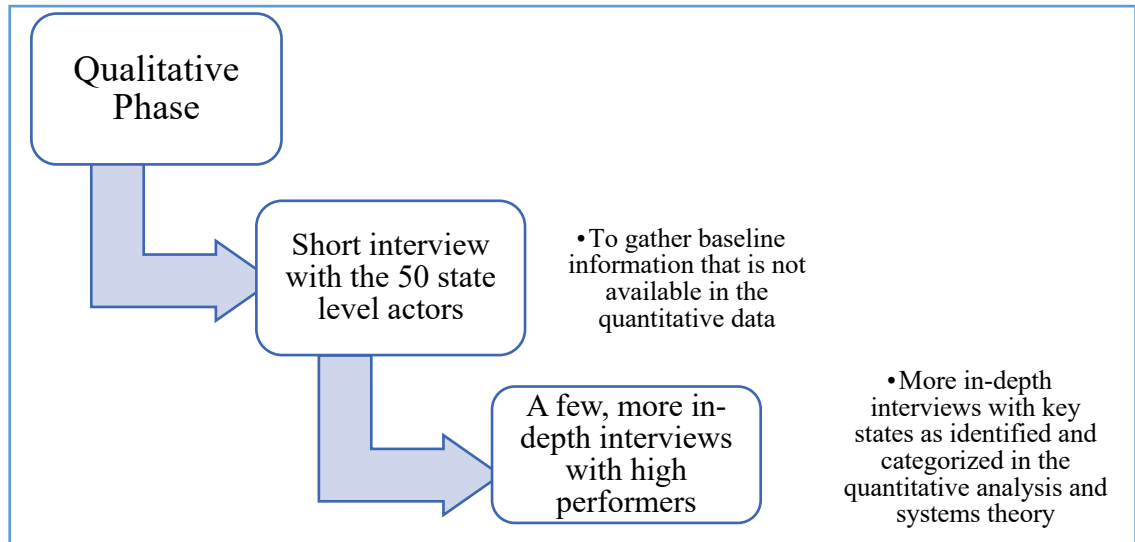
### **Data Collection.**

The qualitative data collection was the second step of the explanatory sequential design for this study, and it followed quantitative data collection and analysis steps. The qualitative data and their analysis refined and explained quantitative statistical results by exploring state leaders' view in more depth and provided a holistic answer to the main research question (Creswell, 2015). Thus, the qualitative component accurately captured: (a) the state level transfer leaders' experiences related to the transfer credit process; and (b) the participants' interpretations of a seamless transfer process as well as additional factors that guide them in their current stage of transfer policy development. Meanwhile, this study also aimed to understand how the bureaucratic leaders are finding solutions to current transfer credit issues and how they implement new policies to different levels of systems (institutional, state, and national levels). The descriptive and inferential statistical findings were a great resource to display the baseline information and were useful in the qualitative piece for informing more in-depth interview process with state-level actors. The sequential explanatory mixed-method design can be especially valuable when unexpected outcomes appear from a quantitative study (Morse, 1991).

The qualitative data gathering was conducted in two waves: the first in short, ten-minute interviews (open-ended questions) with as many of the 50 state level actors as possible. The goal was to interview all 50 states for the short (ten minute) interview and to gather baseline information that was not available in the quantitative data. The reason for choosing 50 short interviews for the first wave, rather than surveying all state leaders

in mass, is that state level actors' workdays are hectic. According to the researcher's previous experience with a State Council of Higher Education for Virginia externship, phone calls were a more reliable way of obtaining data from this population than email.

The second wave encompassed a few, more in-depth interviews with high performers (or creators) in the transfer policy arena. This wave was comprised of approximately 10 state representatives of which had usually demonstrated high scores in the ranking related to their transfer credit process. These 10 states were identified through both the quantitative analysis and first wave of qualitative data collection and held significance from a systems theory perspective (see Figure 3). The in-depth phone interviews were conducted with each selected participant using a deliberate sampling procedure. As mentioned in the theoretical review, a leader model in systems theory assumes that, under two behaviors, certain states are inventors in the adoption of a policy and other states follow these leaders (Walker 1969, p. 893). Being creators or developers brings high prestige in any policy arena, and the follower states are considered to be in a learning process (Sabatier, 2007). Furthermore, the characteristics of leaders and successive adoption are diffused down a hierarchy from the most-developed to least-developed political performance of states (Sabatier, 2007).



*Figure 3: Qualitative Data Collection Steps*

After gaining approval by the James Madison University Institutional Review Board, the study captured each interview in its entirety with the consent of the participants. In addition to audio recordings, the author took extensive notes during the interviews as a backup. Follow-up notes were kept providing context to each selected interview session and record the overall interview process. The interview materials were considered as de-identified data, where all names of participants were kept in a file separate from the interview content. That way other people who viewed the interviews would not have participant names, but the information would be available to the researcher if follow up work was needed or if the researcher needs to ensure that participants were matched correctly with their respective states.

## **Interviews**

The interview questionnaire (Appendix A) was designed to elicit participants' responses to these specific qualitative research topics: The quantitative findings partially influenced the interview questions; the qualitative phase of the study that attempted to

capture state leaders' subjective perspectives (thoughts) related to the transfer process; the quantitative findings that directed the researcher towards focusing on the qualitative part of how the system works in the states as it relates to the transfer credit process; and, what factors encourage leaders to push the policy wheel to adopt and implement a policy that is related to the transfer process. As stated by Creswell (2015), "[The] Quantitative research method does not adequately investigate personal stories and meanings or deeply probe the perspectives of individuals" (p. 15). The combination of these research methods provided more in-depth information and an opportunity to learn from individual perspectives. Drawing from the study's findings, the qualitative (interview) process continued to identify the leadership's perspectives, system leaders' positions, and their role in this specific transfer credit process. The second stage interviews with states' leaders also clarified barriers (if any) to this process.

#### *Phase I: Short Interview Process*

- (1) Evaluation of the current transfer policy environment in different states
- (2) Assessment of the states' existing transfer articulation agreements and policies

#### *Phase II: In-Depth Interview Process*

- (3) Assessment of the states' leadership perspective

### **Data Analysis**

All interviews were conducted in English. The data from each interview was transcribed manually or with the help of audio recognition software (NVIVO 12) that also has the capability to transcribe. The analysis began by reading through the data to obtain a general sense of the comments (Creswell & Plano Clark, 2017). To ensure that

the researcher's biased notions are not imposed on the data, and that the codes reflected and fit the data (Charmaz, 2014). Thematic and axial coding captured the emerging themes and categories and worked to relate categories to subcategories (Charmaz, 2014). The NVIVO 12 software program was used in coding and managing the qualitative data.

### **Mixed Methods Integration**

Mixed methods integration was the core part of this study. As Creswell (2015) noted, mixed-method research is commonly used to investigate the answers to research questions from different approaches. The mixed-methods approach is “a procedure for collecting, analyzing and mixing or integrating both quantitative and qualitative data at some stage of the research process within a single study” (Creswell, 2015, p. 69). The quantitative and qualitative results of this study helped to foster a clearer understanding of the phenomena that form the study's core.

In the sequential explanatory design, the data was collected over a period of two sequential phases. The connecting point in this sequential mixed-method study was the development of the qualitative data which was then grounded in the results from the first, quantitative phase. This quantitative data was then used to inform in more depth the collection and analysis of the qualitative data gathered during the second phase of the study. Thus, the qualitative data collected in the second phase of the research was grounded in the interview questions drawn from the outcomes of the first, quantitative phase. The choice to follow the quantitative-qualitative data collection and analysis sequence in this design relied on the study's purpose and leveraged the research questions in order to obtain the contextual explanation for the study's statistical outcomes (Green & Caracelli, 1997; Creswell, 1999).

In this mixed-methods sequential design study, the quantitative and qualitative phases were connected (Hanson et al., 2005) during the intermediate stage when the results of the data analysis in the first phase of the study informed or guided the data collection in the second phase. In this study, priority was given to the quantitative component. The quantitative component used several sources of data and multiple types of analyses, while the qualitative component was limited to one data source and one thematic analysis technique. Thus, the quantitative data and statistical results provided a general understanding of how the transfer policies across states were functioning and determine what states were doing regarding postsecondary transfer policy. The qualitative data and its analysis secured the needed explanation as to what factors significantly affected the state actors' decisions relating to the transfer process.

In this study, the findings also inform us on the political leaders' motivation to adopt and implement policy, as well as their political orientation and the financial support that states provide for the transfer process. The qualitative results sought to find the bureaucratic leaders' approach and decision-making process. After the qualitative data was interpreted, it was used to further explain the quantitative strand. Statements in the interviews related to the quantitative findings and emergent themes were used to expand the knowledge related to the four-to-four-year transfer process among public institutions. The mixed-method integration part informs the outcomes related to the transfer process at these institutions, both at the state and/or national level.

### **Study Contributions**

This study provided information for state level decision makers to better understand and consider the efficacy of developing reciprocal agreements with other



states and/or national policies that support students in transferring to four-to-four-year institutions.

One of the strengths of this study is in utilizing mixed methods, which helps to mitigate the weaknesses of either qualitative or quantitative methodologies alone (Creswell, 2016). The advantage of using the quantitative analysis alone included the straightforwardness of the results. Further, the benefit of having a state-level adoption model for transfer policy lies in understanding the leaders' motivation on an interstate level, which helps in understanding the intrastate system process related to transfer policy adoption and implementation.

Another major contribution of this study was the event history analysis. The results of the event history analysis demonstrated how leaders (decision-makers) were making decisions and what factors affected their policy adoption in this arena and the leadership decision-making literature. Additionally, the conclusions section of this study contains recommendations for higher education policy leaders couched in the relevant leadership literature. These findings and recommendations further serve to inform the national conversation for leaders around postsecondary education.

In addition, the study focuses on the perspective of political leadership during the quantitative phase, and on the perspective of bureaucratic and administrative leadership during the qualitative phase. These two leadership approaches inform the endorsement that pushes the policy wheel to implement regulations on the intrastate and interstate levels.

By assessing both political and bureaucratic leadership perspectives, this study serves as a comparative nationwide analysis in this policy arena. The author's expectation from this study is that the findings will provide a useful resource for understanding what is influencing leaders in this policy arena and will encourage more leaders/decision makers to consider a nationwide credit transfer system.

## **CHAPTER IV: Data Analysis**

The results of the research data presented in this chapter provides a depiction of the function of the transfer policies across states and defines the factors that influence the decision of states to adopt a state-wide transfer policy. This chapter discusses an initial foundation and adoption of new (adjusted) transfer policies by American states relating to the national-level transfer system among public four-year institutions, as evidenced by an event history analysis model. The data analysis chapter (Chapter 4) will be divided into three phases: Phase I – quantitative data analysis; Phase II – qualitative data analysis; and Phase III – integration. The Phase I results section details the statistical results of the: 1) quantitative descriptive analysis; and 2) quantitative inferential analysis used to test two sets of hypotheses in the current study (including a correlation and event history analysis and logistic regression analyses). The Phase II result section covers: 1) the qualitative short interview data analysis; and 2) the qualitative long interview data analysis. Phase III talks about the integration section of the study. Following the results section, the final concluding chapter discusses the results in the context of the research questions, implications, future research, and study limitations.

### **Phase I – Quantitative Data Analysis**

#### **Descriptive Statistics**

Prior to conducting the statistical analysis, descriptive statistics of the study variables were examined. Reflecting on state policy and higher education, this study focuses mainly on the role of the states' decision-makers in the functioning of the transfer policies across states and in assessing the states' political and bureaucratic leadership perspectives. This decision is because the states' political and bureaucratic leaders play

the primary role in shaping transfer policy for higher education, and, as such, play a vital role in shaping the discussion around the development of a national-level transfer system among public four-year institutions. This study also examines the factors that influence the state leaders' decision to adopt/not adopt a state-wide transfer policy. This study focuses on trends for public institutions of only four or more years because these are the areas that fall most directly within the ambit of state policy. In addition, the policy implications for students who transfer between four-year institutions to those who transfer from two-year to four-year institutions are quite different and the major paucity is in the transfer process between four-year public institutions. That's why this study focuses only on transfers between public four-year institutions.

Table 7 provides a detailed look at the sample size, the mean, and the standard deviation for all study variables.

Table 7: *Descriptive Summary for Study Sample*

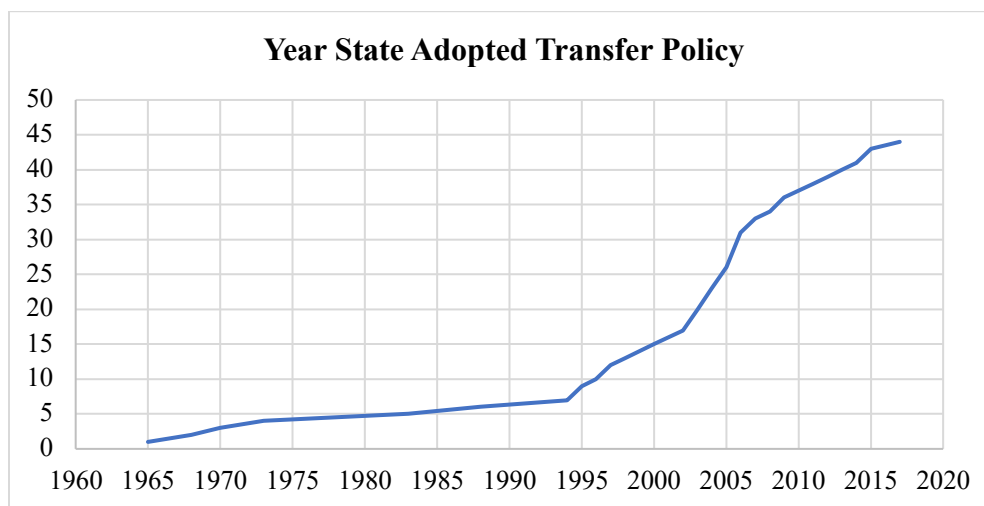
Variable	Label	All States			
		Count	%	Mean	SD
Total		50	100%		
Adoption of State Legislation					
Agreements	- Not Adopted State Legislation Agreement	32	64%		
	-Adopted State Legislation Agreement	18	36%		
State Motivation to Advance the Legislation					
	Low	26	52%		
	High	24	48%		
State Financial Aid Policy					

State Political Orientation	No Existing Financial Aid Policy	42	84%		
	Existing Financial Aid Policy	8	16%		
	0-100 scale				
	Conservative-oriented States	31	62%		
	Liberal-oriented States	13	26%		
	Swing States	6	12%		
Expenses of Public Postsecondary Institutions in every State regarding Academic Student Service (includes: academic standing, transfer agreements, and academic success programs)				\$303,92	\$397,07
Transfer Students	2018 Fiscal Year			6.38%	1.70%
Per Capita Control	2018 Fiscal Year				
Total		50	100%		

### Adoption of State Legislation Agreements

As shown in Figure 4, the first transfer policy was adopted in the state of Texas in 1965 and then a period of steady adoption began with more frequent adoptions occurring in the states during the early 2000s. The peak adoption years were in 2003 and 2006. Every year, most states renew the adopted transfer policy while other states will advance the policy or delay the renewal process. Figure 4 also refer to “S” curve theory (Rogers, 1983). The “S” shaped curve figure displays the adoption of policy by year among the 50

states. The “S” shape shows there is typically a few adopters at the beginning of the process who are then followed by most of the late adopters.



*Figure 4: Line Graph of the Cumulative State Adoption of Transfer Policy*

It is critical to highlight one more time in Chapter 4 that the transfer and articulations agreements are divided into four categories:

- The transferable core of lower-division courses
- State-wide common-course numbering
- State-wide guaranteed transfer of associate degree
- State-wide reverse transfer

Some states have already adopted all four categories, while others have adopted some of them or have adopted none. Looking at the list on the Education Commission of the States data, six states out of 50 have not adopted any categories of transfer policy, while seven states have fully adopted a transfer policy (full adoption includes state-wide reverse transfer, state-wide common course numbering, and state-wide guaranteed transferable credits and transferable core courses), and the remaining 37 states have

partially adopted a transfer policy (partially means the state has adopted at least one of four required transfer articulations). The "survivor" states (non-adopted states) are Connecticut, Delaware, Nebraska, New Hampshire, New York, and Vermont. Table 8 displays when states first adopted a transfer and articulation agreement in at least one of four categories.

Table 8: *States and the “Adoption Year of Any Transfer Credit Related Policy” (prior to and including 2018), Presented Chronologically*

Adopted Year	State Name	Adopted Year	State Name
1965	Texas	2006	Arizona
1968	Louisiana	2006	Georgia
1970	Virginia	2006	Hawaii
1973	Missouri	2006	Minnesota
1983	Tennessee	2006	Ohio
1988	California	2007	Montana
1994	Alabama	2007	New Jersey
1995	New Mexico	2008	Massachusetts
1996	Alaska	2009	Maine
1997	Kentucky	2009	North Dakota
1997	Nevada	2010	Arkansas
1998	South Dakota	2011	Michigan
2000	Maryland	2011	North Carolina
2000	Washington	2012	Kansas
2002	Florida	2013	South Carolina
2002	Pennsylvania	2014	Mississippi
2003	Indiana	2015	Rhode Island
2003	Oklahoma	2015	West Virginia
2003	Wyoming	2017	Wisconsin
2004	Colorado	No Mandate	Connecticut
2004	Iowa	No Mandate	Delaware
2004	Utah	No Mandate	Nebraska

2005	Idaho	No Mandate	New Hampshire
2005	Illinois	No Mandate	New York
2005	Oregon	No Mandate	Vermont

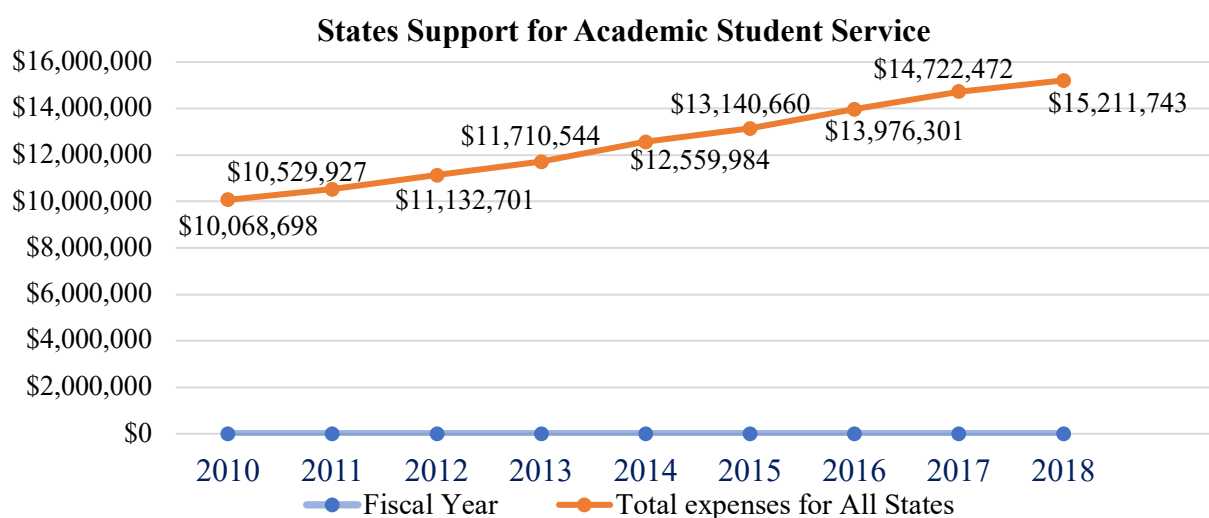
The policy implications for students to transfer from two-year to four-year institutions are quite different. The significant scarcity is in the transfer process between four-year public institutions. That's why this study focuses only on transfer policies between public four-year institutions. In addition, this study focuses only on the adoption of state-wide common-course numbering.

