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An Analysis of Faculty Collaboration on Student Transfer through Articulation Agreements

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AN ANALYSIS OF FACULTY COLLABORATION ON STUDENT TRANSFER THROUGH ARTICULATION AGREEMENTS

by

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ABSTRACT

This dissertation explored the ways faculty at two- and four-year institutions with articulation agreements collaborate to improve the retention rates of transfer students, using the Wilder Collaboration Factors (WCF) as a theoretical lens. This research was conducted to analyze the level of collaboration, and differentiate among the perceptions of collaboration among university and community college faculty. The purpose of the study was to build upon the limited amount of research on postsecondary collaboration. Nonparametric statistical analyses were performed to provide answers to the research questions.

Analysis of the data revealed that the participants demonstrated strength in 18 of the 20 WCF. The analysis also indicated that there was no statistically significant difference between the perceptions of collaboration among university and community college faculty. A principal components analysis led to the development of a modified conceptual framework joining the WCF and stages of collaboration that may be used to inform practice and policy. Recommendations include allocating faculty release time or incentives for collaboration, expanding articulation agreements to include K-12 alignment and policies on faculty collaboration, and using the Wilder Collaboration Factors Inventory (WCFI) as a tool to continue to assess the strengths, weaknesses, and differences in perception among university and community college faculty as they advance in collaborative stages.

This dissertation is dedicated to my dad.

I did this for me, but I never would have been able to do this without you.

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LIST OF ACRONYMS AND ABBREVIATIONS

AA	Associate of Arts
AS	Associate of Science
CUNY	City University of New York
FTIC	First-Time-In-College
GE	General Education
KMO	Kaiser-Meyer-Olkin
UCCTOP	Urban Community College Transfer Opportunities Program
UCF	University of Central Florida
WCF	Wilder Collaboration Factors
WCFI	Wilder Collaboration Factors Inventory

CHAPTER 1
INTRODUCTION

Background

The promise of increased access to higher education in the U.S. has been a high priority goal of the Obama Administration. President Obama emphasized the critical need to increase access to higher education in his 2014 State of the Union Address (President Barack Obama, 2014). He proposed a goal for the nation to graduate eight million new college graduates by 2020. This goal also aligned with the Lumina Foundation's (2013) Goal 2025, which was committed to ensuring that 60% of Americans earn a postsecondary degree by the year 2025. In 2013, the U.S. ranked 11th globally in postsecondary attainment, and only 40% of the nation's population had a postsecondary degree (Lumina Foundation, 2013). In 2010, the state of Florida ranked 29th in the nation on attaining this goal (Florida College Access Network, 2010). Degree attainment rates for each of Florida's counties for adults ages 25 to 64 in the year 2012 are shown in Appendix A. If current completion rates persist, Florida has been projected to produce 1.9 million more graduates, 391,000 short of the 2025 goal (Florida College Access Network, 2010). Therefore, there is a pressing need to examine strategies that could potentially lead to higher postsecondary degree attainment.

In his previous State of the Union addresses, President Obama advocated community colleges as a key component for access to higher education (Remarks by the President, 2009, 2010, 2011). Due to the affordability and less stringent admission requirements of community colleges when compared to four-year institutions, the

pathway of transfer from community colleges to four-year institutions is a vital component in increasing access to higher education for students and in meeting the President's goal (Handel, 2011). Furthermore, it is evident that college students have been pursuing this path. According to the National Student Clearinghouse Research Center (2015), during the 2013-14 academic year approximately half (46%) of the students nationwide who graduated from a four-year institution had been enrolled at a two-year institution within the previous 10 years. In addition, in 14 states, more than half of the four-year graduates were previously enrolled at a two-year institution.

Although the transfer pathway has become a popular route to earning a baccalaureate degree, researchers have indicated that community college transfer students are disadvantaged when compared to students who are native to four-year institutions. Pascarella and Terenzini (2005) stated that students, who begin pursuing their baccalaureate degree at four-year institutions, as opposed to two-year institutions, have an advantage of 15% in their chances of completion. Furthermore, these researchers concluded that only 8% of students who begin their baccalaureate pursuit at a two-year institution graduate within five years versus 57% of students who begin their baccalaureate pursuit at a four-year institution. They argued that part of this discrepancy is due to whether or not students indeed transfer to a four-year institution, the additional amount of time necessary to complete a baccalaureate degree, as well as economic conditions and state policies and structures that affect two- and four-year institutions. Berkner, He, and Cataldi (2002) indicated in their research that baccalaureate retention for transfer students was not the only problem; the intent to transfer also presented issues.