### **State Expenses toward Academic Student Service of Public Postsecondary Institutions**

Expenses of public postsecondary institutions is considered as one of the trend factors in state higher education finance. While important, a detailed look at higher education economic prosperity, in general, can show that states invest in higher education in three ways: 1) appropriations to institutions; 2) capital expenditures for institutions; and 3) support to students in the form of student financial aid (Delaney, 2014). It is essential to receive state financial support toward these three areas for innovation and development of higher education in each state (Delaney, 2014). This study reflects only academic student service expenses (which includes academic standing, transfer agreements, and academic success programs) for higher education. These expenses help to realize innovations and demonstrate the states' support for a clear transfer credit process within the public postsecondary institutions. Figure 5 displays the increase of all states' expenses for academic student services from FY 2010 to FY 2018. The academic student service expenses were spent collectively by states at an average of ten million dollars. By 2018, these numbers increased to more than fifteen million dollars,



respectively. The increase in expenses is driven in part by a relative decrease in the number of transfer students at four-year public institutions over the past eight years, which directly urges states to endorse legislation and articulation agreements related to student transfers, governing, and maintaining the state-wide transfer system with a focus on low- and middle-income students by providing a number of affordable options (Layton, Brawner, Mobley, & Shealy, 2013).



*Figure 5: Total Investment toward to Academic Student Service by All States*

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES, 2018).

Table 9 displays a comparison of fall enrollment for four or more years at postsecondary institutions from 2010 to 2018. In other words, it compares the number of transfer students enrolled in postsecondary institutions versus the number of students enrolled for four or more years at postsecondary institutions from 2010 to 2018

Table 9: *Total Number of Students Enrolled and Transferred in Four or More Years  
Postsecondary Institutions from 2010 to 2018 Who Were Transfer Students*

Fall Enrollment by Year	Number of transfer students enrolled in postsecondary institutions	Number of students enrolled in four or more years postsecondary institutions
2018	1,383,125	13,901,011
2017	1,369,397	13,825,659
2016	1,363,132	13,754,771
2015	1,423,992	13,489,100
2014	1,473,870	13,494,918
2013	1,481,204	13,406,446
2012	1,523,717	13,477,066
2011	1,547,436	13,499,983
2010	1,537,429	13,336,368

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall Enrollment component final data (2010 - 2017) and provisional data (2018).

Figure 6 demonstrates an individual state's expenses for academic student services (2018 fiscal year). According to the Figure 6, California, Texas, Florida, New York, Illinois, Michigan, Ohio, Wisconsin, New Jersey, and Maryland are the top 10 states with the highest academic student service expenses (between \$2,619,098 and \$430,413). California (enrollment – \$1,454,039; transfer – \$125,403); Texas (enrollment – \$1,007,975; transfer – \$71,847); Florida (enrollment – \$943,161; transfer – \$68,655);

and, New York (enrollment – \$956,864; transfer – \$60,951) also display the highest numbers of enrolled and transferred students in the 2018 fiscal year (Table 10).

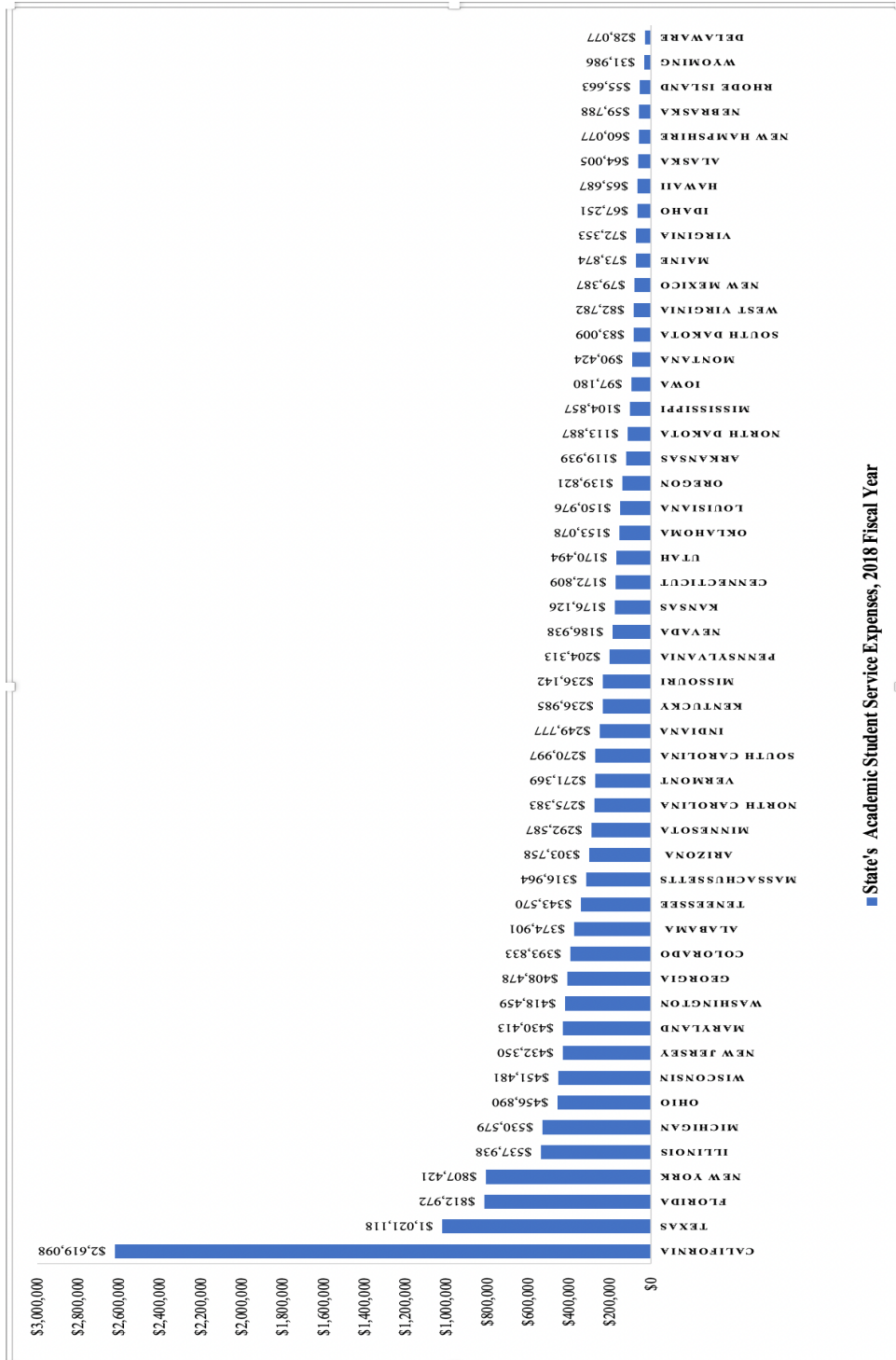


Figure 6: Academic Student Service Expenses State by State, 2018 Fiscal Year

Table 10: *Total Number of Students Enrolled and Transferred in Four or More Years  
Postsecondary Institutions State by State, 2018 Fiscal Year*

State Name	Total Number of Enrolled Students	State Name	Total Number of Transferred Students
California	1,454,039	California	125,403
Florida	1,007,975	Texas	71,847
New York	956,864	Florida	68,655
Texas	943,161	New York	60,951
Pennsylvania	564,711	Arizona	39,571
Ohio	473,047	Illinois	36,833
Illinois	451,776	Utah	30,070
Georgia	418,840	Georgia	26,725
Massachusetts	415,104	Michigan	24,512
Michigan	395,974	Colorado	24,117

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES, 2018).

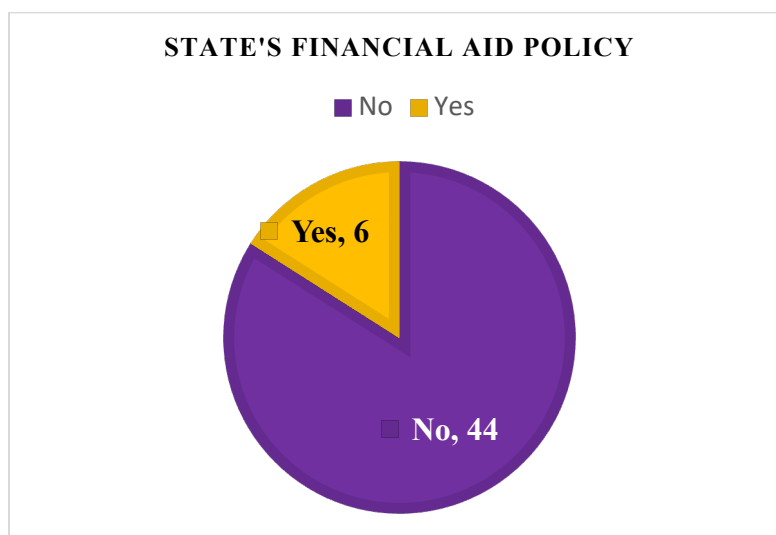
### **Presence of the State's Financial Aid Policy**

As noted earlier, to be most effective in transfer credit performance, states need a centralized, comprehensive, and integrated approach (Wellman, 2002). Unfortunately, the current varied state-wide governance structure and lack of coordination discourages students from transferring. Financial aid policy is one approaches to supporting, encouraging, and increasing student transfers (Wellman, 2002). Taking financial aid

policy into consideration, six states (Arizona, Florida, Massachusetts, Maryland, Texas, and Virginia) have accepted financial aid policies related to transfer students.

Understanding these financial aid policy initiatives is important, and to understand why states have implemented this policy, it is crucial to consider the specific factors that led states to be more or less likely to create this financial aid policy. Thus, financial aid policy provides a practical benchmark for our understanding of state investment in relation to low-income students and overall support for the state's postsecondary institutions. Financial aid for transfer students is aimed at helping students to financially recover from their lost credits and to encourage transfer students to continue their education in their new postsecondary institution. The success of the adoption of a new policy also depends on correct timing and how that state achieves its goal by appealing to other states. According to the National Association of State Student Grant and Aid Programs Annual Survey (2017-2018), six states (Arizona, Florida, Massachusetts, Maryland, Texas, and Virginia) offered financial aid specifically to transfer students. The Arizona Private Postsecondary Education Student Financial Assistance Program (PFAP) and the Florida Student Assistance Grant Public have been created to support these states' private four-year institutions. The annual award of PFAP is \$1,500 (\$750 per semester), and the total lifetime award is \$3,000. The Maryland Hope Community College Transfer scholarship (which is no longer accepting new candidates) and the Towards Excellence, Access and Success (TEXAS) Grant were created to support these states' low-income families as well as the states' workforce development. Thus, according to the requirement of the financial aid policy, annual family income may not exceed \$95,000, and the students must begin working within 12 months of graduation. The Massachusetts Tuition

Advantage Program (TAP) has been created to support the state's joint admission program and to encourage students to continue their education. The Virginia Transfer Grant Program has been created to increase diversity at the state's postsecondary institutions.



*Figure 7: Total Number of States with Adopted Financial Aid Policy*

### **State's Political Orientation**

It has been found that a state's political orientation can influence its commitment strategy to fund higher education (Li, 2017; McLendon et al., 2009; Tandberg, 2013). According to Li and Zumeta (2019), conservative states are more likely to maintain current funding to support higher education. In liberal-dominated states, higher education is more likely to receive increased financial support, as this is more coherent with the liberal philosophy of supporting higher education policy goals primarily through public sector institutions (Li & Zumeta, 2019). Liberal states support state innovation, such as advancing higher education policy and increasing higher education leaders. The data for state's political orientation variable drawn from Fording's State Ideology Dataset (2018).

In the NOMINATE version of the dataset, a state government's ideology indication corresponds with a theoretical expectation, and each score serves to accurately reflect a members' ideation (the data includes 2010-2017 years). The data was presented using a 0-100 scale with the higher numbers representing increasing liberalism (cut off number is 50. If the ideology indication number is higher than 50 considered more liberal; under 50 considers more conservative). This dataset constructed dynamic measures related to state ideology by using the "average location of the elected officials in each state on the same continuum" (Berry, Fording, Ringquist, Hanson, & Klarner, 2010, p. 117).

According to the Descriptive Summary for Study Sample (Table 7), in 2018, 31 states were conservative, 13 were liberal, and 6 were swing states. The swing states were North Carolina, New Mexico, Nevada, Pennsylvania, Rhode Island, and Virginia. These states are shifting to be more liberal every year.

## **Quantitative Data Analysis**

### **Inferential Statistics**

The findings partially supported the Hypothesis. Thus, according to the adoption formula, the motivation is only important factor to advance the transfer credit related policy and implementation.

### **Multicollinearity Assessment of the Data**

It is essential to evaluate the analytical model's robustness through analysis of how the independent variables correlate with one another. Variables that "overlap" means that they correlate with one another (Agresti & Finlay, 1997). Suppose more than two independent variables are correlated highly in a multiple regression model. In that case,

one can choose which of the highly correlated variables to include and then exclude the other(s) from the model. This situation, referred to as multicollinearity, can cause inflated standard errors for regression parameter estimates (Agresti & Finaly, 1997).

Multicollinearity can be problematic because it may generate results that end in an inaccurate description of the independent variables that affect the dependent variable.

There are multiple steps to test multicollinearity. These steps have proceeded in the event history data of adoption of transfer credit legislations. The following narrative and tables explain the multicollinearity test outcomes.

### **Correlation Matrix**

A correlation matrix identifies the first look at the data used in this study and is the first step to assess for multicollinearity. In this analysis, the data is reviewed if variables present a high level of correlation (e.g.,  $>.8$ ). The data set did not show any high levels of correlation. Meanwhile, a Pearson's  $r$  data analysis (Table 11) revealed the strongest statistically positive correlation exists between State's Motivation to Advance the Legislation (Legislative Changes) and Adoption of State Legislation Agreements ( $r=.63$ ) at the  $p<0.01$  level. State's motivation (Legislative Change) level to advance the legislation is an important determinant for the adoption of new policies by American states. Walker (1969) described states' motivation to adopt new policy as "policy innovation" (p. 881). Surprisingly, the "motivation to innovate" or "motivation to adopt new policy" variable for political and economic factors such as "Political Orientation" and "Budget for Expenses" were not significantly correlated with the adoption of state legislation agreements to transfer credits among public four-year institutions nationwide.



Interestingly, these variables are often statistically significant for policy adoptions in other public policy areas.

Consequently, the data set also demonstrated a moderate, positive correlation between Financial Aid Policy and Adoption of State Legislation Agreements ( $r=.29$ ), and also Financial Aid Policy and Motivation ( $r=.35$ ) on  $p=.05$  level. Policy design, and also the policy adoption process, varies in every state as it relies on several factors such as the “percentage of total appropriations allocated based on outcomes, the sectors and systems affected, and the specific outcomes or indicators” (Li, 2020, p. 315). In the face of increasing tuition fees, states’ financial aid policies work to promote liability and efficiency in the public higher education system and seeks to improve transfer student retention (Dougherty & Natow, 2015; Li & Zumeta, 2015 & 2016; Li, 2020).

Table 11: *Correlations Study Variables*

	1	2	3	4	5	6
1. Adoption						
2. Motivation (Legislative Change)	.63**					
3. Financial Aid Policy	.29*	.35*				
4. Political Orientation	-.21	.08	-.13			
5. Budget for Expenses	-.04	.25	.17	.19		
6. Transfer Students per Capita	.10	.22	.20	-.09	.24	

Notes: N= 50 states, \* $p < 0.05$  \*\* $p < 0.01$

### **Tolerance and Variance Inflation Factor (VIF) Statistics**

After completing the first step, the correlation matrix, it is essential to conduct a couple more tests to check for multicollinearity problems. Linear regression analysis was

included to further execute additional multicollinearity diagnostics for this study. Since the predictors are the only concern, any form of regression analysis for multicollinearity diagnostics is allowed and the output information is ignored. As a second step, a linear regression analysis is performed to assess the tolerance and variance inflation factor (VIF) statistics for the model. If the tolerance value for any variable is less than 0.10, there may be a problem with multicollinearity (Eckles & Stradley, 2011). As shown in Table 12, none of the variables have tolerance values less than 0.10; therefore, no variable appears to signify a problem with multicollinearity.

Table 12: *Tolerance and Variance Inflation Factor (VIF)*

Variable Name	Tolerance	VIF
Motivation (Legislative Changes)	.82	1.22
Financial Aid Policy	.83	1.20
Political Orientation	.91	1.09
Budget for Recourses	.86	1.16
Percent of Transfer Students Per Capita	.89	1.13
Dependent Variable = Adoption		

### Condition Index and Variance Proportions

The calculation of the data's condition index and the variance proportions is the last analysis needed to check for multicollinearity problems. A condition index over 30 may signify an issue with multicollinearity and require additional assessment. If additional assessment is needed, the variance proportions will be tested to determine if

any two variables have a variance proportion greater than 0.75 which would indicate a problem with multicollinearity. As displayed in Table 13, none of the variables have a condition index of over 30; therefore, none of the variables have multicollinearity problems.

After evaluating the multicollinearity test findings, none of the study variables displayed multicollinearity issues in any of the conducted tests. Therefore, it is concluded that there are no multicollinearity concerns that exist in this study.

Table 13: *Condition Index and The Variance Proportions*

Variance Proportions					
Condition Index	Percent of Transfer Students Per Capita	Budget for Resources	Political Orientation	Financial Aid Policy	Motivation (Legislative Changes)
1.00	.00	.02	.01	.01	.00
2.35	.00	.00	.02	.77	.00
2.96	.00	.92	.00	.03	.00
5.13	.05	.01	.84	.12	.03
8.20	.25	.00	.01	.05	.85
13.10	.69	.05	.12	.02	.11
Dependent Variable = Adoption					

## Model Assessment

In this section, the hypothesis proposed in this research are interpreted and discussed with regards to the results of the event history analysis. The proposed hypothesis is below:

*Hypothesis:* The adoption of state articulation agreements is influenced by legislative changes, the financial aid policy approach (only for transfer students), and the state's political orientation and resources.

### Binary Logistic Regression Formula

$$\text{ADOPT} = \exp (\beta_0 + \beta_1 \text{MOTIVATION} + \beta_2 \text{RESOURCES/BUDGET} + \beta_3 \text{IDEOLOGY} \\ + \beta_4 \text{FINANCIAL AID POLICY} + \beta_5 \text{TRANSFER STUDENTS PER CAPITA}) \\ / 1 + \exp (\beta_0 + \beta_1 \text{MOTIVATION} + \beta_2 \text{RESOURCES/BUDGET} + \beta_3 \text{POLITICAL} \\ \text{ORIENTATION} + \beta_4 \text{FINANCIAL AID POLICY} + \beta_5 \text{TRANSFER STUDENTS PER} \\ \text{CAPITA}) + \text{Error}$$

$\beta_1$  is the regression coefficient for motivation;  $\beta_2$  is the regression coefficient for resources;  $\beta_3$  is the regression coefficient for political orientation;  $\beta_4$  is the regression coefficient for financial aid policy; and,  $\beta_5$  is the regression coefficient for transfer students per capita.

An event history analysis was conducted using logistic regression in SPSS. To review, the logistic regression tests the theoretical factors of policy adoption based on the following factors: 1) motivation (legislative changes) to adopt; 2) resources available to overcome obstacles to adoption; 3) the political orientation of the state toward such adoption; 4) financial aid policies to facilitate adoption; and 5) external influences — in

this case, the percentage of transfer students per capita. The following section offers a description of the findings for each factor, followed by a discussion.

The event history analysis was conducted via logistic regression since the dependent variable (adoption) is binary. A logistic regression analysis was conducted to explore the question: "What factors are important to the adoption of a policy when providing an effective transfer credit process?" The predictor variables — State Motivation to Advance the Legislation, State Financial Aid Policy, State Political Orientation, State Budget, and Percentage of Transfer Students Per Capita — were tested to ensure there was no violation of the assumption of the multicollinearity (Correlation Matrix, VIF statistics, Condition Index and Variance Proportions Tested; Tables 11-13). The logistic regression analysis found that the predictor variables State Motivation (Legislative Change) to Advance the Legislation and State Political Orientation contributed to the model.

Table 14: *Logistic Regression Coefficients*

Predictor	<i>B</i>	<i>SE B</i>	<i>Wald</i>	<i>O.R. [95% CIs]</i>	<i>Sig.</i>
State Motivation (Legislative Change)	4.85	(1.41)	11.80	127.79 [8.03, 2034.54]	.001**
State Financial Aid Policy	.17	(1.33)	.02	1.19 [.09,15.10]	.90
State Political Orientation	-1.27	(.64)	3.85	.28 [.08,.10]	.05*
State Budget	-.00	(.00)	.95	.99 [.99, 1.00]	.33
Percent of Transfer Students Per Capita (Control Variable)	-.19	(.31)	.38	.82 [.45, 1.52]	.54

Constant	-4.93	(2.66)	3.42	.06
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Notes: N = 50 states, \*p < 0.05 \*\*p < 0.001

Dependent Variable – Adoption of Policy

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### **Adopting Transfer-Related Policy**

The following is a description of the findings that test the adoption of policy (or Advance the Legislation) variable. This description is then followed by a discussion that addresses both hypotheses simultaneously.

### **Legislative Changes (in the event history analysis tagged as State Motivation)**

Coefficients are shown in Table 14. According to the coefficient table, the state's motivation is an important factor in the adoption of a transfer policy, and it is statistically supported ( $p=.001$ ). A Beta of 4.85 indicates a positive relationship between the state's motivation to advance the legislation and the state acting to adopt the new transfer policy. Specifically, the odds of the state choosing to adopt a transfer-related policy are approximately 127.79 times better if the state is motivated by external factors. The fact that the boundary of the confidence interval is so large (ranging from 8.03 to 2034.54) means there is uncertainty about its exact magnitude. In other words, the significance and positive relationship of this interval indicates that it has an effect on the state's motivation to advance the legislation and adopt a new transfer policy. However, it is hard to say how significant that effect is on the state.

Table 15: *Omnibus Tests of Model Coefficients, Block 1*

-2 Log Likelihood	Overall (Score)		
	Chi-square	Df	Sig.
32.37	30.32	5	.00
<i>Beginning Block 1. Method = Enter</i>			

As presented in Table 15, the -2 log likelihood value is 32.37. While this number is greater than zero, it is difficult to assess the meaning of the score and the goodness-of-fit for the statistical model because the -2 log likelihood is a relative fit measure, meaning the value can only be compared between different (i.e., multiple) models. It cannot be meaningfully interpreted for a single model.

In a separate analysis, a chi-square test of independence was calculated to compare the frequency of motivation to adopt/update the related transfer policy against the adoption levels of transfer policy within state legislation agreements. The formula for Chi-Square is:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

The subscript “ $\chi^2$ ” is chia squared, “c” is the degrees of freedom, “O” is the observed value and E is the expected value.

The chi-square result shows that, with 95% confidence, a relationship does exist between the motivation (legislative changes) to adopt/update related transfer policy against the adoption level of the state legislation agreement ( $\chi^2(2) = 21.27, p < .001$ ). Based on these results, it could be determined that the adoption of state articulation

agreements is influenced by the state's adoption motivation, and the likelihood of the state's adoption of a new transfer policy rate increases as the state's motivational level changes.

### **State Financial Aid Policy**

The state financial aid policy is least likely to be an important factor in adopting a policy. It is not statistically significant ( $p = 0.90$ ). Therefore, the likelihood of a state adopting a new transfer policy is arguably not affected by the state's financial aid policy.

### **State Political Orientation**

The adoption of a transfer-related policy is more likely to be enacted in a state as the rate of state government liberalism increases. The variable State Political Orientation is statistically significant at  $p < 0.05$ . Thus, the state's political orientation is associated with the likelihood of a state adopting a new transfer policy. However, a beta of -1.27 indicates a negative relationship between a state government's political orientation and the adoption of a policy. As indicated by the odds ratio, for every one-unit decrease in the Political Orientation variable (the score on a 0–100 scale of state political orientation), the state is 0.28 times less likely to adopt the new policy. In other words, for every one-unit decrease in the Political Orientation variable, the odds of adoption decrease by 72% ( $1.00 - 0.28 = 0.72$ ).

Using chi-square, the results display that, with 95% confidence, a relationship does not exist between a state's political orientation and the adoption level of transfer policy within state legislation agreements ( $\chi^2(4) = 2.73, p=0.60$ ). This does mean, however, there is a relationship between political orientation and adoption. Yet, when we



look closely at the data (the group of the political orientation variable), this relationship is weak, and there is insufficient evidence to claim that the model does not fit the data adequately.

### **State Budget**

The likelihood of a state adopting a transfer-related policy is not influenced by the state's budget because it is not statistically significant ( $p = 0.33$ ). Thus, the likelihood of a state adopting a transfer-related policy is not affected by a decrease or increase in the state's budget.

### **Percent of Transfer Students Per Capita**

The likelihood of a state adopting a transfer-related policy is not influenced by the percentage of transfer students per capita because it is not statistically significant ( $p = 0.54$ ). Thus, the likelihood of a state adopting a transfer-related policy is not affected by the number of transfer students in the state.

### **Discussion of Quantitative Study Results**

Of the five variables that test the “adoption of transfer policy” dependent variable, two variables are statistically significant: state motivation and policy orientation. State motivation (Legislative Changes variable) is positively statistically significant. For many states, observing the success of their neighboring states increases their motivation to advance their state legislations. The states get more receptive to the adoption of a new policy and eager to design and improve upon its predecessor. State legislators, especially motivated legislators, play a key role in policy discussions by collaborating on various postsecondary sectors to focus on the challenges and prospects of transfer policies

(National Conference of State Legislatures, 2013). Motivated legislators play an important role in the passage of a state-wide policy (National Conference of State Legislatures, 2015). For example, in Louisiana, State Senator Ben Nevers initiated the development of a state-wide transfer policy by sponsoring 2009's Act 356. Meanwhile, the Louisiana Board of Regents collaborated with legislators and the Southern Regional Education Board to craft a State-wide Articulation and Transfer Council. The council engaged faculty members in designing the intricate details of the transfer.

It is not surprising that the data displays that those states that did not adopt any transfer policy for students transferring from a four-year institution to a four-year institution had low motivation. At the same time, those states that adopted the transfer policy had high motivation.

The second "adoption of transfer policy" variable that is statistically significant is political orientation. According to the Descriptive Summary for Study Sample drawing from 2018 (Table 7), 31 states were conservative, 13 were liberal, and 6 were swing states. Table 14 "Logistic Regression Coefficients" says the political orientation variable is statistically significant at  $p < 0.001$  on their variable, with a beta of -1.27 indicating a negative relationship between the state government's political orientation and the adoption of the policy. While I expected to find that Democratic-liberal governments were more likely to adopt a new transfer credit-related policy, it was liberal states that supported state innovation, such as advancing higher education policy and increasing higher education leaders.

Generally, united governments have been shown to be more welcoming to the pathway of higher education finance amendments (Lacy & Tandberg, 2014). In a separation of powers system, a divided government poses further challenges to the passage of legislation (Alt & Lowry, 2000). Divided governments face the most conflicts because political parties have divergent preferences that limit the ability to authorize innovative legislation (Huber, Shipan, & Pfahler, 2001). Consequently, the political orientation variable is statistically significant with a negative coefficient, which means the state's adoption of transfer policy becomes less likely as political orientation changes.

Surprisingly, the state financial aid policy, state budget, and transfer students per capita variables were not statistically significant for "adoption transfer policy." Interestingly, these variables are often statistically significant for policy adoptions in other public policy areas.

Furthermore, according to Berry & Berry (1992), the neighbor-to-neighbor states positively influence each other. However, this positive influence should not be assumed equal for every state and should be considered during the adoption/advance of the policy, specifically related to transfer credit. Table 5a confirms that the amount of influence a state has on another state differs according to the state's type of agreement.

In conclusion, by answering the quantitative research question, the states' motivation factor is essential to adopting a policy when providing an effective transfer credit process.

## Phase II - Qualitative Content Analysis

Consistent with the quantitative analysis of the adoption of transfer policy, this study employed semi-structured interviews to explore the following qualitative research questions: What kind of articulation agreements and guidelines are currently governing transfer processes at the state level?; and, What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system? Interviews were particularly beneficial when a member's performance was not directly noticeable and could reveal that member's standpoints and actions. Especially, semi-structured interviews were most valuable when "specific information [was] desired from all the respondents," yet various perceptions were also critical (Merriam, 2009, p. 90).

Driven by the study's research question, I drafted interview questions that could gather a baseline of information that was not available in the quantitative data. It was critical to craft questions on these themes from multiple angles to increase the likelihood of data saturation wherein reoccurring themes may then emerge within and across interviews. It was also important to create prospects for triangulation of these perspectives within each interview and across interviews (Merriam, 2009). Sample interview questions are given in Appendix A.

Upon receiving approval from the Office of Human Subjects (Appendix E), I contacted the subjects using an introduction email with an informed consent form attached (Appendix F) and requested the subject to participate in the study. The participants confirmed the consent form prior to the interview.

Data collection took place in two phases (see Figure 3). The first phase was a series of short interviews with state-level actors from each of the 50 states. I acquired the state leaders' contact information from the State Higher Education Executive Officers

Association (SHEEO) website, of which the state leaders are members. SHEEO "serves the chief executives of state-wide governing, policy, and coordinating boards of postsecondary education and their staffs" (SHEEO, 2020) (please see *Appendix C - Postsecondary Governance Structures*). Interviews ranged from 15 minutes to 30 minutes, and I took notes throughout all interviews. Interviews were audiotaped with the participants' permission and later transcribed. Given the pandemic situation, some of the states' representatives were working from their home office. Thus, some interviewees responded to the questions via email. The response rate for the short interview was 64% (32 out of 50 states responded, please see Appendix D). The second phase had more in-depth interviews with high performers. Five states were identified and categorized for the in-depth interviews based on the quantitative analysis as well as the transfer student enrollment rate and adoption of the four categories of transfer and articulation agreements (the transferable core of lower-division courses; state-wide common-course numbering; state-wide guaranteed transfer of associate degree; and state-wide reverse transfer). These states are Arizona, Colorado, Florida, Texas, and Utah. The response rate was 40% (Colorado and Utah's representatives responded).

### **Content Analysis – Short Interview**

During the quantitative analysis, the study variables represented the factors that influence a state's decision to adopt transfer credit related policy. Meanwhile, in the qualitative analysis, the state leaders' viewpoints and concrete actions on the seamless transfer system were examined. In this study's analysis, I discuss the practical politics behind providing a seamless transfer system, both inter- and intra-state. I also determine state leaders' role within, and the agreements that support, a smooth transfer process. I

then summarize and discuss the qualitative analysis results and compare them in a review of the literature.

I started the data analysis stage through open coding of the transcripts. An open code is supported by at least one unit of data, defined as "any meaningful (or potentially meaningful) segment [of text]" (Merriam, 2009, p. 176). Each unit must "reveal information relevant to the study and stimulate the reader to think beyond that particular bit of information" (Lincoln & Guba, 1985, p. 345).

In this phase, I read through each transcript from the 32 state representatives' interviews, cross-referenced these with my own notes, and classified certain phrases and concepts. This meant crafting a list of informal codes, keeping in mind the study's theoretical framework and research question.

In the second phase, I used analytical coding, where I created, entitled, and outlined categories, known as a "primitive outline or classification system" (Merriam, 2009, p. 181). To produce significance from the data, I compared these categories across participant interviews and grouped concepts to concentrate and refine the data (Miles et al., 2014). In other words, I cross-referenced across multiple interviews and "captured some recurring pattern that cuts across the data" (Merriam, 2009, p. 181). Generating this classification system postulated a concrete structure to continue the analytical process of using transcripts and notes to code the full 32 interviews. I categorized, uncategorized, and re-categorized new and existing codes and ensured triangulation of classifications and verified that each class covered a series of codes (Gagnon, 2010; Patton, 2003).

In the third and final phase, I identified fundamental components in the classifications and tested how these components concentrated the research questions of

this study in order to form themes. This pace characterized a shift from the primarily inductive to the primarily deductive phase of qualitative data analysis (Merriam, 2009), where "the researcher uses analytical constructs, or rules of inference, to move from the text to the answers to the research questions" (White & Marsh, 2006, p. 27). The purpose was to create a "logical chain of evidence" where associations among the classifications shaped themes (Miles et al., 2014, p. 290). Table 16 outlines the data analysis process by postulating examples of how open codes form groups, groups develop into themes, and themes are outlined.

*Table 16: Examples of Open Coding of Theme Development*

<b>Examples of Open Codes</b>	<b>Example of Categories</b>	<b>Themes</b>	<b>Description of Themes</b>
A Strong State for Transfer Policy, Monitoring Other States Policies, Decentralized Governance Structure	Effective Transfer Pathway, A Leader in Transfer Policy, Policy Practices, "Model States" Vs "State by State Comparative Outcomes"	States' transfer policy design and implementation	Mechanisms of policy design and implementation that affect impacts or application Q. 2
A state agency leads higher education policy and implementation, Appointed board members, Elected board members, Governor authority	Independent Agency, Semi-independent Agency State Agency, Coordinating board, Voluntary Group, Governing Board, Executive Branch Agency	Systems Leadership	Represents states' system and displays the strength of the relationships on a government level to solve problems that are too big and complex Q3 & 6
A large-scale consolidation, under developing strategic plan, transfer and articulation remains a critical issue	Seamless transfer legislated, Robust transfer system.	States' motivation	Represents how the states prioritize the transfer credit process on a government level Q. 5

A small budget for coordinating policy, Salaries for individuals, Budget exception requests to manage the ongoing costs, Budget to maintain the state course transfer portal.	Dedicated Budget, Discretionary Funding, Registration Funds, Specific State Budget,	Resource – Budget Development	Representing the states' spending plans for transferring credit process in resource terms to reflect the total cost of its activities Q.7
A state-wide faculty-driven transfer initiative, Full-time staff members. Dedicated to transfer issues, SHEEO agency staff support, Collaboration with faculty and administrators at institutions of higher education	Faculty involvement, Dedicated full and part time staff, Agency support approach, Team approach,	Resource Allocation	Representing the states' employee resource on supporting transfer credit policy issues Q4

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### **Qualitative Strand Trustworthiness.**

My previous content knowledge, work experience, and scholarly works are favorable to this research and its outcomes. Researcher bias threatened this research, as the researcher created the list of survey questions. To help mitigate this bias, the semi-structured interview questions were submitted to my advisor and the transfer policy expert in Washington, D.C. for feedback and discussion before the final survey development. This feedback particularly requested both experts to suggest any additional questions that respondents should be asked.

Lincoln and Guba (1985) describe various approaches to increase qualitative research's trustworthiness: "Credibility, transferability, dependability, and confirmability often substitute for internal validity, external validity, reliability and objectivity used in qualitative research" (Lincoln & Guba, 1985). Credibility occurs when the data is



credible from the study participants' standpoint (Lincoln & Guba, 1985). Once the initial set of interview questions was developed to collect qualitative data, it was submitted for review to my advisor and one expert in qualitative studies and transfer policy. The comments and feedback were instructive. The questions were edited relative to their comments and feedback, and my advisor and the expert recommended changing the questions' sequence and clarifying the interview process. My advisor also recommended additional context. She wanted clarity on the second phase of interview questions and suggested combining two questions from the first phase, as the second question seemed to be a follow-up to the first one.

Further ways of establishing trustworthiness, transferability, dependability, and confirmability, was to concentrate more on procedures during and after data collection. Transferability refers to acknowledging the outcomes as appropriate within similar contexts (Merriam & Tisdell, 2016). I applied the principles of maximum variation (Merriam & Tisdell, 2016). This included contacting as many various state representatives as possible. Dependability, or consistency, refers to post hoc results. Ultimately, confirmability involves a peer review of protocols, transcripts, coding and analysis, and interpretation during interviews (Merriam & Tisdell, 2016). In my dissertation, some options were limited; however, I triangulated my qualitative data with recent literature.

### **Data Analysis**

To remind the reader, this study posed the following research questions:

“What kind of articulation agreements and guidelines are currently governing transfer processes at the state level?”; and “What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system?”

This study identified five themes: states' transfer policy design and implementation; systems leadership; states' motivation; resources & budget development; and resource allocation; please see Table 16. These themes were used to explore how transfer policies across states are functioning and to determine states' actions regarding postsecondary transfer policy. I interviewed one representative from each state, so the study is not anonymous. However, I will only mention the states' names, and the interviewee's name will not be mentioned.