In their research conducted in 2001, they showed that 25% of two-year institution students transferred to a four-year institution and persisted versus 12% of those students who intended to transfer but never did.

Despite efforts to make the transfer process from two-year to four-year institutions more seamless, the problem of poor retention rates of these students has persisted. One such effort at developing a more seamless transition is the implementation of articulation agreements between two-year and four-year institutions. Floyd (2006) defined an articulation agreement as a model in which the four-year institution guarantees student admission and credit acceptance from the cooperating two-year institution upon earning an associate's degree. Because obtaining an associate's degree is typically the only credential in statewide articulation agreements, it is considered to be a key stepping stone in the transfer path from community colleges to four-year institutions (Ignash & Townsend, 2000, 2001; Roksa & Calcagno, 2010). This is especially true in the state of Florida where over two thirds of students (compared to one third nationally) earn associate's degrees before transferring to a four-year institution (Florida Department of Education, 2003; Florida Postsecondary Education Planning Commission, 1999). Furthermore, Ignash and Townsend (2001) reported that 34 of the 43 states in their study had some form of a statewide articulation agreement.

Unfortunately, Handel and Williams (2012) found that statewide articulation agreements did not show a statistically significant impact on transfer rates. Even though statewide articulation agreements have been designed to create a more seamless transition from two-year to four-year institutions, Handel and Williams showed that there was a

negative correlation between the transfer rate from states that have implemented articulation agreements and the overall transfer rate. In addition, Anderson, Sun, and Alfonso (2006a) found that the probability of a student transferring from a two-year institution to a four-year institution in a state with an articulation agreement was the same as a student transferring from a two-year institution to a four-year institution in a state without an articulation agreement.

Handel and Williams (2012) stated that qualitative studies have been conducted claiming that institution-to-institution articulation agreements have more of an impact on transfer than statewide policies. In these agreements, institutions partner with one another and offer services for students directed toward creating an even smoother transfer pathway. In contrast, Packard, Gagnon, and Senas (2012) concluded that partnerships between community colleges and four-year institutions still need further development. That is, further research is needed to strengthen existing agreements and to facilitate systemic approaches (Cuseo, 2000; Education Commission of the States, 2001; Hungar & Lieberman, 2001; Rifkin, 1998; Wellman, 2001).

An essential component in creating a successful institution-to-institution articulation agreement is collaboration. Partnerships between institutions must harbor strong collaboration in order to develop seamless articulation agreements that facilitate the transfer process (Cuseo, 2000; Kintzer & Wattenbarger, 1985; Rifkin, 1998; Tobolowsky, 1998). Furthermore, effective collaboration between two-year and four-year postsecondary institutions can decrease attrition rates during student transfer (Ignash & Townsend, 2000; Just & Adams, 1997; Wellman, 2002). As a result, there is a need

for more information in order to inspire a movement toward more collaboration among all institutions, within their own states and nationwide (Sullivan, Dyer, & Franklin, 2004). Researchers have argued that not only should this collaboration occur (Ignash & Townsend, 2000; Knoell, 1990; Tobolowsky, 1998), but especially between two-year and four-year institution faculty members (Cuseo, 2001; Donovan, Shaier-Peleg, & Forer, 1987; Eaton, 1992). In fact, an essential component of developing a seamless transfer experience is faculty collaboration (Donovan, 1992; Eaton, 1992; Grossbach, 1991; Prager, 1988; Richardson, 1993). Eaton (1992) expounded upon this conclusion by recommending that two-year and four-year institutions place faculty collaboration between institutions at the center of transfer.

Statement of the Problem

Several 21st century researchers have indicated that transfer students' retention and persistence is lacking compared to students who are native to four-year institutions (Berkner et al., 2002; Pascarella & Terenzini, 2005). One effort at developing a more seamless transition for transfer students is the implementation of articulation agreements between two-year and four-year institutions. Anderson, Alfonso, and Sun (2006b) argued that the rise of articulation agreements since 1988 has been state governments' response to keeping the states' costs down while maintaining power and providing access. These costs arise as a result of issues in the transfer process, such as expenses incurred from credits that are not transferable or from excess credits taken as a result of non-transferable courses (National Center for Public Policy and Higher Education, 2011). Ultimately,

Anderson et al. (2006b) claimed that the increase in articulation agreements is a trend on which higher education policymakers must continue to focus:

> First, because community colleges serve as the primary gateway of access to higher education for disadvantaged students, the potential impact of statewide articulation agreements is significant given both the vocational character of these institutions and the extent to which opportunities for social mobility and degree attainment will be enhanced or thwarted in the future. Second, because higher education is now in the midst of a fiscal crisis, these agreements furnish state governments with the possibility to reduce costs while rhetorically maintaining a commitment to access. . . .(pp. 423-424)

Researchers have shown that merely having an articulation agreement in place is not enough to impact transfer rates (Anderson et al., 2006a; Gross & Goldhaber, 2009; Handel & Williams, 2012). Evidence suggests that there is a pressing need to perfect program alignment between two-year and four-year institutions as well as the collaboration between them (Best & Ghering, 1993; Davies & Casey, 1999; Packard et al., 2012). Researchers believe that this can be accomplished if institutions engage in faculty collaboration (Ignash & Townsend, 2000; Knoell, 1990; Tobolowsky, 1998). Although Eaton (1992) described the ways in which two- and four-year institution faculty collaborated in 16 partnerships, the ways in which faculty collaborated among these 16 partnerships varied greatly raising the question of which factors contribute to a strong or weak collaboration.

Given these continuing questions and trends, this dissertation was undertaken to explore the ways in which faculty between two- and four-year institutions with articulation agreements collaborate in order to increase the retention rate of transfer students. The level of faculty collaboration between universities and community colleges that have an articulation agreement in place was investigated to differentiate between the perceptions of collaboration among university and community college faculty.

Significance of the Study

Although abundant research exists on the barriers of collaboration, little exists on how to cultivate collaboration in higher education (Kezar & Lester, 2009). "Virtually no research on how to enable higher education institutions to conduct collaborative work" has been done (Kezar, 2005, p. 831). Duffield, Olson, and Kerzman (2012) stated that a sufficient amount of research exists regarding partnerships within a postsecondary institution, or between a postsecondary institution and community agencies, businesses, and K-12 schools, but not between institutions in higher education.

The purpose of this study is to build upon the limited amount of research on postsecondary collaboration by examining partnerships between community colleges and four-year institutions that have articulation agreements in place and faculty that collaborate in order to increase the retention rate of their transfer students. By analyzing the collaboration between faculty at two-year and four-year institutions, a systemic approach to strengthening existing articulation agreements may arise. In addition, this study's focus on faculty collaboration may contribute further information on

collaborative processes. This, in turn, may lead to a framework which faculty can use to develop productive partnerships, possibly yielding a more seamless transition for transfer students.

Conceptual Framework

The conceptual framework for this dissertation stems from the literature on collaboration. Gray and Wood (1991) critiqued the literature on collaboration, observing that it places the individual organization at the center of collaboration theory. They argued that the complex networks of relationships that surround organizations and the interdependencies connected with those relationships are the quintessential components of collaboration. This point was also reflected in Mattessich and Monsey's (1992) definition of collaboration:

> Collaboration is a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to: a definition of mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards. (p. 7)

Gray (1989) defined collaboration as "a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible" (Gray, 1989, p. 5). Both of these definitions emphasized collaboration as a process comprised of relationships as opposed to an isolated event.

A single theoretical perspective cannot adequately define collaboration, according to Gray & Wood (1991) who found six key theoretical perspectives that examine collaboration initiatives and procedures adequately: (a) resource dependency theory which focuses on preserving institutional autonomy while cultivating relationships in order to acquire resources; (b) corporate social performance theory or institutional economics theory which focuses on identifying the organization's role and responsibility in solving social problems; (c) strategic management theory or social ecology theory which examines ways in which organizations can minimize threats and maximize opportunities in their environments; (d) microeconomics theory which emphasizes efficiency in inter-organizational transactions; (e) institutional theory or negotiated order theory which focuses on organizational structures and their configurations; and (f) political theory which examines and reexamines distribution of power.

Mattessich and Monsey (1992) derived a theoretical framework for organizational collaboration using meta-analysis. They consulted Gray and Wood's (1991) aforementioned theoretical perspectives and developed the following research questions:

1. What are the ingredients of successful collaboration?
2. What makes the difference between success and failure in joint projects?
3. Collaboration--what makes it work?

(Mattessich and Monsey, 1992, p. 7)

Their research on collaboration was carried out in three stages. They first located all of the research conducted on collaboration ranging from topics on health, social science, education, and public affairs from 1975 to 1991. A total of 133 studies were analyzed.

After filtering out studies that were general "how-to" manuals or those that failed to meet the criteria of the study, 18 studies remained. The second stage involved reviewing the 18 studies in order to identify the factors that influenced successful collaboration. The final stage included synthesizing the information from the studies and identifying the 19 factors that influence successful collaborations.