### **States' Transfer Policy Design and Implementation**

The first theme concerns the states' policy design and implementation and primarily explains how policy design and implementation works within, and differs among, each state. Provisionally, the study will explain the difference between the model and neighbor state theory. The question asked to the state representative under this theme was: Which state or states do you identify as a leader in transfer policy?

As mentioned in the theoretical review, a leader model in system theories assumes that, under two behaviors, certain states are inventors in policy adoption, and other states follow these leaders (Walker 1969, p. 893). Several scholars (Walker 1969 & 1973; Grupp & Richards, 1975; Foster, 1978) agreed and stated that systems leadership is local, and one or more states are always creators within the region. Being creators or developers brings about high prestige in any policy arena, and the follower states are in a learning process (Sabatier, 2007). For example, the Iowa state representative said:

“Florida is often considered a strong state for transfer policy because of the mandates in place. I also know that some effective work has occurred in Indiana and Kansas. We are all learning from each other, though.”

The Washington state representative said:

“There are likely many more, but the [leader] states [of the transfer credit system] that immediately come to mind are: Illinois, Indiana, Ohio, Colorado, Arizona, Florida, Hawaii, Tennessee.”

And the Utah state representative said:

"We've been looking a lot at the transfer pathways and policies designed by Pennsylvania, New York, and Washington."

Knowing the characteristics of these states, such as which are leader and follower states, allows representatives to explore more deeply that states' achievements in, and implementation of, transfer policy and to determine key elements that could serve to create a seamless transfer system. In 2016, Hodara, Wenzl, Stevens, and Mazzeo, in their scholarly article, emphasized that a continuous evaluation of state-level and system-level transfer policy reforms is important and that extensive policies' implementation will be helpful to reach the goal of transparent and seamless transitions. Furthermore, a study by AASCU Government Relations and Policy Analysis Division (2019) reflected on the vitality of effective public policy in higher education in creating a high-quality, affordable, and accessible American public higher education system. Table 17 displays the standpoint of all interviewed state representatives regarding the leader and follower state concept.

Table 17: *States Response on Which States They Consider Leader States on Transfer Policy*

State	States' responses: Considering Leader States on Transfer Policy
Alabama	"Alabama"
Alaska	"Alaska does not track which state(s) is currently a leader in transfer policies"
Arizona	"Arizona"
Arkansas	"All have a different policy"
California	"California"
Colorado	"Colorado, Florida, Indiana, and Kentucky" states
Connecticut	"Washington State, Minnesota, Georgia, and Maine states
Delaware	"Not monitoring other state's policies"
Idaho	"Idaho"
Illinois	"Illinois and California"
Iowa	"Florida, Indiana, and Kansas"
Kansas	"Colorado, Ohio, Pennsylvania, Connecticut, and Tennessee"
Massachusetts	"Colorado and Tennessee"
Michigan	"We don't identify ourselves directly with any other states"
Minnesota	"Colorado, Florida, and Texas"
Nebraska	"Florida, Missouri, Indiana, Ohio, and North Carolina"
Nevada	"Ohio"
New Hampshire	"New York and California"
New Jersey	"New Jersey"
New York	"Our office has not performed an analysis of which states are leaders in transfer policy."
North Dakota	"Minnesota, Ohio, and Hawaii"
Oklahoma	"Most states are in a similar position when it comes to course transfer"
Oregon	"Kansas, Illinois, and Florida"
Pennsylvania	"Florida"
Rhode Island	N/A
Utah	"Pennsylvania, New York, and Washington"
Vermont	"Massachusetts and Vermont"
Virginia	"Florida, New York, and California"
Washington	Illinois, Indiana, Ohio, Colorado, Arizona, Florida, Hawaii, and Tennessee"
West Virginia	"Ohio and Tennessee"
Wyoming	"Washington, Georgia, and maybe California."

To continue discussing the follower and leader state concept, the two factors that should be considered when identifying states as a leader in transfer policy must first be mentioned. The first factor is called the "neighbor-to-neighbor model." Berry and Berry (1992) explained in their neighbor-to-neighbor influence model that positive diffusion pressures observers between contiguous neighbors. Accordingly, if a state is bound by less innovative neighbors, then it will appear less innovative than a state surrounded by more innovative neighbors. Although states influence other states, it cannot be assumed that states influence all their neighbors equally (Berry & Berry, 2007). Hence, leader states adopt new policies despite the lack of diffusion pressure and less innovative neighbor states (Berry & Berry, 2007). (See also Table 5 and Table 5a, where Berry and Berry (1990) define each state's neighboring states.) The second factor is the "model state." The model state's policy and implementation are the best practices (models) for other states (Sabatier, 1999). The Oregon representative echoed this sentiment regarding these factors, noting both the neighbor-to-neighbor model and the model state:

Kansas, Illinois, and Florida are considered as leader states [for Oregon]. When identifying states that are leading in transfer policy [Oregon] Higher Education Coordinating Commission (HECC) has considered two factors: 1) State-by-state comparative outcomes. One useful state-by-state comparison from Community College Research Center. 2) When the HECC examines 'model states' for best policies and practices, we also take into consideration states with similar governance and performance-based funding structures to Oregon, for example, Illinois.

According to Table 17, we can conclude that California, Florida, Ohio, and Indiana are model states. Specifically, Florida is a great model state with its transfer policy and best practices regarding transfer credit procedures. Eight states in total mentioned Florida when I asked which state is a leader in transfer policy. Meanwhile, the Iowa state representative highlighted the following: "I'll hasten to say that I don't think there is a state with ideal conditions. We are all learning from each other, though." The Oklahoma representative said: "It appears that most states are in a similar position when it comes to course transfer. We all work hard to give students the credit that they deserve."

As stated in the literature review, a critical component of a seamless and transparent credit transfer process from one institution to another, both in-state and across states, is that institutions recognize and accept the potential credits (i.e. establishing a "no loss" credit philosophy). Indeed, it is critical to highlight how every state's rule and transfer process does not align and to show students how best to navigate that transfer system. This system includes a recently adopted system-wide rating for transfer pathway complexity (Hodara, Wenzl, Stevens, & Mazzeo, 2016). Almost all interviewees echoed the same message regarding the difference between every state's rule and transfer process. For example, a representative from Arkansas shared that "All [states] have different policies" while a representative from Michigan highlighted that "Given Michigan's extremely decentralized governance structure, we don't identify ourselves directly with any other states." The difference in the states' structures and rules plays a crucial role in getting states to adopt a nationwide transfer system. However, despite the complexity of such differences, the approaches that conditions take are similar, such as

approving and reviewing academic programs and coordinating postsecondary institutions (Bastedo, Altbach, & Gumport, 2016; McGuinness, 2016).

On the other hand, interviewees also recognized positive progress on recent transfer policy design at the state(s) level. Interviewees were particularly enthusiastic about this policy advancement. For example, a representative from New Jersey indicated: “In recent years, New Jersey has two state-wide transfer agreements (“Lampitt Law”) that are mandated by state law. This leads to a robust and effective transfer pathway for many students in the state”.

And an Oklahoma representative said that: “Oklahoma is in the final stages of developing a searchable course transfer inventory which should be launched within a month to make the search process easier for students.”

### **Systems Leadership**

The second theme discovered through this study was the government’s systems leadership. This theme displays the strength of that relationship, on a government level(s), to solve problems that are large and complex. The question asked from the state representatives under this theme was: “Where is your office located within state government?” Where does the transfer policy decision originate in your state? Your office? Elected leaders? State higher education institutions?

The systems leadership theory-model encourages decision-makers/leaders to find solutions. As mentioned in the literature review, the intention of systems theory is to advance an objective and establish an understandable setting for decision-making. If the system within which leaders make the decisions can be provided as an explicit framework, then such decision-making should be easier to handle (Johnson, Kast, &

Rosenzweig, 1964). Systems theory can demonstrate the multifaceted web of relations within procedure as a system evolves and shifts towards its goals. Systems leadership promotes innovation, awareness, confidence, and collaboration that assists in transforming individual systems components and systems-wide dynamics (Dreier, Nabarro, & Nelson, 2019). The authors Dreier, Nabarro and Nelson (2019), presented the key elements of the systems leadership as: the individual (trust-building); the community (develop alignment and mobilize action among stakeholders in the system); and, the system (shaping the challenge to be addressed). As highlighted in this study's literature review, systems leadership will be framed within both the institutional-, state-, and nation-wide transfer systems level (Sabatier, 1999). Table 18 demonstrate the interviewees' office location within the state government which clearly explains the systems leadership association inter- and intra-states. As Table 18 shows, some states have state agencies (for example: Colorado, Iowa, Vermont, Rhode Island and Washington state), other states have independent agencies (for example: Alabama, Michigan, and Nevada), and some have executive branch agencies (Kansas, Massachusetts, New Jersey, New Hampshire, Oregon, Utah, Virginia, and Washington). The definition of the "state agency," "independent agency," and "executive branch agency" are described below:

"State agency means any of the principal departments in the Executive Branch of the State Government, and any division, board, bureau, office, commission or other instrumentality within or created by such department, the Legislature of the State and any office, board, bureau or commission within or created by the Legislative Branch, and any independent State



authority, commission, instrumentality or agency” (Law Insider Dictionary).

“Independent agencies of the United States federal government refer only to those independent agencies that, while considered part of the executive branch, have regulatory or rulemaking authority and are insulated from presidential control, usually because the president's power to dismiss the agency head or a member is limited” (Breger & Edles, 2015).

“An executive agency, in the context of administrative law, is a federal agency that is housed under the Executive Office of the President or one of the 15 Cabinet departments within the executive branch. There is no definitive number of executive agencies” (Ballotpedia, Encyclopedia of American Politics).

Leaders from these three groups (as listed above) must corporate in order to create state-wide leadership policy. As an example, from the state agency, leadership would include the chairs of the state higher education boards, state coordinating board executives (where applicable), the system’s chief and institutional executives. From the legislative branch, leadership would include legislative leaders from both House and Senate and the majority and minority (especially the chairs and ranking members of the appropriations and higher education committees in both the Senate and House). And, from the executive branch, leadership would include the governor and state budget director officials who are responsible for overseeing economic development and workforce strategies (Education Commissions of the States, 2016).

Table 18: *The Interviewee's Office Located Within the State Government*

State	States' responses: The interviewee's office located within the state government
Alabama	Independent Agency
Alaska	Alaska Commission on Postsecondary Education, under the Alaska Department of Education and Early Development (DEED).
Arizona	Arizona Board of Regents
Arkansas	Office of Division of Higher Education in Arkansas Department of Education
California	California Community Colleges Chancellor's Office. CCCC reports to the Department of Finance, which reports to the Governor's Office.
Colorado	Colorado Department of Higher Education is a state agency, coordinating board- Colorado Commission on Higher Education is appointed by the Governor.
Connecticut	Connecticut State Colleges and Universities.
Delaware	Delaware Higher Education Office.
Idaho	The Office of the State Board of Education. It is an Agency of the Executive Branch in Idaho. The Board members are appointed by the Governor.
Illinois	The Illinois Board of Higher Education (IBHE). IBHE is a state-wide board and coordinating agency. The agency leads higher education policy and implementation and strategic planning for the Illinois Community College Board (ICCB).
Iowa	The Iowa Board of Regents (IBR). IBR is a state agency with Board members appointed by the governor and approved by the senate.
Kansas	In the Executive Branch but are not under the authority of the Governor (non-cabinet).
Massachusetts	The Massachusetts Department of Higher Education (MDHE). MDHE is an executive branch agency within the Executive Office of Education. The Department of Higher Education serves as executive staff to the Board of Higher Education.
Michigan	Independent Agency
Minnesota	The Minnesota State System of Colleges and Universities (MSSCU). MSSCU is a public system that receives limited oversight from the Minnesota Legislature and the Office of Higher Education. The system is not considered a state agency and is governed by its own Board of Trustees.
Nebraska	The Coordinating Commission for Postsecondary Education (CCPE). CCPE is a constitutional agency. Its members are appointed by the governor with legislative approval, but it is an independent coordinating body. It does not have governance authority over any of the system governing boards or institutional governing boards.

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Nevada	The Nevada System of Higher Education (NSHE). NSHE is the agency that oversees postsecondary education in Nevada. It is independent of the Executive Branch of government without own elected governing Board.
New Hampshire	University System of New Hampshire (USNH). USNH is a body politic and corporate with a governing board with broad authority to manage the property and affairs of USNH and its four component institutions, created by the state legislature, and separate from the executive branch of state government.
New Jersey	The New Jersey Office of the Secretary of Higher Education (OSHE). OSHE is an executive branch agency which develops policies designed to increase postsecondary education attainment for New Jersey residents, in alignment with the Governor's economic vision, as outlined in the State plan for higher education.
New York	The Office of Higher Education within the NYS Education Department. It carries out the NYS education policies related to higher education in NYS related to the pertinent education regulation and law.
North Dakota	North Dakota University Systems. In terms of where the North Dakota University System is located structurally in terms of governance, North Dakota has a stand-alone governing board with policymaking under the Board's purview.
Oklahoma	Oklahoma State Regents for Higher Education (OSRHE). OSRHE is a coordinating agency for all Oklahoma colleges and universities, with direct oversight of the State System of Higher Education (public institutions). It is also important to note that the Oklahoma board does not have an elected official. Oklahoma has a board of nine regents appointed by the governor and confirmed by the State Senate. The Board appoints the State System Head in the role of Chancellor for Higher Education.
Oregon	Oregon Higher Education Coordinating Commission (OHECC). OHECC is an agency of the executive branch, governed by a 14-member Commission with members appointed by the Governor, and for the case of the nine commissioners with voting privileges, confirmed by the Senate.
Pennsylvania	Cabinet Agency
Rhode Island	The Rhode Island Office of the Postsecondary Commissioner (RIOPC). RIOPC is a state agency, the administrative branch of the Council on Postsecondary Education.
Utah	The Utah System of Higher Education (USHE). USHE is a part of the executive branch and includes all of the public colleges and universities in Utah. Its governing board is the Utah Board of Higher Education.
Vermont	The Vermont State Colleges System (VSCS). VSCS is an instrumentality of the state but not located within state government. The State Agency of Education plays a limited role in post-secondary education in Vermont.

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Virginia	State Council of Higher Education for Virginia (SCHEV). SCHEV is an executive branch agency, with an independent board (the Council itself) that appoints the agency director.
Washington	The Washington Student Achievement Council (WSAC). WSAC is a state agency on the governor's cabinet.
West Virginia	West Virginia Higher Education Policy Commission (WVHEPC). WVHEPC is a semi-independent agency but report to the Governor's Office.
Wyoming	Wyoming Community College Commission (WCCC). WCCC is an executive branch. It has a seven-member commission who are appointed by the Governor and approved by the senate.

Following the systems leadership theme, the next question was asked to state representatives: "Where does the transfer policy decision originate in their state?"

Table 19 displays the type of agencies that were interviewed (explained in Table 18) and the interviewee's response on the transfer policy decision making authorities within that state.

Table 19: *The Interviewee's Responses on Transfer Policy Decision Originate*

State	Interviewee's office located within the state government	Interviewee's Response on "Where does transfer policy decision originate in the states?"
Alabama	Independent Agency	Legislation Establish the Transfer Articulation Protocol.
Alaska	State Agency	Postsecondary Institutions
Arizona	State Agency	AZTransfer. It is a state-wide collaboration
Arkansas	State Agency	Office of division of higher education in Arkansas department of education and State higher education institutions.
California	State Agency	Mandated policy originates from new statute (Ed Code) from elected state leadership. Non-mandated policy originates from the Chancellor's Office.
Colorado	State Agency	All transfer policies are set in statute- the legislature- and policy development is grounded in legislative authority.

Connecticut	Executive Branch Agency	Most transfer policy is administered by a campus-to-campus basis. The most recent being the Transfer Articulation Policy (TAP).
Delaware	State Agency	Each institution has their own policy.
Idaho	Executive Branch Agency	The Office of the State Board of Education
Illinois	State Agency	State-wide transfer policies are developed collaboratively between the IBHE, ICCB, IAI, the public community colleges and universities, and elected leaders. Transfer policies are implemented at each institution according to its own policies, procedures, and practices.
Iowa	State Agency	Some transfer policy is in state law. Other pieces come from the universities themselves, or from the state Department of Education which oversees the community colleges in the state.
Kansas	Executive Branch Agency	Kansas Transfer and Articulation Council (comprised of university, community college, and technical college representatives) that advises the Board on transfer policies and practices.
Massachusetts	Executive Branch Agency	Transfer policy is set by the Board of Higher Education and developed by Department of Higher education staff in partnership with public institutions.
Michigan	Independent Agency	Transfer work is coordinated on a completely voluntary basis on the part of the Lansing-based higher education associations and their member institutions: the Michigan Community College Association, Michigan Association of State Universities, and Michigan Independent Colleges and Universities association.
Minnesota	Independent Agency	Transfer policy originates in three primary areas: 1) The Minnesota State system office and Board of Trustees sets system-level transfer policy and guidance. 2) Detailed decisions originate primarily at the institutions themselves. 3) The state legislature has passed legislation regarding transfer, though it is not the primary originator.

Nebraska	Executive Branch Agency	Policies and Decisions are made at the system or institutional level. The institutions have a Nebraska Transfer Initiative, which created a voluntary common core of transfer courses; the community colleges maintain standardized course syllabi for commonly transferred courses; and all the public institutions participate in Transfer Nebraska, a course-to-course evaluation system. Campuses also have a variety of program-by-program articulation agreements with each other.
Nevada	Independent Agency	Transfer policy is typically drafted (including revisions) by the NSHE Department of Academic and Student Affairs and is then presented to our Board of Regents for approval.
New Hampshire	State Agency	The creation and execution of transfer policy rests with the governing boards of the systems and institutions of higher education.
New Jersey	Executive Branch Agency	While the legislature has the main ability to create and move legislation that revises and updates statute related to transfer policy and agreements, all stakeholders in the state work together on transfer policy, utilizing resources to collaborate and create a positive and productive transfer ecosystem in New Jersey.
New York	State Agency	NYS Institutions of Higher Education or the public systems such as SUNY and CUNY State Universiteit establish their own credit transfer policies. There are general Commissioner's program registration standards which state that the institution shall establish, publish and enforce explicit policies The CUNY system also has a coordinated policy: How Credits Transfer – The City University of New York.
North Dakota	State Agency	Recommendations for transfer policies can emanate from among campus constituent groups, the system office, state or federal statutes, or the state board of higher education.