In a second edition, Mattessich, Murray-Close, and Monsey (2001) included an additional 281 research studies on collaboration which served as evidence for validating the original 19 factors. After filtering out studies that did not meet the validation criteria, 22 studies remained and were reviewed. This led to the introduction of a new factor: an appropriate pace of development. The results indicated that there were 20 factors that contribute to the success of strong collaborations. Benefits of collaboration can arise even if ideal amounts of each success factor are not present. The 20 factors, which are known as the Wilder Collaboration Factors (WCF), were grouped into six categories: (a) environment; (b) membership characteristics; (c) process and structure; (c) communication; (d) purpose; and (e) resources. Each category contains related factors. The following paragraphs describe the factors that belong to each category, as well as some of their corresponding implications.

The environment category contains three related factors. The first factor that influences successful collaborations is the history of the collaboration in the community. This history should be existent in the community and set the tone for the roles and expectations required in order to build a trusting partnership. The second factor in the environment category is that the collaborative group is visualized as a leader in the

community. When the collaborative group is perceived as a leader in the community, the collaboration is more likely to be successful. The final factor in the environment category is that the political and social climate surrounding the collaboration is favorable. Individuals who control resources or the general public should support the mission and vision of the collaboration (Mattessich et al., 2001).

The membership characteristics category contains four factors that influence successful collaborations. The first factor is mutual respect, understanding, and trust. In order for a collaboration to be successful, members of the group must have an understanding and respect for each other's institutions in terms of operations, norms, values, limitations, and expectations. The second factor is an appropriate cross-section of members. Successful collaborations contain representatives from each division of the organization in which their division is affected by the collaborative group's decisions. The third factor is that members see collaboration as in their self-interest. The members of the collaborative group must agree that the benefits of the partnership will offset the costs such as the loss of autonomy and "turf." The final factor in the membership characteristics category is the ability to compromise. Collaborative partners must be able to compromise, as it is not possible for the entire group to always agree (Mattessich et al., 2001).

There are six factors that are considered in the process and structure category. The first factor is that members share a stake in both the process and the outcome. In successful collaborations, members of the group believe that they have an "ownership" of the way the group operates as well as of the outcomes of the group. The second factor is

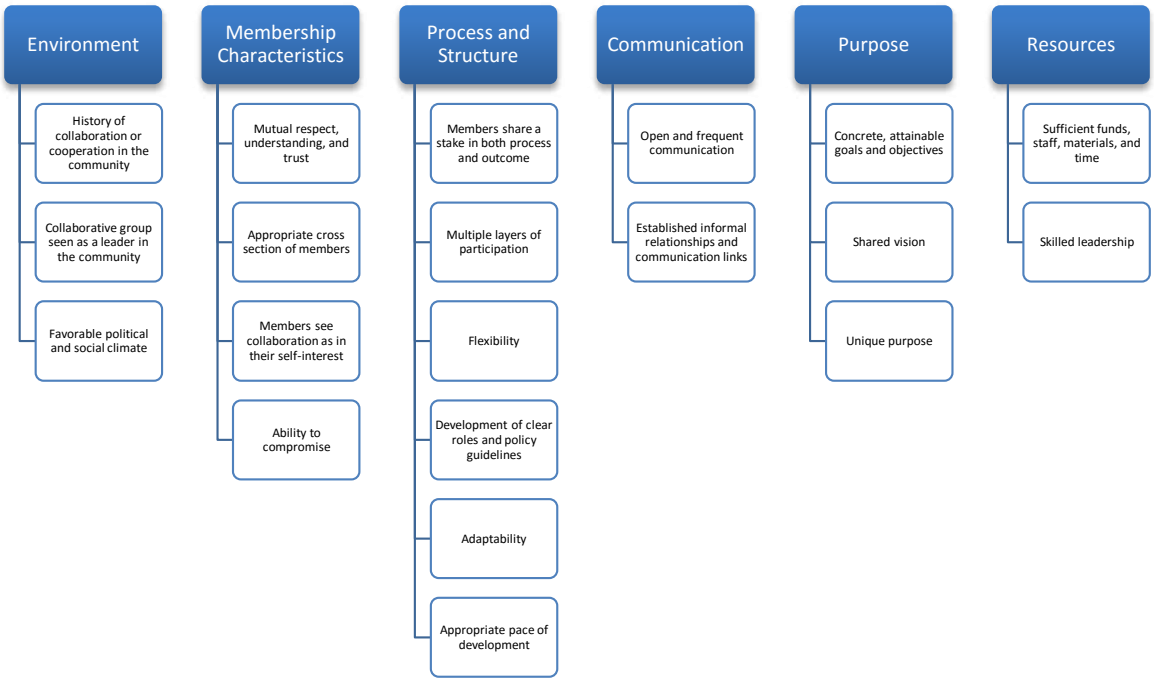
multiple layers of decision-making. Every level of the organization must participate in the decision-making process. This includes upper and middle management as well as operations. The third factor in the process and structure category is flexibility. It is essential that the group is always open to a variety of ways in which it can be organized or accomplish goals. The fourth factor is the development of clear roles and policy guidelines. All members of the collaboration must clearly understand their roles, responsibilities, and purpose as well as how they are expected to fulfill their role. The fifth factor in the process and structure category is adaptability. In order to maintain sustainability, especially in the event of major changes, the group must be willing to adapt in terms of its goals, members, and other characteristics. The sixth factor is an appropriate pace of development. The structure of the collaboration, its resources, and activities are altered when appropriate in order to meet the needs of the group without burdening its capacity (Mattessich et al., 2001).

The fourth category of factors that influence successful collaborations is communication. The first factor in this category is open and frequent communication. It is imperative that collaborative group members interact often, inform one another, openly discuss problems with each other, and convey information to all members of the group. The second factor in the communication category is established informal and formal communication links. Communication links must not only be recorded on paper to ensure the flow of information, but members must also create personal connections in order to build a more informed, cohesive group working toward a common mission (Mattessich et al., 2001).

There are three factors that fit in the purpose category of successful collaborations. The first is concrete, attainable goals and objectives. The goals and objectives of the group must be clear to all members and realistically attainable. The second factor is a shared vision. All members must hold the same vision, with a consensus on the mission, objectives, and strategy. The vision may have been formulated at the beginning of the collaboration or it may have been developed over a period of time as the group worked together. The final factor in the purpose category is a unique purpose. It is important that the collaborative group's mission and goals differ from the mission and goals of the member organizations (Mattessich et al., 2001).

The final category of factors that influence successful collaborations is resources. The first factor pertaining to the resources category is sufficient funds. The group must have a sufficient and consistent financial pool in order to support its operations. The second factor in the resources category is a skilled convener. The individual responsible for bringing the group together must be adept at organizing and interpersonal relations. Individuals must carry out their roles in a fair manner and must be respected by collaborative members (Mattessich et al., 2001).

The categories and their corresponding factors are summarized in Figure 1.



Note. Reproduced with permission from: *Collaboration: What Makes it Work* (2nd ed.) by P. W. Mattessich, M. Murray-Close, and B. R. Monsey, 2001. St. Paul, MN: Wilder Research. (See Appendix B).

Figure 1. Categories and corresponding factors that influence the success of collaboration

Research Questions

In this study, the following research questions serve as the foundation of the analysis of faculty collaboration in institutional partnerships with articulation agreements. The WCF serve as the underlying conceptual framework.

1. What is the current level of faculty collaboration, as defined by the Wilder Collaboration Factors Inventory, between universities and community colleges that have articulation agreements in place?
2. Is there a difference between the perceptions of university faculty and community college faculty on collaboration on transfer?

Definitions of Terms

The following terms will hold their respective definitions throughout the discourse of this research study:

Articulation. "The movement of students--or, more precisely, the students' academic credits--from one point to another" (Cohen, Brawer, & Kisker, 2014, p. 281).

Articulation Agreement. An agreement in which the four-year institution guarantees student admission and credit acceptance from the cooperating two-year institution upon earning an associate's degree (Floyd, 2006).

Attrition. A "student who fails to reenroll at an institution in consecutive terms" (Seidman, 2005, p. 14).

Collaboration. ". . . a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to: a definition of mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards" (Mattessich & Monsey, 1992, p. 7).

Level of Collaboration. For the purposes of this dissertation research, defined quantitatively as the WCF score ranges.

Native Student. A student enrolled at a four-year institution who has no previous postsecondary education.

Perception. For the purposes of this dissertation research, defined quantitatively as the WCF scores that the participants chose to evaluate the collaboration.

Persistence. The "desire and action of a student to stay within the system of higher education from beginning through degree completion" (Seidman, 2005, p. 14).

Retention. The "ability of an institution to retain a student from admission through graduation" (Seidman, 2005, p. 14).

Transfer Student. For the purposes of this dissertation research, defined as a student enrolled at a four-year institution that has previously earned an associate's degree from a two-year institution.