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Oklahoma	State Agency	The Oklahoma State Regents for Higher Education coordinates with institutions to determine transfer equivalencies within the State of Oklahoma. Over the years, the legislature has offered “legislative intent” for seamless course transfer and articulation, however, the policies, processes, and state-wide transfer equivalency matrices are left to the OSRHE to manage with Oklahoma institutions, both public and private through the Course Equivalency Project (CEP) that engages faculty in articulation work each fall semester in a variety of disciplines.
Oregon	Executive branch Agency	Because HECC is a coordinating, and not a governing board, it does not have as much direct authority over solving transfer issues as may exist in other states with different higher education system structures. Under proposed legislation (SB 233), this may change such that transfer pathways and common course numbering systems will be the responsibility of HECC to determine in collaboration with a broadly representative Transfer Council. The final decision will be HECCs.
Pennsylvania	State Agency	Legislation has established the system and regular changes are made through legislation.
Rhode Island	State Agency	The origins of transfer policies vary; some are legislatively mandated. While others are created by RIOPC in collaboration with the state’s public institutions of higher education.
Utah	Executive Branch Agency	Transfer policy has been a collaboration between the system office and the institutions.
Vermont	State Agency	Individual institutions
Virginia	Executive Branch Agency	SCHEV develops many policies, all of which have some statutory provision as their basis. The General Assembly from time to time passes transfer-related legislation (an extensive bill was passed in 2018); when that happens, the development of formal policies is usually done by SCHEV in cooperation with institutions of higher education.
Washington	State Agency	An informal council called the Joint Transfer council made up of state and private higher education institutional members and state education agencies. Some of our policies are dictated by state law, as well.

West Virginia	Semi-Independent Agency	Policy comes from the West Virginia Higher Education Policy Commission with reporting to the legislature.
Wyoming	Executive Branch Agency	All the higher education institutions must help and support per the legislation.

### State Motivation

While the previous two themes addressed policy design and implementation and systems leadership sequences, this theme (State Motivation) highlighted the importance of each state's transfer credit process. This particular finding demonstrated the importance of the 32 states' transfer credit policy (see Table 21). In this theme, participants were asked: "What priority level does transfer policy have in your state? (On a scale of 1 to 5, with 1 being the top educational priority, what priority level does transfer policy have in your state?)"

Participants from Massachusetts, North Dakota, Oklahoma, Oregon, West Virginia, and Wyoming indicated that transfer policy is currently their states' top educational priority. The North Dakotan state representative stated: "Transfer is among the top educational priorities."

The Oklahoman state representative said: "Our top priority is the students; therefore, we do everything we can to ensure they receive the best service possible." The Oregonian representative stated: "Transfer is currently the highest priority in the state." When we examine all the states that prioritized transfer policy, we see that their entity functions (Appendix D) are coordinating (excluding North Dakota, which has a governing entity function). State-wide coordination refers to cross-sector initiatives and the "enclosing delivering staff support for planning and finance policy, sustaining databases and capacity to convert data into information that guides policymaking, and authority to



regulate mission differentiation" (Education Commission of the States, 2016, p. 2).

According to the Education Commission of the States (2016), the policy leadership must adopt the practices of an entity in intervals rather than assuming ongoing responsibilities. The North Dakota Higher Education has a governing function, thus "the procedure would take place for defined, periodic tasks but would not involve establishing an entity with continuing oversight, coordinating, administrative or governing responsibilities similar to those currently assigned to state-wide coordinating or governing boards" (Education Commission of the States, 2016, p. 36).

Furthermore, Arizona, Colorado, Delaware, Illinois, and Kansas indicated that their state's priority level for transfer policy is currently very low (where 1 is the highest level and 5 the lowest; see Table 20). Interestingly, these states all have a scope of authority under the same leadership, which is called state-wide authority. The state-wide authority aims to encourage, lead, and unite communities (Education Commission of the States, 2016). Moreover, most of these states were considered as "leaders" or "models" states as well (Please see Table 17).

Continuing the discussion about the states' priority level for transfer policy adoption and implementation, numerous states emphasized their current and future progress on creating a seamless transfer process. These states are known as "next-generation" states (please see Table 20). Consequently, the Kansas state representative said: "We are in the process of making substantive policy changes that will create a robust transfer system," and the Nevada representative highlighted: "Nevada recently completed their third transfer audit in six years. Transfer and articulation remain a critical issue for the system in supporting student success." The Oklahoma representative also said: "Degree

completion for both traditional and adult students is an ongoing priority, with seamless transfer being a foundational element in our efforts for educational attainment goals."

These examples represent great strategic progress toward a seamless intrastate transfer with a great influence on interstate.

Table 20: *The Interviewee's Responses on What Level Priority is Transfer Policy*

*Adoption and Implementation in Their States*

State	Interviewee's Response
Alabama	4
Alaska	"It is hard to speak for the state as a whole. However, ACPE sees streamlining transfer credit policies as an important education issue in Alaska."
Arizona	5
Arkansas	2
California	2
Colorado	5
Connecticut	3
Delaware	5
Idaho	2
Illinois	5
Iowa	3
Kansas	5
Massachusetts	1
Michigan	4
Minnesota	4
Nebraska	3
Nevada	2
New Hampshire	3
New Jersey	"Transfer policy is an important priority for OSHE, and the agency works to support transfer students and ensure that they are able to seamlessly transfer credit between institutions in the state."
New York	"The Regents or Department have not identified a number level of priority related to transfer; however, this is an important issue within higher education and across colleges in NYS."
North Dakota	1
Oklahoma	1

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Oregon	1
Pennsylvania	“This varies from 1 to 5 based on the interest group and the perspective.”
Rhode Island	“Seamless transfer from our two-year institution to our four-year institution is a critical component of our attainment strategy.”
Utah	2
Vermont	“Seamless student access to courses and programs offered within our system is a top priority for our board. However, there is no state policy on transfer.”
Virginia	2.5
Washington	3
West Virginia	1
Wyoming	1

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### **Resource- Budget Development and Resource Allocation**

For this theme, two questions were asked: "Does your state have a specific budget to maintain the transferring credit process?" and "What are the number of individuals dedicated to transfer issues in your department?" (Please see Table 21). According to interviews with state officials, some states have dedicated a part of their budget to the transfer credit process and policy (Illinois, Alabama, Arizona, and Idaho are great examples of states that have a dedicated state budget for their transfer policy), while some states have a budget or fund (not a dedicated state budget) that they allocate towards the transfer credit process and policy implementation (for example, California, West Virginia, Virginia, Oregon, North Dakota, and Oklahoma). As mentioned by the Education Commission of the States (2016), the responsibilities of state-wide coordinating and governing boards in the budget process differ. Governing boards were concerned primarily with issues related to the internal administration of institutions (or state university systems). The governing boards' financial interests rested on their state

institutions, not on the higher education system as a whole. As opposed to governing boards, the state-wide coordination board focused on budgeting and resource allocation for the entire system (Education Commission of the States, 2016). During the recent economic crisis, states intensified their control on the budget process. For example, the Oklahoma state representative highlighted: "With the global pandemic in 2020, we moved the CEP faculty meetings to a virtual format and will probably continue this format, reducing meeting expenses."

From this fiscal standpoint, the budget for and around transfer credit processes supports the development of the transfer credit system, especially while transfer policy implementations and technology transfer support are limited. For this reason, there appears to be little room for a long-term strategy.

Consequently, some state officials mentioned that there was no specific budget for transfers in their states:

"No, transfer is managed at the institutional level" (Washington); "Our office does not have a specific line item in its budget for transfer-related work" (Rhode Island); and, "No, the state does not have a specific budget related to transfer or transfer issues" (North Dakota).

Some states, however, described that there was specific funding (not state budget funding) dedicated to the transfer process:

"Outside of the one funded position, we currently do not have any budget" (Oregon ); "Currently, we do not have a specific state budget to maintain the transferring credit process. However, the New Jersey Presidents' Council does dedicate funds from its budget to help maintain the NJ Transfer website" (New Jersey); "Our Department does

not have a specified state budget amount allocated to transfer credit, but our overall higher education office budget dedicated to the Office of College and University Evaluation would be used to address any policy or regulatory considerations related to transfer credits” (New York); and, “Some in terms of funding for the process; however, we will have to make budget exception requests to manage the on-going costs. The legislature may or may not continue to fund what they have legislatively required.” (Wyoming).

Meanwhile some states reported there was a third party handling the state transfer process. For example, the executive director of the Alabama Commission on Higher Education (and independent agency) reported:

"The agency contracts with Troy University at a cost of \$396,000 to handle the system, which includes managing transfer agreements between institutions and facilitating conversations on transfer issues. Some of the funds are used for convening meetings, etc. The SHEEO agency staff support these meetings and provide expertise. They also take minutes and maintain records (probably about 10% of their time and value of \$15,000)."

It is critical to note that the SHEEO agency's mission is to provide unbiased evaluation and to counsel governors and state legislatures on the competing political influences of institutions during the budget and funding procedure (Education Commission of the States, 2016). Pursuing this "resources" theme, the California Community Colleges Chancellor's Office shared:

"Each education system in California is independent, and, even within the college system, the 116 campuses are fairly independent to allow them to better respond

and prioritize local needs. The state annually allocates via the state budget \$779,000 for transfer and articulation support, which I dedicate to the cost of state-wide transfer-related programs. In addition to that, I receive \$1,567,000 from what we call a categorical set-aside, Student Equity and Achievement, which originates from the state budget as well. So total state-level funding is \$2,346,000 per fiscal year."

Additionally, resources (employees) are necessary to improve transfer credit procedures and enhance the capability of the system. To achieve this goal, the states encouraged the creation of state-wide faculty-driven transfer initiatives to ensure a seamless transfer to all participating institutions. As mentioned in the literature review, Ignash and Townsend (2000) categorized the states' transfer agreement types under four-key indicators, and one of them was faculty involvement. Faculty involvement, as an indicator, means that faculty at community colleges and four-year institutions are actually responsible for crafting and maintaining the state-wide articulation agreements (p. 2). It is also evident from the literature review that faculty involvement often indicates success in a transfer credit process. In 2009, the Louisiana Board of Regents collaborated with legislators, and the Southern Regional Education Board crafted a State-wide Articulation and Transfer Council. This council engaged faculty members in designing the setting down the intricate details of their transfer system. This type of faculty-driven, transfer initiatives philosophy was also supported by other state representatives during the study's interview. An Illinois state representative said that "a state-wide faculty-driven transfer initiative [will ensure a] seamless transfer of the General Education Core Curriculum package to all participating institutions".

To better understand the transfer initiatives and the transfer progression of the states, the following question was asked: "What are the number of individuals dedicated to transfer issues in your department?" It was expected that the states would have a limited number of employees dedicated to the transfer process. This expectation was made for a variety of reasons, with the majority being that, with the number of transfer students enrolled, the limited budget, and that the responsibility of the transfer credit process relies on many different office representatives, staffing would not be a priority. Many state officials confirmed this viewpoint, with an Oregon official reporting:

"Only one full-time equivalent staff member is fully dedicated to transfer work.

However, transfer work also takes a significant portion of the time of an education specialist, the directors of our community college and university offices, several research analysts, and the director of legislative affairs."

A Michigan official identified a similar challenge, stating:

"Transfer work is coordinated on a completely voluntary basis on the part of the Lansing-based higher education associations and their member institutions: the Michigan Community College Association, Michigan Association of State Universities, and Michigan Independent Colleges and Universities association."

A Colorado representative shared: "There is not a dedicated staff member for transfer specifically—rather a team approach, working in collaboration with faculty and administrators at institutions of higher education."

A North Dakota representative mentioned that: "Transfer policies are one of many areas of responsibility within their portfolio of work." Some states even reported that there was

more than one office and more than one initiative dedicated to the transfer credit system process. For example, an Illinois representative said:

"First initiative, Illinois Board of Higher Education and Illinois Community College Board dedicate at least one staff person each to Illinois Articulation Initiative (IAI) oversight and the IAI has two full-time staff members. A second initiative, MyCreditsTransfer, is a state-wide student-facing tool that facilitates transfer between Illinois institutions using Transferology, a nationally available tool. MyCreditsTransfer is 'located' at the University of Illinois Urbana-Champaign with one full-time staff person and other institutional staff dedicating portions of their work time."

Table 21: *The Interviewee's Responses on State Budget and Resource Allocation*

State	State's Budget	Number of State Employees Dedicated to Transfer Credit Process
Alabama	Yes	3
Alaska	No	N/A
Arizona	Yes	5
Arkansas	No	1
California	Yes	1 (Keeping in mind California State has 116 colleges, and they also provide funding for transfer support at the local level)
Colorado	No	0
Connecticut	No	3
Delaware	No	0
Idaho	Yes	0
Illinois	Yes	4
Iowa	No	1
Kansas	Yes	2
Massachusetts	Yes	2.5 Staff; not fully dedicated
Michigan	No	0
Minnesota	No	4 Full time employees
Nebraska	No	0
Nevada	No	1
New Hampshire	No	1.5 Full time employee
New Jersey	No	0



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New York	No	0
North Dakota	No	Less than one person
Oklahoma	No	4
Oregon	No	1 Full time equivalent staff member
Pennsylvania	No	3 Employees and 1 full time employee
Rhode Island	No	N/A
Utah	Yes	4 None of them fully dedicated
Vermont	No	1
Virginia	No	1
Washington	Yes	1
West Virginia	Yes	3 None of them fully dedicated
Wyoming	Yes	0 Dedicated

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### **Content Analysis – In-Depth Interviews**

This second phase involved more in-depth interviews with high performers. Five states were identified and categorized for the in-depth interviews based on the quantitative analysis, which included their transfer student enrollment rate and the adoption of transfer and articulation agreements (state-wide).

The selected states were Arizona, Colorado, Florida, Texas, and Utah. The interviews were scheduled and conducted immediately after completing the short interview process. The response rate was 40% (Colorado and Utah's representatives responded). The first interview was conducted on May 11, 2021, via email, and the second interview was conducted on May 17, 2021, via phone. The phone interview was 15 minutes. The state officials were very knowledgeable about the subject matter, freely provided information, and welcomed follow-up questions and additional contact. In conclusion, the interviewees were enthusiastic about the topic and interested in the results of this study.

This study followed the identified five themes: states' transfer policy design and implementation; systems leadership, states' motivation; resources and budget development; and resource allocation.

### **States' transfer policy design and implementation.**

Under states' transfer policy design and implementation theme, when I asked: "Is your state engaging in any transfer policy innovations? Please describe either your innovative policies or processes regarding the transfer process. What might other states learn from them?" The first factor identified in advancing the transfer system was regular meetings. Both state officials emphasized regular meetings to discuss the content of the transfer alignment with their task force and representatives (faculty representatives from all of the institutions and policy department members). Utah State officials reported that they are currently organizing regular meetings with their 32 faculty major committees about "the content of commonly numbered courses, minimum scores and maximum credits and course equivalencies for standardized test of prior learning (like AP, CLEP, IB)."

The second factor identified around transfer policy innovation was engagement with other states (often with neighbor states). Both states reported that their representatives were engaging with other state representatives as a step towards advancing the transfer credit process. The representative from Utah said, "We will soon be discussing lower-division alignment to structure direct transfer pathways modeled on Pennsylvania, New York, and Washington." Colorado representatives reported that "to improve the seamless transfer system, we, as a state, initiate state-wide advising mode and state-wide transfer policy with several other states."

### **States' motivation.**

Regarding states' motivation, I asked: "How does your office motivate your state policy leaders to advance the state higher education legislation, specifically related to the transfer credit system?" Both states' representatives specifically highlighted that the source of motivation is regular communication with their team members, those team members' hard work towards improving the transfer credit process, and the help of supportive leaders.

### **Resources and budget development; and resource allocation.**

To further explore the resource theme, I asked: "What resources or information are important to motivate your policy leaders to advance the transfer process?" Both interviewees stated that data on transfer patterns and the effects of transfer on students, high enrollment rates, and conversations/focus groups with students and parents has been important and helpful. Meanwhile, long-term updated agreements (updates are made every five years dependent on the outcomes) and continuous support from higher-level administration cultivates institutional support.

The next question was about financial aid: "Does your state have a plan about Financial Aid Policy? Can Financial Aid Policy increase the retention of transfer students?" The Utah representative answered: "We do have financial policies; we do not have much state financial aid. We have not yet had discussions about how state aid might help retain transfer students." The Colorado representative said: "No, we do not have a specific budget for the financial aid."

### **Systems leadership**

Under the theme system leadership, the associated question was "What are the barriers for the policy leaders to advance the state transfer process?" Both interviewees

reported that there were challenges (not barriers) to advancing their states' transfer processes, including: 1) the details of improving student transfer (for example, getting accurate data into the electronic transfer tool for students takes both time and effort); 2) the fact that designing direct transfer pathways that will work for multiple institutions is also a difficult but important task; and, 3) the existing budget structure for the current transfer system.

In answering How does the system work to get the attention of political leaders related to the four-year-to-four-year public university transfer credit process?" both of the states' representatives highlighted that a strong positive collaboration with legislators is important to get the attention of political leaders regarding the four-year-to-four-year public university transfer credit process. The Utah representative highlighted:

"Our commissioner and institutional presidents cultivate a strong relationship with our legislative higher education committee and with the governor's office. We invite them to attend board meetings, provide updates on initiatives, and sometimes invite them to attend conferences with us to help address higher education needs in the state (i.e., Education Commission of the States, WICHE, etc.)."

Another factor that captures the political leaders' attention was the students' needs within the transfer process at the state level. If the concern is highlighted at a state level, it immediately draws attention.

The interviewees were also asked: "How long do bureaucratic leaders need to articulate new policy?" Both responses were similar in the sense of highlighting the complexity of creating policy, and can be summarized as saying: sometimes we act very

quickly; sometimes we act in two weeks; and sometimes the articulation process takes months. The Utah representative highlighted that there had been a legislative mandate where the state prefers to have conversations with key stakeholders and to vet policy drafts before they are finalized, this way they can try to address any problems before the policy is approved. The Colorado representative emphasized that their state officials prefer to discuss key points both before and after articulating the policy.

As a continuation of leadership perspective, the following question continued the discussion: “What do bureaucratic leaders and political leaders explicitly seek to articulate and implement to provide a seamless transfer system?” The state representatives provided very detailed responses to this question. The Utah state representative pointed out that:

“1) course credits will transfer effectively (this we have in place and communicate to students through an electronic transfer tool); 2) students within a particular major will be able to complete their bachelor's degree with only 2 years/62 credits of additional coursework after completing an associate degree (we are working on structuring these transfer pathways); and, 3) a separate system for technical colleges recently merged with the system of higher education governing degree-granting institutions. The representative also mentioned that the next big challenge would be to structure pathways from technical education certificate programs into associate degree programs.”

The Colorado representative continued by adding:

“4) the budget hierarchy for the related process; 5) the agreements among all state institutions of higher education—currently, 40+ transfer agreements are in place; 6) a clearly displayed state-wide articulation matrix system of common course numbering; 7)

the definition of the student bill of rights—clearly written degree requirements, step-by-step implementation of core courses, competency testing, credit for prior learning, and nonpublic institution of higher education participation in the pathways; and, 8) a state-wide well-explained framework for awarding credit and the transfer of assessments (CLEP, IB, AP, DLPT, and DSST), military occupations, and work-based learning (in progress, new in 2020).”