Summary

In response to President Obama's goal of increased access to higher education, the smoothness of the transfer pathway from two-year to four-year institutions is crucial (President Barack Obama's State of the Union Address, 2014). However, current research indicates that transfer students' retention and persistence is lacking compared to students who are native to four-year institutions (Berkner et al., 2002; Pascarella & Terenzini, 2005). Despite the implementation of statewide articulation agreements, the low retention and persistence rates of transfer students remain a problem (Anderson, et al., 2006a; Handel & Williams, 2012). There is some promise in the use of institution-to-institution partnerships based on qualitative research (Handel & Williams, 2012), but the evidence that supports that notion is sparse and there is need of further exploration especially with respect to faculty collaboration between two- and four-year institutions (Ignash & Townsend, 2000; Knoell, 1990; Tobolowsky, 1998). In response to this need, this research was conducted to investigate institution-to-institution faculty collaboration

through articulation agreements on student transfer under the WCF theoretical lens. The results may indicate methods by which institutions can strengthen their collaborative processes and potentially pave a smoother transfer pathway. The next chapter contains a review of the literature on this issue, and Chapter 3 has been used to explain the methodology that was used in analyzing data to respond to each of the research questions. Chapter 4 contains the presentation and analysis of the data. Chapter 5 consists of a summary of the study, discussion of the findings, implications for practice, and recommendations for future research.

CHAPTER 2
LITERATURE REVIEW

Introduction

The literature review was conducted with a focus on articulation agreements, transfer, and collaboration. First, a historical perspective on the development of articulation agreements is provided. The evolution of articulation agreements from the 1980s into the 21st century is examined including examples of varying agreement practices in several U.S. states. Two broad categorizations of articulation policies and practices are discussed: state-mandated articulation agreements and voluntary articulation agreements. In addition, a brief historical context of more specific categorizations of articulation policies and practices is included. Second, the challenges of measuring transfer are analyzed. This section also includes a discussion of the barriers that exist regarding course transfer. Third, collaboration is explained by examining the stages of collaboration, the barriers to collaboration, and existing collaborative partnerships in higher education. This final section includes an analysis of the WCF with respect to collaboration in higher education. Examples from the literature regarding each factor are provided. Overall, the literature reviewed indicated a need for further examination of faculty collaboration in the context of articulation agreements in order to strengthen partnerships among institutions to ease the transfer process.

History of Articulation Agreements

Articulation agreements are not a new phenomenon. According to Sullivan et al. (2004), articulation agreements have been implemented in higher education in some form or another since the mid-20th century. Prior to 1985, little progress had been achieved on easing the transfer process. Between 1965 and 1981, transfer education was de-emphasized compared to other educational missions. As a result many articulation practices were eliminated (Cohen & Brawer, 1987). Approximately half of the 50 states in the U.S. handled transfer issues between institutions on a case-by-case basis (Kintzer & Wattenbarger, 1985). In the late 1980s, the focus on transfer education returned, and articulation was once again placed on the table (Cohen & Brawer, 1987).

One of the first formal agreements was developed in 1985 when a Joint Commission on Junior and Senior Colleges was created alongside the American Association of Collegiate Registrars and Admissions Officers. The purpose of the Commission was to establish policies to help the transfer process of students from two-year to four-year institutions (Bogart & Murphey, 1985). Bender (1990) described the 1980s as a decade in which the concept of articulation agreements transitioned from the work of education policy makers to that of state-level policy makers. For example, in 1985, the Ford Foundation provided the California Postsecondary Education Commission a grant to fund a national study on the most recent policies and programs regarding transfer (Knoell, 1990). The results of this study led to legislation that required the state to monitor transfer issues and provide opportunities for students that would allow their credits to transfer toward a baccalaureate degree. Results also included the following

recommendations: (a) policies stating that transfer students should be treated consistently, (b) faculty should be responsible for developing articulation agreements and transfer policies, (c) policies should be monitored and assessed on a regular basis, (d) transfer students and native students should have the same advanced educational opportunities, (e) information regarding transfer should be available to faculty, (f) grievance procedures should be in place, and (g) a transfer student database should be developed and readily accessible (Knoell, 1990). The extent to which these recommendations were implemented is discussed in detail in the Measuring Transfer and Collaboration sections of this chapter.

The focus on transfer persisted in the 1990s as written articulation agreements, course equivalency guides, and transfer counselors became commonplace in higher education (Sullivan et al., 2004). The year 1991 was noted as the "Year of Transfer and Articulation" based on a report to the American Association of Community Colleges (Bender, 1990). This report drew attention to transfer opportunities for underrepresented ethnic minority groups, career education programs, and the transition from articulation policies to collaborative agreements.