For the ninth question (final and optional), the interviewees were asked: "Would your state be interested in participating in the creation of a seamless transfer system intrastate?"

The Utah representative highlighted that the state currently participates in the Interstate Passport program. As discussed in this study’s literature review, authors Sherman and Shea (2020) proposed the interstate passport — a general education transfer highway model — and reported that 15 states were already part of the project. Sherman and Shea’s (2020) study also promised to continue developing a scaled version of their interstate passport over the next five years. The purpose of their model was to create a national program based on lower-division general education attainment and serve as a mega articulation agreement among nation-wide institutions. The final version of the model promises to provide transfer students with a seamless transition into upper division universities without losing any credits. On the other hand, the Colorado State representative mentioned that their state is currently is working on a transfer credit project and policy under the Colorado Commission on Higher Education and the Department of Higher Education. The representative further shared that they could not commit to another new project related to the creation of a transfer process.

## Discussion of Qualitative Content Analysis Result

After analyzing the qualitative content of both the short- and in-depth telephone (and email) interviews, I determined that the qualitative analysis results were consistent with the systems leadership, transfer credit process, and policy literature. In addition, throughout the qualitative information gathered and analyzed, there emerged numerous examples of transfer credit policy determination processes and long-term strategies for creating a seamless transfer credit system. Each of these examples spoke to improving the outcomes for students who transfer between four-to-four-year public institutions and the desire to implement a seamless transfer credit system.

When analyzing the results for the first qualitative research question ("What kind of articulation agreements and guidelines are currently governing transfer processes at the state level?") I found several states had ongoing state-wide advancing articulation agreements related to the transfer credit process. Oklahoma's progress was one great example, because the state reported that they were in the final stage of developing a searchable course transfer inventory (<https://showwhatyouknowok.org/>) to make the search process easier for students. In addition, Oklahoma engages faculty in articulation work within Oklahoma institutions, both public and private, through the Course Equivalency Project. Illinois states also reported successful state-wide faculty-driven transfer initiatives that ensure seamless transfer to all institutions. Like Oklahoma, Illinois also has an online platform named "MyCreditsTransfer" (<http://www.mycreditstransfer.org/>). MyCreditsTransfer is a state-wide student-facing tool that facilitates transfers between Illinois institutions using Transferology, a

nationally available tool and platform that has been associated with the state's articulation agreements.

Another outstanding example was in New Jersey. The state has two state-wide transfer agreements ("Lampitt Law") mandated by state law, leading to a robust and effective transfer pathway for many students in the state. Similarly, a Colorado representative claimed that the legislature and policy development process was grounded in legislative authority. One of the pieces of legislation associated with the transfer credit system in Colorado was *the Prior Learning Assessment* which provides a state-wide framework for awarding credit and assessing transfers (CLEP, IB, AP, DLPT, DSST) (this framework is new as of 2020 and can be found at this site: <https://cdhe.colorado.gov/get-credit-for-what-you-already-know>).

Connecticut reported their most recent articulation agreement regarding the transfer system was the Transfer Articulation Policy (TAP), which consists of roughly 26 transfer degrees. These "Transfer Tickets" provide a direct pathway to the four-year schools within the Connecticut system and guarantees 60 credits remaining upon completion. These actions highlight their progress towards a seamless and robust transfer system at a state-wide level, which adds special or more creative incentives to motivate states to pursue more state-level strategic goals around the transfer credit system. Overall, findings to this research question suggest that, despite facing a myriad of challenges, states, through their concerted efforts, can increase the number of transfer students and positively affect their students' degree completion rate.

The second qualitative research question was: "What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system?" In response to this



question, I found that interviewees from both Utah and Colorado responded from a bureaucratic leaders' perspective, stating that the incorporation of predictive analytics and centralized data systems, so as to better track student activity, was essential. Additionally, there was an added need for agreements among all state institutions of higher education to incorporate a state-wide articulation matrix system of common course numbering, step-by-step implementation guidance, competency testing, credit for prior learning, and consideration for participation of nonpublic institutions of higher education. Lastly, the key mechanism of a robust transfer credit system was greater student retention and the attainment of bureaucratic leaders whose evolving viewpoints were consistent with a business-oriented approach to higher education, specifically among policymakers and high-level administrators.

The quantitative findings were straightforward and on point. The qualitative side was specifically employed to supplement quantitative information. The goal of qualitative data analysis is to uncover emerging themes, concepts, insights, and understandings (Patton, 2002). In this study, qualitative phase used as an analytic framework—to link concepts and classifications—to understand an underlying process. The qualitative analysis of text supplemented as sources of information to satisfy the quantitative result and increase trust in the validity of the study's conclusions.

### **Integration of Quantitative and Qualitative Data**

Mixed methods were the best method for researching these questions and the most effective way to collect research data within a two-part process (first quantitative and second qualitative). It would not be appropriate to use quantitative data alone to understand the problem, as it would present incomplete data. As stated by Creswell

(2015): "[The] Quantitative research method does not adequately investigate personal stories and meanings or deeply probe the perspectives of individuals. Qualitative research does not enable us to generalize from a small group of people to a large population" (p.15). Combining both of these research methods allowed for more in-depth information and a deeper understanding of each state's perspective.

In this sequential study, quantitative results sought to find essential factors that directly affect the adoption/ advancing transfer credit policy and implementation process. The quantitative instrument was used to analyze the data using event history analysis. It was found that motivation correlates strongly with adoption. In addition, the remaining characteristics were found statistically insignificant with adoption.

Once the quantitative data was interpreted, the result directed me toward crafting the interview questions. To create the short protocol questions, I analyzed the details of the quantitative findings. Consequently, I focused on statistically insignificant results, such as 1) Why was the resource variable not statistically significant? (As highlighted in chapter 3, the academic advising resources mean specific budget and the selected number of employees dedicated to the transfer credit process; so why did it not display any effect on the adoption transfer credit policy?); 2) Why does the political orientation not have a statistical effect on adoption? I crafted question number 2 in the short protocol, "Where is your office located within state government." This question explains the system structure and displays if a different-structured government changes while political orientation changes. However, the motivation variable was statistically significant; the purpose of the follow-up questions (#1 and #4) in the short protocol was to increase clarity—if the motivation factor directly affects whether the states are to be leader state or not or if the

highly motivated state considers the adoption of transfer credit policy priority for its state. This crafting of the questions allowed the study to seek further information and explanation to uncover hidden details. The short interview questions related to the theme urged me to create the second part of the interview process (in-depth interview protocols) and explore the state's perspective in detail, but only collecting data from highly motivated states. The highly motivated states were selected accordingly from the quantitative data findings. The study showed the differences between high- and low-motivated states and how highly motivated states deal with barriers to the adoption/advance transfer credit policy process.

## **CHAPTER V: Conclusion**

This final dissertation chapter provides a summary of the study and a detailed discussion of the research data presented in the previous section. This chapter is organized into a summary of the study, interpretations of the results and findings related to the literature, implications of the study, limitations of the study, and recommendations for further research. Final concluding remarks will also be presented.

### **Summary of the Study**

The current study was aimed to explore how transfer policies across states are functioning and determine what states are doing regarding postsecondary transfer policy and which factors are influencing the decision to adopt a state-wide transfer policy. The following research questions guided the study: “What factors are essential to adopting a policy when providing an effective transfer credit process?” (Quantitative question); “What kind of articulation agreements and guidelines are currently governing transfer processes at the state level?” (Qualitative question); “What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system?” (Qualitative question); and, “What results emerge from comparing the explanatory qualitative data about the transfer process with outcomes from the quantitative data at the institutional, state, and/or national level?” (Mixed-methods question). This study applied secondary data for the quantitative analysis and interviewed 32 state officials for the qualitative analysis. An event history analysis (logistic regression) was conducted to assess the quantitative research question and two sets of hypotheses. Qualitative study data was based on the state officials’ interview responses. The interview responses were coded and themed relevant to the study context. The qualitative study included two interview

processes: 1) short interview – where the researcher attempted to contact all 50 state officials; and, 2) in-depth interviews with selected states.

### **Interpretation of Results/Findings Related to the Literature**

This study makes several contributions to the postsecondary literature specifically around the policy and implementation of the transfer credit process. This study's results display several unexpected outcomes. Despite these surprising outcomes, this study also presents initial evidence of successes of the transfer credit process within a nation-wide context. The following pages provide a detailed discussion of the specific themes of the study.

#### *State Motivation (Legislative Changes) on Transferring Credit Process Policy and Implementation*

This quantitative analysis presented only the State's Motivation factor (Legislative Changes variable) on advancing/adopting policy as the most persistent force underlying state adoption transfer credit policy on an inter- and intra-state level. The result of the quantitative analysis (event history analysis / binary logistic regression) displayed that the state's motivation factor was statistically significant ( $r=.63$ ) at the  $p<0.01$  level), the Beta was positive, and the hypothesis was supported. By answering the first quantitative research question, state motivation (legislative changes variable) proved to be an essential factor in adopting a policy that supports an effective transfer credit process.

As a continuation of the study's analysis, this dissertation's qualitative analysis provides valuable points that explain how state systems and subsystems work. This study's result also lends support to the understanding that a leader's motivation to adopt

or advance policy is crucial. If the state is highly motivated, the characteristics of the neighbor state are negligible, and, instead, the motivated state can take the lead in the policy-making process. The adoption of a new policy and the implementation of it may need more time than expected, and, often, the implementation process will be delayed due to limited motivation by state leadership.

The results of the quantitative and qualitative analysis have been supported by the literature review as well. Consequently, Ignash and Townsend (2000) expressed that a system leaders' motivation is key and something that state leaders need always to be aware of when determining those areas of change and the relationship between common problems and solutions (where and what is it?) (Sabatier, 1999). As Walker (1969) stated, some system leaders are inventors in the adoption of a policy, and other states will follow these leaders. However, in either case, motivation is key to adopting new policy and implementing a seamless transfer system (Santos & Sutton, 2012; Ignash & Townsend, 2000). A key consequence of developing seamless transitions among educational sectors is the motivation to develop a strong articulation agreement regarding a legislative mandate; however, some states are avoiding this obligation entirely (Ignash & Townsend, 2000). Santos and Sutton (2012) distinguished that effective articulation policies among states are a triple win for the states: "a) students are able to validate their learning into a baccalaureate degree; b) higher education accomplishes its mission of educating = graduating students; and, c) the state reaps the rewards of an educated workforce" (p. 971).

Furthermore, according to the in-depth interview analysis, the study showed that high motivation by state leadership means there will likely be successful steps taken

toward an improved transfer process. Indeed, it was important to know that long-term, periodically updated collaboration among state institutions and government, along with strong communication and high enrollment rates, will increase a policy leaders' motivation. As mentioned in the theoretical review of this study, systems leadership urges that strong policy communication be attained at both the state level, legislatures, coordinating boards, board of regents, and the governing board (Walker, 1969; Sabatier, 1999; Ignash and Townsend, 2000). Increasing the number of transfer credit related articulation agreements among the states promises future successful seamless nationwide transfer credit processes. As Santos and Sutton (2012) stated, policy communication, along with policy accountability, at every single level (institutional, state, and national) is needed in order to apply new policy that is relevant to the goals of each. It is important that each state develops a robust and sophisticated analyses to target and focus their educational sectors' strategies.

#### *State's Financial Aid Policy*

This study's results are not consistent with the empirical studies that found that a state's financial aid policy is an important factor in the adoption of a transfer policy and a successful implementation process (Wellman, 2002). Taking financial aid policy into consideration, the National Association of State Student Grant and Aid Programs Annual Survey (2017-2018) highlighted that only six states (Arizona, Florida, Massachusetts, Maryland, Texas, and Virginia) have accepted financial aid policies related to transfer students. Conversely, these inferential statistics result in a correlation matrix that displays financial aid policy for transfer students is correlated with adoption of a transfer policy; however, the regression analysis showed the association between adoption and financial

aid policy is not significant. Therefore, a state's financial aid policy (only for transfer students) does not significantly serve as an important factor when adopting (or advancing) transfer credit related policy.

Ideally, financial aid policy is aimed at financially helping students to recover their lost credits and encourage them to continue their education at their transferred postsecondary institution. There are specific factors as to why states consider, or do not consider, this type of financial aid policy (Wellman, 2002). As explained in the qualitative analysis, one of these factors is that the transfer credit system is a very small portion of the education system in the United States of America. According to the qualitative analysis, there are very few states that have dedicated budgets for their transfer policies (Illinois, Alabama, Arizona, and Idaho are great examples). As a result, the states mainly use funds that they have allocated for the transfer credit process and policy implementation and not a dedicated state budget (for example, California, West Virginia, Virginia, Oregon, North Dakota, and Oklahoma). These states then use that funding toward implementing the concrete administrative needs of the transfer credit policy and process.

#### *State's Political Orientation*

Mixed results were found regarding the association of political orientation with the adoption of transfer credit policy. Although the regression result displayed a state's political orientation as a statistically significant predictor of transfer credit policy adoption and implementation; that was not the case within this study. Surprisingly, this relationship was found to be negative, with a beta of -1.27, which indicates a negative relationship between a state government's political orientation and the adoption of policy.



As indicated by the odds ratio, for every one point decrease in the Political Orientation variable (the score on a 0–100 scale of state political orientation), the state is 0.28 times less likely to adopt the new policy. In other words, for every one-point increase in the Political Orientation variable, the odds of adoption decrease by 72% ( $1.00 - 0.28 = 0.72$ ). This result should be interpreted with caution. In some states, political orientation plays a key role in that state's higher education funding (Li & Zumeta, 2015; McLendon, Hearn, & Mokher, 2009). Thus, a Republican-controlled legislature and Republican governor may reduce state spending on higher education while, in contrast, a Democrat-controlled state and Democrat governor may support more funding towards higher education (Li & Zumeta, 2015; McLendon, Hearn, & Mokher, 2009; Tandberg, 2009 & 2010). According to the Descriptive Summary for Study Sample (Table 7), 31 states were conservative, 13 were liberal, and 6 were swing states in 2018. The swing states were North Carolina, New Mexico, Nevada, Pennsylvania, Rhode Island, and Virginia. These states are shifting to become more liberal every year. It is important to highlight one of the critical points from the qualitative data analysis, which was the SHEEO involvement in the states' decisions. The SHEEO agency has an important mission among the states: to provide unbiased evaluation and counsel to governors and state legislatures despite competing political influences from institutions, especially as it pertains to budget and funding procedures (Education Commission of the States, 2016). This might be a reason for the negative association between political orientation with adoption of transfer policy.

### *State Resources*

The results of both quantitative and qualitative data analysis provide limited support for the budget being an important factor in transfer credit policy adoption. The

likelihood of a state adopting a transfer-related policy is not influenced by the state's budget because it is not statistically significant ( $p=0.33$ ). Thus, the likelihood of a state adopting a transfer-related policy is not affected by a decrease or increase in the state's budget. Meanwhile, through the qualitative analysis, it is notable to see that the transfer credit process is a small portion of the American education system, and that this is one reason why receiving financial support from states toward the transfer process tends to be both critical and cyclical for public higher education institutions (Doley, 2014, Santos & Sutton, 2012; Ignash & Townsend, 2000, Delaney & Doley, 2007). In this pattern of support, all three sources (the literature, quantitative and qualitative data) demonstrate that states are slowly increasing their budgets, specifically capital expenditures, for the institution's category, and usually at the good budget times (Delaney & Doley, 2007). In economic declines, the opposite is fact, and states will cut higher education funding in all budget categories. This type of budget cut usually takes a longer time to return to prior funding balance, and, indeed, this decline directly affects the state's motivation to advance transfer related legislation and creates little room for a long-term strategy towards advancing the transfer credit process (Santos & Sutton, 2012; Ignash & Townsend, 2000).

### **Implication for Policy and Practice**

These findings are interesting and important for postsecondary education, and there are several major implications to highlight.

**State Leadership.** “Model state” versus “neighbor-to neighbor” states. As mentioned in the literature review, Berry and Berry’s (1992) neighbor-to-neighbor model explained how neighbor-to-neighbor influence creates pressure among contiguous

neighbors. Accordingly, if a state is bound by less innovative neighbors, then it will appear less innovative than a state surrounded by more innovative neighbors. Although states influence other states, it cannot be assumed that states influence all their neighbors equally (Berry & Berry, 2007). Nevertheless, the data from the in-depth interviews demonstrated that a nation-wide transfer credit policy and implementation process can be possible and successful, especially if a state follows the model state's policy and implementation as best practices (Sabatier, 1999). As a concrete example of this model, Utah collaborates with the direct transfer pathways modeled by Pennsylvania, New York, and Washington.

Adopting the model state transfer system could be in various settings such as cross-national, interstate, and interlocal settings. Modelling states (as consistent with systems leadership theory) may concentrate on feedback loops and the practice of transforming inputs into outputs. Feedback loops will determine which policies should be corrected and which work well for the national level transition (Sharkansky, 1970).

**System Leadership.** Governing and coordination of the state system showed that states reflect on their most successful, educational priority and use that data to lead in creating transfer credit policy. This result implies that postsecondary education institutions can find a way to create meaningful relationships among the states when creating policy and identifying best practices. Examples of this type of relationship can be seen in and among Massachusetts, North Dakota, Oklahoma, Oregon, West Virginia, and Wyoming who all have the same entity function (coordinating systems). There may be potential for professional experience coordination (excluding North Dakota, which has a governing entity function). State-wide coordination refers to cross-sector initiatives that

"[deliver] staff support for planning and finance policy, sustaining databases and capacity to convert data into information that guides policymaking, and authority to regulate mission differentiation" (Education Commission of the States, 2016, p. 2).

The relationship between political and bureaucratic leadership is crucial to encouraging bottom-up innovation and partnership between both perspectives. From the systems leadership theory perspective, governing and coordination of the state system enables decision-makers to uncover the issues rather than assume coherence. This entity type may support strong and positive system of collaboration with state legislators which are important to get attention of political leaders.

**Institutional Leadership.** According to the states' report, there is a need for the agreements among all state institutions of higher education to incorporate a state-wide articulation matrix system of common course numbering, step-by-step implementation guidance, competency testing, credit for prior learning, and consideration for participation of nonpublic institutions of higher education. Policy and bureaucracy within the educational system can sometimes motivate leaders to micro-manage their response to crisis situations (Borins, 2002). The bureaucracy, in turn, can be a professional and capable partner in future innovations. Thus, this political-bureaucratic interaction can raise performance expectations of the postsecondary higher-education system and drive them towards undertaking new initiatives and providing additional resources toward that vision (Borins, 1998; Borins, 2002).

Moreover, the states reported the creation of a centralized data system to track student transition is crucial to analyze transferring credit data, make decision on the current gap and act relatively to current transfer students' needs. The course numbering

system can potentially categories the courses among all institutions and guide to smooth transition. However, creating a centralized and electronic data system is not easy.