The 21st century has been characterized as an era of increased state-level interest in articulation (Cohen et al., 2014). Articulation agreements have typically been created under the auspices of state boards of higher education (e.g., several states will reach an agreement on a set of general education courses that indicate that a student has completed the requirements necessary to transfer to a public university). Typically, negotiations are recurring in order to keep articulation agreements current (Cohen et al., 2014).

Legislatures in Florida, Illinois, Washington, and Minnesota mandated state-level agencies to be established in order to enact policies that would coordinate the paths of undergraduate students between postsecondary institutions (Sullivan et al., 2004).

Articulation Agreements in Florida

In March of 2000, the State Board of Community Colleges in Florida approved the Guidelines for Concurrent-use Articulation Agreements in order to adopt procedures that monitor the articulation agreements within the state's institutions (Sullivan et al., 2004). A statewide articulation agreement must first be approved by the State Board of Education, after which the Articulation Coordinating Committee analyzes the data, makes recommendations, and forms a committee of representatives who facilitate the articulation in the discipline areas (Florida State Board of Education, 2006; OPPAGA Report No. 02-05, 2002). Florida Senate Bill 1716 (2008) mandated a State College Pilot Project in which nine of the two-year and four-year colleges were required to pilot a transition process to state colleges.

Florida's 2 + 2 program is a specific example of this statewide articulation agreement. The policy states that community college students must first complete 60 credit hours at the community college and then the remaining courses are completed at a university in order to earn a baccalaureate degree (Garcia Falconetti, 2009). Wellman (2002) marked the 2 + 2 concept as a key state policy in higher education that has led to the successes and failures of access, equity, affordability, and degree production. Garcia Falconetti argued for the successes of 2 + 2, indicating that community college students

successfully transferred and graduated from baccalaureate programs with fewer excess credit hours and lower division courses.

A noteworthy institution-to-institution 2 + 2 articulation agreement is the DirectConnect to UCF program that guarantees associates of arts (AA) and select associates of science (AS) graduates from select two-year colleges admission to the University of Central Florida (UCF Regional Campuses, 2012). DirectConnect to UCF boasts of a smooth, faster transition to the University of Central Florida (UCF) that is "worry-free." Valencia College President Shugart described DirectConnect to UCF as a "powerful partnership" that has made Valencia College "a better place to start" (Shugart, 2010). He stated however, that this partnership would require renewal in the coming years.

According to *Response to U.S. Department of Education Request for Information (RFI) on Promising and Practical Strategies to Increase Postsecondary Success* (n.d.), as of Fall 2010 61% of all Florida college transfers were DirectConnect to UCF students transferring from UCF's partner colleges. Success of the DirectConnect to UCF program was apparent in the persistence rates of the transfer students. In the 2010 academic year, 69% of all students who transferred to UCF and earned their bachelor's degrees transferred from DirectConnect to UCF partner colleges. Furthermore, in 2011, 41% of DirectConnect to UCF students earned their bachelor's degree in two years after transfer; 82% in three years; and 95% in four years (*Response to U.S. Department of Education Request*, n.d.).

Articulation Agreements in Other States

Some states (such as Washington) have placed the responsibility of articulation agreements and transfer in the hands of a state Higher Education Coordinating Board. The Washington Council on High School-College Relations is responsible for proposing policies to the board that promote an ease of transfer from community colleges to four-year institutions (Sullivan et al., 2004). Like Washington, Minnesota also has relied on a Coordinating Board for Higher Education. Although the board has been charged with monitoring legislation regarding credit transferability, articulation activities between the two-year and four-year institutions have been independent of board and legislative mandates (Sullivan et al., 2004).

The Illinois state legislature assisted its Board of Higher Education in adopting a freshman admissions policy that emphasized high school preparation for any freshmen with the intent to earn a bachelor's degree, whether they are transferring from the community college or enrolling in a public university (Sullivan et al., 2004). For example, Illinois has implemented career education programs, or 2 + 2 + 2 programs in which high school career education curricula continues into the community college and ultimately leads to a baccalaureate degree (Sullivan et al., 2004). This program is not to be interpreted as a six-year span of vocational education at three institutions but as a program easing the transfer process by aligning curricula that allow students to focus on their career objectives early and throughout their educational pathway.