Crafting all the course under specific programs and implementing the course numbering system is really tough work. The complicated part is managing, labeling, and treating the whole data as one data is impossible for now. The institutions may need to approach the issue by determining how they can implement a common course numbering system for all institutions, so each institution can add their course numbers to the system in an easy way. Implementation of the common course number system may encourage policymakers to evaluate the policy process and decisions constantly (Kingdon, 1995).

Faculty and Student Leadership. According to this study findings and literature review faculty members and students' involvement to the transfer credit process are necessary to improve transfer credit procedures and enhance the capability of the system. The state representatives encouraged the creation of state-wide faculty-driven transfer initiatives to ensure a seamless transfer to all participating institutions. It is also evident from the literature review that faculty and student involvement to the process often indicates success in a transfer credit process. Legislators confirm that having a faculty and student representatives in the board help to hear everyone's voice and this system [will ensure a] seamless transfer.

Economic Benefit. Lastly, the national transfer credit system may also play a key mechanism role economically. Consequently, a robust transfer credit system means a greater student retention and the attainment of bureaucratic leaders whose evolving viewpoints are consistent with a business-oriented approach to higher education, specifically among policymakers and high-level administrators. Meanwhile, transparent,

and smooth transfer credit system encourages students continue their education which means increasing the number of educated workforces. Thus, easy transfer might not always be in the interest of certain system members, however, a business-oriented approach to transfer credit system and financial benefits into higher education and states, has the potential to attract the system members.

### **Study Limitations and Future Research**

This study has a few limitations and has many prospects for future research. Of the study limitations, most of them can be improved in future research. One study limitation is that these findings cannot be generalized to other populations. These findings are specific to the transfer credit process and seamless policy implementation only among four-to-four-year postsecondary institutions within the United States. This limitation may be easily addressed by exploring other perspectives of the transfer credit process. For example, a researcher may expand this study to further examine other types of transfer credit processes, such as international students' credit transfer or graduate-level students' credit transfer.

Lastly, the concept of the transfer credit process and policy was only focused on public higher education, and private higher education institutions deserve more scholarly attention. Considering that the structure and leadership perspectives are different at public and private institutions, future research is recommended to better understand the adoption of transfer credit policy by collecting qualitative data from the private institutions' representatives as well.

## Conclusion

In short, continued conversations around the creation of a seamless transfer credit process, and the improvement of state leaders' motivation to advance policy, will be critical to advancing improved transfer credit system policy and implementation. States' representatives need to build a strong positive collaboration with legislators to get the attention of political leaders regarding the four-year-to-four-year public university transfer credit process. Another major contribution made by this study is an understanding on how to draw political leaders' attention to the transfer process and transfer student's needs. If the concern is highlighted at the state level, it immediately draws attention. Finally, bureaucratic leaders are looking for ways to better support electronic transfers (using structured transfer pathways); a separate system for technical colleges recently merged with the system of higher education governing degree-granting institutions; a clearly displayed state-wide articulation matrix system of common course numbering; and a clear state-wide framework for awarding credit and conducting transfer assessments (CLEP, IB, AP, DLPT, and DSST). These results also suggest a positive and successful outlook for the implementation of a future, nationwide seamless transfer system. The researcher hopes that this study data will increase the attention of leaders on the possibilities around the implementation of a nationwide transfer credit system. Moreover, the qualitative data bolsters that policy communication and policy accountability is crucial for achieving the states' educational goals. From the systems leadership perspective, policy communication can result in more thorough articulation agreements among the states and encourage consistent advisory communication among all institutions to support a seamless transition process for transfer students.

## **Appendix A - Interview Questions for States' Departments of Education**

### **Phase I: Short Interview Process**

1. Which state or states do you identify as a leader in transfer policy?
2. Where is your office located within state government?
3. What are the number of individuals dedicated to transfer issues in your department?
4. On a scale of 1 to 5, with 1 being the top educational priority, what level priority is transfer policy in your state?
5. Where does the transfer policy decision originate in your state? Your office? Elected leaders? State higher education institutions?
6. Does your state have a specific budget to maintain the transferring credit process?

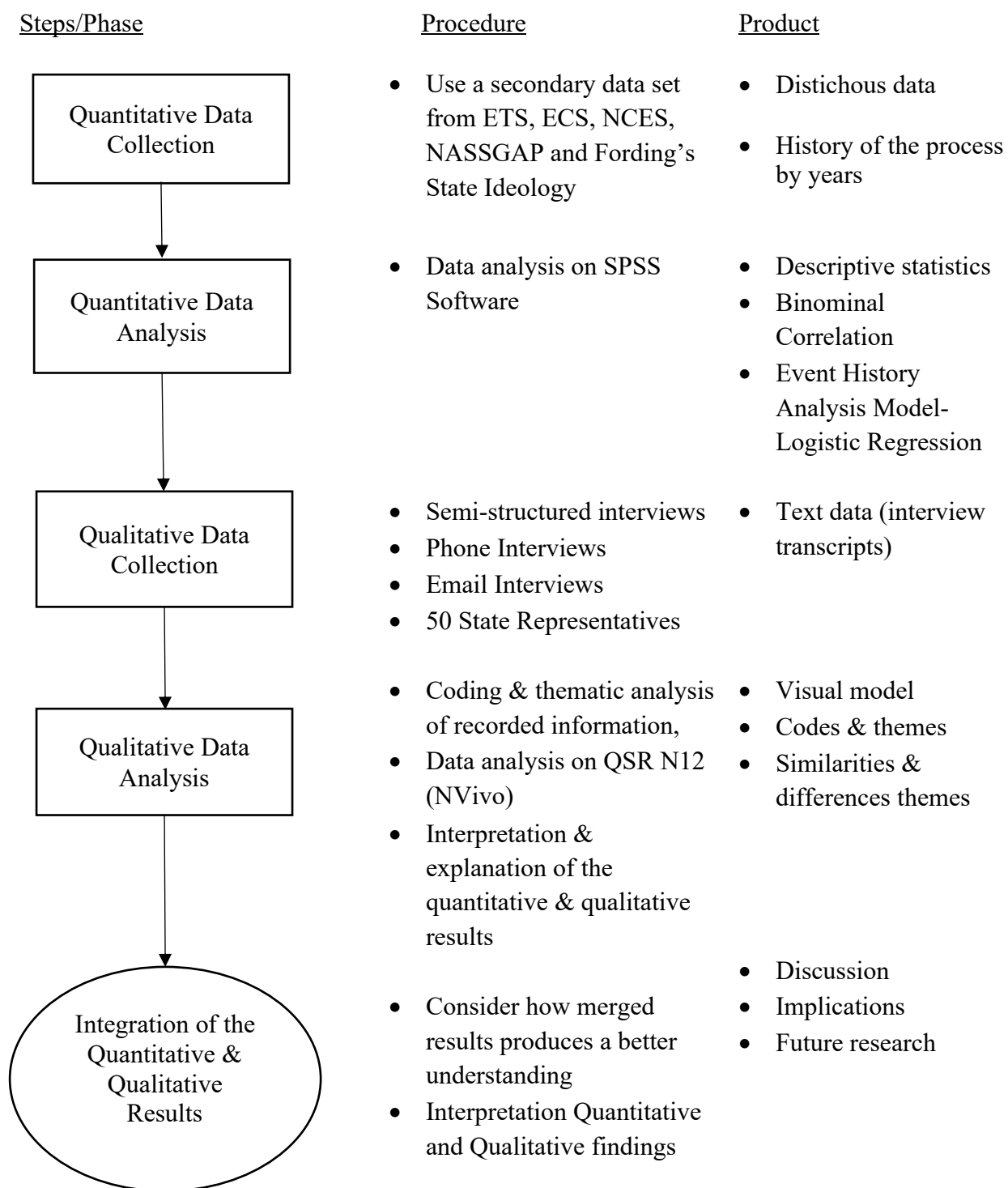
### **Phase II: In-Depth Interview Process**

1. Is your state engaging in any transfer policy innovations? Please describe either your innovative policies or processes regarding the transfer process. What might other states learn from them?
2. How does your office motivate your state policy leaders to advance the state higher education legislation, specifically related to transferring credit system?
3. What resources or information are important to motivate your policy leaders to advance the transfer process?
4. What are the barriers for the policy leaders to advance the state transfer process? (if any)
5. How does the system work to get the attention of political leaders related to the four-year-to-four-year public university transfer credit process?
6. How long do bureaucratic leaders need to articulate new policy?
7. What do bureaucratic leaders and political leaders explicitly seek to articulate and implement to provide a seamless transfer system?
8. Does your state have a plan about Financial Aid Policy? Can Financial Aid Policy increase the retention of transfer students?
9. Would your state be interested in participating in the creation of a seamless transfer system intra states? (optional)



## Appendix B – Methodology Steps of the Study

The Mixed Methods Sequential Explanatory Design Procedures' Visual Model (Creswell, 2015, p. 60).



Research Questions:

- What results emerge from comparing the explanatory qualitative data about the transfer process with outcomes from the quantitative data at the institutional, state and/or national level? (Mixed-methods question)
- What factors are important to the adoption of a policy when providing an effective transfer credit process? (Quantitative question)
- What kind of articulation agreements and guidelines are currently governing transfer processes at the state level? What do bureaucratic leaders explicitly seek to determine to provide a seamless transfer system? (Qualitative question)

## Appendix C – States’ Governance Structure

*Postsecondary Governance Structures (Adopted from NCHEMS, 2020)*

State	Entity Name	Entity Function	Scope of Authority	Legal Authority	Type of Institutions
Alabama	Alabama Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)
Alaska	University of Alaska Board of Regents	Governing	State-wide	Statutory	Public four-year and public two-year
Arizona	Arizona Board of Regents	Governing	Systemwide	Constitutional	Public four-year
Arkansas	Arkansas Higher Education Coordinating Board	Coordinating	State-wide	Statutory	Public four-year and public two-year
California	Regents of the University of California	Governing	Systemwide	Constitutional	Public four-year
California	California State University Board of Trustees	Governing	Systemwide	Constitutional	Public four-year
California	Board of Governors of the California Community Colleges	Governing	Systemwide	Constitutional	Public two-year
Colorado	Colorado Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)
Connecticut	Connecticut Board of Regents for Higher Education	Governing	Systemwide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)

Delaware	Not applicable				
District of Columbia	Not applicable				
Florida	State University System of Florida Board of Governors	Governing	Systemwide	Constitutional	Public four-year
Florida	Florida State Board of Education	Governing	Systemwide		Public two-year
Georgia	Board of Regents of the University System of Georgia	Governing	Systemwide	Constitutional	Public four-year, Public two-year
Georgia	State Board of the Technical College System of Georgia	Governing	Systemwide	Statutory	public two-year
Hawaii	Board of Regents of the University of Hawaii	Governing	State-wide	Statutory	Public four-year and public two-year
Idaho	Idaho State Board of Education	Governing	State-wide	Statutory	Public four-year and public two-year
Illinois	Illinois Board of Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Indiana	Indiana Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Iowa	Board of Regents State of Iowa	Governing	Systemwide	Statutory	Public four-year,
Iowa	Iowa State Board of Education	Governing	Systemwide	Statutory	Public two-year,
Kansas	Kansas Board of Regents (Governing)	Governing and coordinating	State-wide	Constitutional	Public four-year and
Kansas	Kansas Board of Regents (Coordinating)	Governing and coordinating	State-wide	Constitutional	Public four-year and public two-year
Kentucky	Kentucky Council on Postsecondary Education	Coordinating	State-wide	Statutory	Public four-year and public two-year and other

					(e.g., Independent/non-profit, proprietary, online or specialty)
Louisiana	Louisiana Board of Regents	Coordinating	State-wide	Constitutional	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Maine	University of Maine System Board of Trustees	Governing	Systemwide	Charter	Public four-year
Maine	Maine Community College System Board of Trustees	Governing	Systemwide	Statutory	Public two-year
Maryland	Maryland Higher Education Commission	Coordinating	State-wide	Statutory	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Massachusetts	Massachusetts Board of Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year
Michigan	Not applicable				
Minnesota	University of Minnesota Board of Regents	Governing	Systemwide	Constitutional	Public four-year
Mississippi	Mississippi Board of Trustees of State Institutions of Higher Education	Governing	Systemwide	Constitutional	Public four-year
Mississippi	Missouri Coordinating Board for Higher Education	Coordinating	State-wide	Constitutional	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Missouri	Missouri Coordinating Board for Higher Education	Coordinating	State-wide	Constitutional	Public four-year and public two-year and other

					(e.g., Independent/non-profit, proprietary, online or specialty)
Montana	Montana Board of Regents for Higher Education (Governing)	Governing and coordinating	State-wide	Constitutional	Public four-year and public two-year
Montana	Montana Board of Regents for Higher Education (Coordinating)	Governing and coordinating	State-wide	Constitutional	Public two-year
Nebraska	Nebraska Coordinating Commission for Postsecondary Education	Coordinating	State-wide	Constitutional	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Nevada	Board of Regents of the Nevada System of Higher Education	Governing	State-wide	Constitutional	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
New Hampshire	University System of New Hampshire Board of Trustees	Governing	Systemwide	Statutory	Public four-year
New Hampshire	Community College System of New Hampshire Board of Trustees	Governing	Systemwide	Statutory	Public two-year
New Jersey	Not Applicable				
New Mexico	New Mexico Department of Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
New York	City University of New York Board of Trustees	Governing	Systemwide	Statutory	Public four-year and public two-year

New York	Board of Trustees of State University of New York	Governing	Systemwide	Statutory	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary)
North Carolina	University of North Carolina Board of Governors	Governing	Systemwide	Statutory	Public four-year
North Carolina	North Carolina State Board of Community Colleges	Governing	Systemwide	Statutory	Public two-year
North Dakota	North Dakota State Board of Higher Education	Governing	State-wide	Constitutional	Public four-year and public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Ohio	Ohio Department of Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year
Oklahoma	Oklahoma State Regents for Higher Education	Coordinating	State-wide	Constitutional	Public four-year, public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Oregon	Oregon Higher Education Coordinating Commission	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
Pennsylvania	Pennsylvania State System of Higher Education Board of Governors	Governing	State-wide	Constitutional	Public four-year
Rhode Island	Rhode Island Council on Postsecondary Education	Governing	Systemwide	Statutory	Public four-year, public two-year and other (e.g.,

					Independent/no n-profit, proprietary, online or specialty)
South Carolina	South Carolina Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)
South Dakota	South Dakota Board of Regents	Governing	Systemwide	Constitutional	Public four-year
South Dakota	South Dakota Board of Technical Education	Coordinating	Systemwide	Statutory	Public two year
Tennessee	Tennessee Higher Education Commission	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)
Texas	Texas Higher Education Coordinating Board	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)
Utah	Utah Board of Higher Education	Governing	State-wide	Statutory	Public four-year and public two-year
Vermont	Vermont State Colleges Board of Trustees	Governing	Systemwide	Statutory	Public four-year and public two-year
Virginia	State Council of Higher Education for Virginia	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/no n-profit, proprietary, online or specialty)



Washington	Washington Student Achievement Council	Coordinating	State-wide	Statutory	Public four-year, public two-year and other (e.g., Independent/non-profit, proprietary, online or specialty)
West Virginia	West Virginia Higher Education Policy Commission	Coordinating	Systemwide	Statutory	Public four-year
West Virginia	West Virginia Council for Community and Technical College Education	Coordinating	Systemwide	Statutory	Public two-year
Wisconsin	Board of Regents of the University of Wisconsin System	Governing	Systemwide	Statutory	Public four-year and public two-year
Wisconsin	Wisconsin Technical College System Board	Coordinating	Systemwide	Statutory	Public two-year
Wyoming	Wyoming Community College Commission	Coordinating	Systemwide	Statutory	Public two-year

#### Appendix D - The List of Interviewed States

State	Entity Name	Entity Function	Scope of Authority	Legal Authority	Type of Institutions
Alabama	Alabama Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year,
Alaska	Alaska Commission on Postsecondary Education	Governing	State-wide	Statutory	Public four-year and public two-year
Arizona	Arizona Board of Regents	Governing	Systemwide	Constitutional	Public four-year
Arkansas	Arkansas Higher Education Coordinating Board	Coordinating	State-wide	Statutory	Public four-year and public two-year
California	Board of Governors of the California Community Colleges	Governing	Systemwide	Constitutional	Public two-year
Colorado	Colorado Department of Higher Education	Coordinating	State-wide	Statutory	Public four-year

Connecticut	Connecticut Office of Higher Education	Governing	Systemwide	Statutory	Public four-year,
Delaware	Delaware Higher Education Office				Public Four-year
Idaho	Idaho State Board of Education	Governing	State-wide	Statutory	Public four-year and public two-year
Illinois	Illinois Board of Higher Education	Coordinating	State-wide	Statutory	Public four-year
Indiana	Indiana Commission on Higher Education	Coordinating	State-wide	Statutory	Public four-year
Iowa	Board of Regents State of Iowa	Governing	Systemwide	Statutory	Public four-year,
Kansas	Kansas Board of Regents (Governing)	Governing and coordinating	State-wide	Constitutional	Public four-year
Massachusetts	Massachusetts Department of Higher Education	Coordinating	State-wide	Statutory	Public four-year
Michigan	Michigan Association of State Universities				Public four year
Minnesota	Minnesota State System of college and universities	Governing	Systemwide	Constitutional	Public four-year
Nebraska	Nebraska Coordinating Commission for Postsecondary Education	Coordinating	State-wide	Constitutional	Public four-year
Nevada	Nevada System of Higher Education	Governing	State-wide	Constitutional	Public four-year
New Hampshire	University System of New Hampshire	Governing	Systemwide	Statutory	Public four-year
New Jersey	New Jersey Office of Secretary of Higher Education				Public four years
New York	NYS Education Department	Governing	Systemwide	Statutory	Public four-year and public two year
North Dakota	North Dakota University System	Governing	State-wide	Constitutional	Public four-year
Ohio	Ohio Department of Higher Education	Coordinating	State-wide	Statutory	Public four-year and public two-year

Oklahoma	Oklahoma State System for Higher Education	Coordinating	State-wide	Constitutional	Public four-year,
Oregon	Oregon Higher Education Coordinating Commission	Coordinating	State-wide	Statutory	Public four-year
Pennsylvania	Pennsylvania's State System of Higher Education	Governing	State-wide	Constitutional	Public four-year
Rhode Island	Rhode Island office of the Postsecondary Commissioner	Governing	Systemwide	Statutory	Public four-year
Utah	Utah Systems of Higher Education	Governing	State-wide	Statutory	Public four-year and public two-year
Vermont	Vermont State Colleges Board of Trustees	Governing	Systemwide	Statutory	Public four-year and public two-year
Virginia	State Council of Higher Education for Virginia	Coordinating	State-wide	Statutory	Public four-year,
Washington	Washington Student Achievement Council	Coordinating	State-wide	Statutory	Public four-year,
West Virginia	West Virginia Higher Education Policy Commission	Coordinating	Systemwide	Statutory	Public four-year
Wyoming	Wyoming Community College Commission	Coordinating	Systemwide	Statutory	Public two-year

## Appendix E – IRB Approval Letter



**JAMES MADISON**  
UNIVERSITY®

### NOTICE OF EXEMPT APPROVAL

**DATE:** March 04, 2021  
**TO:** Sevinj Iskandarova, Ph.D. (c), Strategic Leadership Studies  
 Margaret Sloan, Strategic Leadership Studies  
**FROM:** Taimi Castle, Professor, IRB Panel  
**PROTOCOL TITLE:** System Leadership on Seamless and Transparent National-Level Transfer Credit System  
**FUNDING SOURCE:** None  
**PROTOCOL NUMBER:** 21-2317

The request for an exempt determination for the above-referenced study has been approved. The study was determined to be research that is exempt from Institutional Review Board (IRB) review under 45 CFR 46.104 Category 2. The project as described in the application may proceed without further oversight.

Exempting an activity from review does not absolve you from ensuring that the welfare of the subjects participating in the research is protected and that methods used and information provided to gain subject consent are appropriate to the activity. You are reminded that any changes in your protocol that affects human subjects must be submitted to the IRB to determine if review and approval will be required *before* implementing new procedures.

Please direct any questions about the IRB's actions on this project to the IRB Chair:

Dr. Taimi Castle  
 castletl@jmu.edu  
 (540) 568-5929

Taimi Castle

## **Appendix F – Consent Form**

### **Consent to Participate in Research**

#### **Identification of Investigators & Purpose of Study**

You are being asked to participate in a research study conducted by Sevinj Iskandarova, Ph.D. (c) from James Madison University. The purpose of the research study is to explore how the transfer policies across states are functioning, and determine what states are doing regarding postsecondary transfer policy and which factors influence the decision to adopt a state-wide transfer policy. This study will contribute to the researcher's completion of her doctoral dissertation project.

#### **Research Procedures**

The study consists of an interview that will be administered to individual participants at each state's higher education system official representatives. You will be asked to provide answers to a series of questions related to transferring credit process in your state. Your answers will be audio recorded.

#### **Time Required**

Participation in this study will require 10-15 minutes of your time.

#### **Risks**

The investigator does not perceive more than minimal risks from your involvement in this study (that is, no risks beyond the risks associated with everyday life).

#### **Benefits**

Potential benefits from participation in this study include: Exploring potential opportunities related to the transferring credits nation-wide.

#### **Confidentiality**

The results of this research will be presented at James Madison University's Dissertation Defense. While individual responses are obtained and kept in the strictest confidence, aggregate data will be presented representing averages or generalizations about the responses as a whole. Since the study collects data from only one state representor from each state, the information will be identifiable and identifiable responses will be presented in the final form of the study. All data will be stored in a secure location accessible only by the researcher. The researcher retains the right to use and publish the data. At the end of the study, all audio records will be destroyed.

#### **Participation & Withdrawal**

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind.

### Questions about the Study

If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

Sevinj Iskandarova, Ph. D.(c)  
 School of Strategic Leadership Studies  
 Studies  
 James Madison University  
 540-568-7020  
[iskandsx@jmu.edu](mailto:iskandsx@jmu.edu)

Dr. Margaret F. Sloan  
 School of Strategic Leadership  
 Studies  
 James Madison University  
 540-568-7020  
[sloanmf@jmu.edu](mailto:sloanmf@jmu.edu)

### Questions about Your Rights as a Research Subject

Dr. Taimi Castle  
 Chair, Institutional Review Board  
 James Madison University  
 (540) 568-5929  
[castletl@jmu.edu](mailto:castletl@jmu.edu)

### Giving of Consent

I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I have been given satisfactory answers to my questions. The investigator provided me with a copy of this form. I certify that I am at least 18 years of age.

☐ I give consent to be (*audio*) recorded during my interview. \_\_\_\_\_ (initials)

\_\_\_\_\_  
 Name of Participant (Printed)

\_\_\_\_\_  
 Name of Participant (Signed)

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Name of Researcher (Signed)

\_\_\_\_\_  
 Date

## References

- AASCU Government Relations and Policy Analysis Division. (2019). *Top 10 Higher Education State Policy Issues for 2019*. Retrieved August, 2020 from <https://www.aascu.org/policy/publications/policy-matters/Top102019.pdf>
- Agresti, A., & Finlay, B. (1997). *Statistical methods for the social sciences*. Upper Saddle River, N.J. Prentice Hall.
- Bastedo, M. N., Altbach, P. G., & Gumport, P. J. (Eds.). (2016). *American higher education in the twenty-first century: Social, political, and economic challenges*. JHU Press.
- Berry, W. D., Fording, R. C., Ringquist, E. J., Hanson, R. L., & Klarner, C. E. (2010). Measuring Citizen and Government Ideology in the U.S. States: A Re-appraisal. *State Politics & Policy Quarterly*, 10(2), 117–135. <https://doi.org/10.1177/153244001001000201>
- Box-Steffensmeier, J. M., & Jones, B. S. (1997). Time is of the essence: Event history models in political science. *American Journal of Political Science*, 1414-1461.
- Box-Steffensmeier, J. M., Box-Steffensmeier, J. M., & Jones, B. S. (2004). *Event history modeling: A guide for social scientists*. Cambridge University Press.
- Breger, M. J., & Edles, G. J. (2015). *Independent agencies in the United States: Law, structure, and politics*. Oxford University Press, USA.
- Byar, D. P., & Mantel, N. (1975). 393: Some Interrelationships among the Regression Coefficient Estimates Arising in a Class of Models Appropriate to Response-Time Data. *Biometrics*, 943-947.
- Charmaz, K. (2014). *Constructing grounded theory*. sage.

- Chen Q., Christy, A., Owens, M., Bortz, D., Greene, W., & King, B. (2012). Two-Plus-Two Construction Management Programs and Articulation Agreements, *International Journal of Construction Education and Research*, 8 (1), 4-25, DOI: 10.1080/15578771.2011.602179.
- Clemetsen, B., Furbeck, L., & Moore, A. (2013). Enabling student swirl: Understanding the data and best practices for supporting transfer students. *Strategic Enrollment Management Quarterly*, 1(3), 153–165.
- Cohen, M. D., March, J. G., & Olsen, J. P. (1972). A garbage can model of organizational choice. *Administrative science quarterly*, 1-25.
- Cohen, M. D., & March, J. G. (1974). Leadership and ambiguity: The American college president.
- Cox, D. R. (1972). The analysis of multivariate binary data. *Applied statistics*, 113-120.
- Creech, J. D., Lord, J. M., & Cornett, L. (2007). Clearing paths to college degrees: Transfer policies in SREB states. Atlanta, GA: Southern Regional Education Board.
- Creswell, J. W. (2016). Reflections on the MMIRA the future of mixed methods task force report.
- Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage publications.
- Delaney, J. A. (2014). The role of state policy in promoting college affordability. *The ANNALS of the American Academy of Political and Social Science*, 655(1), 56-78.
- Doyle, W. R., & Kirst, M. W. (2015). Explaining Policy Change in K-12 and Higher



Education. Remaking College: The changing ecology of higher education, 190-209.

Dreier, L., Nabarro, D., & Nelson, J. (2019). Systems leadership for sustainable development: strategies for achieving systemic change. USA: Harvard Kennedy School.

Eaton Corporation Annual Report (2013). Retrieved from [https://www.annualreports.com/HostedData/AnnualReportArchive/e/NYSE\\_ETN\\_2013.pdf](https://www.annualreports.com/HostedData/AnnualReportArchive/e/NYSE_ETN_2013.pdf)

Education Transfer Highway, Change: The Magazine of Higher Learning, 52:1, 8-14, DOI:10.1080/00091383.2020.1693814

Forbes, J., Song, J., Lyon, L. A., Maxwell, L., & Tucker, C. (2019, February). Community College Transfer Pathways. In *Proceedings of the 50th ACM Technical Symposium on Computer Science Education* (pp. 964-965).

Foster, G. M., & Anderson, B. G. (1978). *Medical anthropology*. John Wiley & Sons, Inc. 605 3rd Avenue, New York, NY 10016, USA.

Gagnon, Y. C. (2010). *The case study as research method: A practical handbook*. PUQ.

Gándara, D. (2019). Does evidence matter? An analysis of evidence use in performance-funding policy design. *The Review of Higher Education*, 42(3), 991-1022.

Green, J., & Caracelli, V. (1997). Crafting mixed-method evaluation designs. *New Directions for Evaluation*, 74, 5-17.

Gross, J. P., & Berry, M. S. (2016). The relationship between state policy levers and student mobility. *Research in Higher Education*, 57(1), 1-27.

Grupp, F. W., & Richards, A. R. (1975). Variations in elite perceptions of American

- states as referents for public policy making. *American Political Science Review*, 69(3), 850-858.
- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), 105.
- Guo, S. A., & DiPietro, L. A. (2010). Factors affecting wound healing. *Journal of dental research*, 89(3), 219-229.
- Hicklin, A., & Meier, K. J. (2008). Race, structure, and state governments: The politics of higher education diversity. *The Journal of Politics*, 70(3), 851-860.
- Hodara, M., Martinez-Wenzl, M., Stevens, D., & Mazzeo, C. (2016). Improving credit mobility for community college transfer students. *Planning for Higher Education*, 45(1), 51.
- Howell, L. (2019, November 2). Why the world needs systems leadership, not selfish leadership. Retrieved from World Economic Forum website:  
<https://www.weforum.org/agenda/2019/11/why-the-world-needs-systems-leadership-not-selfish-leadership/>
- Ignash, J. M., & Townsend, B. K. (2000). Evaluating state-level articulation agreements according to good practice. *Community College Review*, 28(3), 1-21.
- Ishitani, T. T., & Flood, L. D. (2018). Student transfer-out behavior at four-year institutions. *Research in Higher Education*, 59(7), 825-846.
- James, Q. W. (1989). Bureaucracy: What government agencies do and why they do it. *New York: Basic. Google Scholar*.
- Jenkins, D., & Fink, J. (2015). What we know about transfer. New York, NY: Columbia University, Teachers College, Community College Research Center.

- Johnson, R., Kast, F., & Rosenzweig, J. E. (1964). Systems theory and management. *Management Science*, 10 (3), 367-384.
- Kerr, C., & Gade, M. L. (1989). *The Guardians: Boards of Trustees of American Colleges; What They Do and How Well They Do It*. Association of Governing Boards of Universities and Colleges. 1133 20th Street NW Suite 300, Washington, DC 20036.
- Kerr, C. (2001). *The uses of the university*. Harvard University Press.
- Kintzer, F. C., & Wattenbarger, J. L. (1985). *The Articulation/Transfer Phenomenon: Patterns and Directions. Horizons Issues Monograph Series*. American Association of Community and Junior Colleges, One Dupont Circle, NW, Washington, DC 20036.
- Kirk-Kuwaye, C. & Kirk-Kuwaye, M. (2007). A student of engagement patterns of lateral and vertical transfer students during their first semester at a public research university. *Journal of the First-Year Experience & Students in Transition*, 19(2), 9-27.
- Layton, R., Brawner, C., Mobley, C., & Shealy, E. (2013). A Descriptive Study of Engineering Transfer Students at Four Institutions: Comparing Lateral and Vertical Transfer Pathways.
- Li, D. (2010). They need help: Transfer students from four-year to four-year institutions. *The Review of Higher Education*, 33(2), 207-238.
- Li, A. Y., & Zumeta, W. (2015). State support for higher education. In *The Palgrave international handbook of higher education policy and governance* (pp. 463-482). Palgrave Macmillan, London.

- Li, A. Y., & Zumeta, W. (2019). Helping Students or Just Taking Their Cuts? How Prioritization of State Student Aid Programs Responds to Downturns in Higher Education Appropriations. *Teachers College Record*, 121(8), n8.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. sage.
- Mankins, M. C., & Steele, R. (2005). Turning great strategy into great performance. *Harvard business review*, 2607.
- Mantel, N., & Hankey, B. F. (1978). A lofistic rlgression analysis of response-time data where the hazard function is time dependent. *Communications in Statistics-Theory and Methods*, 7(4), 333-347.
- Mazzoni, T. L. (1993). The changing politics of state education policy making: A 20-year Minnesota perspective. *Educational Evaluation and Policy Analysis*, 15(4), 357-379.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (3rd ed). San Francisco, CA: Jossey-Bass
- McGee, J. (2016). Breakpoint: The Changing Marketplace for Higher Education. *Council on Undergraduate Research Quarterly*, 36(4), 48-49.
- McLendon, M. K., Hearn, J. C., & Mokher, C. G. (2009). Partisans, professionals, and power: The role of political factors in state higher education funding. *The Journal of Higher Education*, 80(6), 686-713.
- Merriam, S. B., & Tisdell, E. J. (2016). Designing your study and selecting a sample. *Qualitative research: A guide to design and implementation*, 73-104.

- Mintrom, M. A. (1994). *Policy entrepreneurship in theory and practice: A comparative state analysis of the rise of school choice as a policy idea* (Doctoral dissertation, State University of New York at Stony Brook).
- Mobley, C., Shealy, E. G., & Brawner, C. E. (2013, October). First-generation engineering transfer students: A qualitative study of social and cultural capital. In *2013 IEEE Frontiers in Education Conference (FIE)* (pp. 1651-1653). IEEE.
- Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. *Nursing research*, 40(2), 120-123.
- Myers, M. H., Hankey, B. F., & Mantel, N. (1973). A logistic-exponential model for use with response-time data involving regressor variables. *Biometrics*, 257-269.
- Parmley, K., Bell, A., L'Orange, H., & Lingenfelter, P. (2009). State budgeting for higher education in the United States. *Report, State Higher Education Executive Officers*.
- Patton, M. Q. (2003). Utilization-focused evaluation. In *International handbook of educational evaluation* (pp. 223-242). Springer, Dordrecht.
- Perna, L. W., Finney, J. E., & Callan, P. M. (2014). *The attainment agenda: State policy leadership in higher education*. Baltimore, US: Johns Hopkins University Press.
- Policy manual—Chapter 4 | Instruction Commission (2005, February). Retrieved March 4, 2020, from <https://www.sbctc.edu/colleges-staff/policies-rules/policy-manual/chapter-4.aspx#section-4-30>
- Ramosaj, B. (2014). Systems theory and systems approach to leadership. *ILIRIA international review*, 4(1), 59-76.
- Roldan, R. (2019, August 26). New law makes it easier for college students to avoid

- taking classes that won't transfer. *The Texas Tribune*. Retrieved from <https://www.texastribune.org/2019/08/26/college-transfer-bill-texas-students/>
- Roska, J., and Keith, B. (2008). Credits, Time, and Attainment: Articulation Policies and Success After Transfer. *Educational Evaluation and Policy Analysis*, 30(3), 236–254.
- Rossmann, G. B., & Wilson, B. L. (1985). Numbers and words: Combining quantitative and qualitative methods in a single large-scale evaluation study. *Evaluation review*, 9(5), 627-643.
- Sabatier, P. A. (1999). Theories of the policy process. *Boulder, CO: Westview*.
- Sherman, J., & Shea, P. (2020) Interstate Passport®: The General Education Transfer Highway. *Change: The Magazine of Higher Learning*, 52 (1), 8-14.
- Simone, S. A. (2014). Transferability of Postsecondary Credit Following Student Transfer or Coenrollment. Statistical Analysis Report. NCES 2014-163. *National Center for Education Statistics*.
- Shapiro, D., Dunder, A., Huie, F., Wakhungu, P.K., Bhimdiwali, A., Nathan, A., & Youngsik, H. (2018, July). Transfer and Mobility: A National View of Student Movement in Postsecondary Institutions, Fall 2011 Cohort (Signature Report No. 15). Herndon, VA: National Student Clearinghouse Research Center.
- Smart Asset. (2018). *Top States for Higher Education – 2018 Edition*. Retrieved August, 2020, from <https://smartasset.com/student-loans/top-states-for-higher-education-2018-edition>
- Solodev. (2019, August 2). *Articulation*. Retrieved February 23, 2020 from <http://www.fldoe.org/policy/articulation/>

- State Council of Higher Education for Virginia (2016, July 19). State Policy on College Transfer. Retrieved February 15, 2020 from <https://www.schev.edu/docs/default-source/institution-section/GuidancePolicy/policies-and-guidelines/transferpolicy2018.pdf>
- Starkweather, J., & Moske, A. K. (2011). Multinomial logistic regression.
- Steele, F., Goldstein, H. and Browne, W. (2004) A general multistate competing risks model for event history data, with an application to a study of contraceptive use dynamics. *Statistical Modelling* 4: 145-159.
- Tashakkori, A., Teddlie, C., & Teddlie, C. B. (1998). *Mixed methodology: Combining qualitative and quantitative approaches* (Vol. 46). sage.
- Tandberg, D. A., & Griffith, C. (2013). State support of higher education: Data, measures, findings, and directions for future research. In *Higher education: Handbook of theory and research* (pp. 613-685). Springer, Dordrecht.
- The Hechinger Report. (2016, November 22). Transfer students face debt more classes. Retrieved February 13, 2020 from <https://www.usnews.com/news/national-news/articles/2016-11-22/when-credits-dont-count-transfer-students-face-debt-more-classes>
- Thompson, R. (1977). The estimation of heritability with unbalanced data: ii. data available on more than two generations. *Biometrics*, 497-504.
- Tobolowsky, B. F., & Cox, B. E. (2012). Rationalizing neglect: An institutional response to transfer students. *The Journal of Higher Education*, 83(3), 389-410.
- Tullai-McGuinness, S. (2016). How to Get on a Hospital or Health System Board. *Ohio nurses review*, 91(5), 19-19.

- U.S. Government Accountability Office. (2017). Higher education: Students need more information to help reduce challenges in transferring college credits. Report to Congressional Requesters (GAO-17-574 U). Washington, DC: Author.
- Vermunt, J. K., & Moors, G. (2009). Event history analysis. *Handbook of quantitative methods in psychology*, 658-674.
- Wellman, J. (2002). State policy and community college–baccalaureate transfer (National Center Report No. 02–06). San Jose, CA: National Center for Public Policy and Higher Education and the Institute for Higher Education Policy.
- White, M. D., & Marsh, E. E. (2006). Content analysis: A flexible methodology. *Library trends*, 55(1), 22-45.
- Wine, J. S., Heuer, R. E., Wheelless, S. C., Francis, T. L., Franklin, J. W., & Dudley, K. M. (2002). Beginning Postsecondary Students Longitudinal Study: 1996-2001 (BPS: 1996/2001) Methodology Report. Technical Report. NCES 2002-171. *National Center for Education Statistics*.