Because the number of statewide articulation agreements in the U.S. has increased, it has been necessary for community colleges and four-year institutions to

create transfer relationships in order to improve the transfer function allowing for increased access to universities for community college transfers (Robertson & Frier, 1996). Thus, university and community colleges need to be working as a team in order to achieve the access goal (Florida Board of Governors, 2007). Garcia Falconetti (2009) agreed that it was crucial at this point in time to analyze the effectiveness of how articulation programs were working so that increased access to higher education remains within reach. However, Garcia Falconetti also claimed that the future of articulation collaborations was vague due to the increase in selectivity of universities, evolving university missions to focus on first-time-in-college (FTIC) students and graduate education, and the workforce education demand from community colleges. She concluded that monitoring the effectiveness of articulation agreements should be the highest priority.

Articulation Policies and Practices

Transfer articulation agreements between two-year and four-year institutions were once primarily mandated through institutions rather than by states (Bender, 1990). In the 20th century, almost every state had a policy enacted on the transferability of credits from one institution to the next (Bender, 1990). However, Knoell (1990) noted significant differences in articulation policies among the states. Most states had some form of an articulation policy, but some such as Missouri, Iowa, and Michigan were more like guidelines, and others such as Nevada and Florida were mandated (Cohen & Brawer, 1987). Thus, Bender (1994) and Tobolowsky (1998) agreed that due to the variability

and complexity in articulation policies among the states, the classification of a "good" or "normal" articulation agreement outside the context of a state's educational legislation was impossible. Therefore, articulation agreements can be examined through the lens of mandates by state law or voluntary commitments between institutions (Gutierrez, 2004).

State-Mandated Articulation Agreements

According to a survey conducted in 2002 by the American Association for Collegiate Registrars and Admissions Officers, 50% of the 22 responding states had state-mandated articulation agreements (Lauren, 2004). Transfer from two-year to four-year institutions was the type of transfer most readily acknowledged in these agreements. Though all of the responding states reported that voluntary agreements existed in their state, 77% of the responding states reported that these voluntary agreements were arranged privately between institutions. The survey results also indicated that 50% of the responding states' articulation agreements included mandates on transferring general education courses, and 45% of the agreements included mandates on transferring associate's degrees. In a study conducted by Townsend and Ignash (2000), 79% of the 43 responding states had formal articulation agreements, and 44% of those had established a new articulation agreement or strengthened their previous one during 1996-2000. Of the nine states that did not have a statewide articulation agreement, four had a voluntary agreement and two had transfer policies in place from the 1980s that were informal and not statewide.

Several states have used transfer associate degrees or programs in which students earn an associate degree from a community college and are guaranteed admission to a state university as an incoming junior (Cohen et al., 2014). Transfer associate degrees can be understood as a grouping of seven curricular and policy-related elements:

1. A common general education (GE) package
2. Common lower-division pre-major and early-major pathways
3. A focus on credit applicability
4. Junior status upon transfer
5. Guaranteed and/or priority university admission
6. Associate and/or bachelor's degree credit limits
7. An acceptance policy for upper-division courses

(Kisker, Wagoner, & Cohen, 2011, pp. 3-4)

In 2011, 10 states were using transfer associate degree programs, and several other states were in the development phase (Kisker et al., 2011). The use of transfer associate degree programs increased in 2014, with 36 states using transfer associate degree programs and nine states in the development phase (Education Commission of the States, 2014).

Voluntary Articulation Agreements

Many colleges have developed local arrangements regardless of whether or not there was a state mandate. These agreements have been primarily focused on guaranteed admission and/or course equivalencies (Cohen & Brawer, 1987). For example, the City University of New York's (CUNY) policy on community college transfer students

guaranteed admission to a senior college. The Santa Monica College Scholars Program, San Diego Student Transition Project, Sacramento Student Transition Project, and the University of California, Los Angeles Transfer Alliance Program are a few of the local agreement policies that have been formulated in California. These policies typically provided transitional services such as counseling and orientations for students (Cohen & Brawer, 1987). Program to program articulation agreements have also increased. Examples include nursing articulation coordination between New Mexico Junior College and the University of New Mexico, an accounting and business education coordination between Tidewater Community College and Norfolk State University in Virginia, and a number of program agreements between Maricopa County Community College and Arizona State University (Cohen & Brawer, 1987).

Sullivan et al. reported in 2004 that for over 65 years, the Articulation Council of California had functioned as a voluntary, state-supported council without a legislation-mandated organizational structure. Members of the council were selected from both public and private sectors of higher education and did not make policy recommendations to any coordinating board or governing body. Thus, articulation agreements have been nonbinding and serve as curricular guidelines. Other states with voluntary articulation agreements included North Carolina's Joint Committee on College Transfer Students, whose members were from the University of North Carolina General Administration which included all public four-year institutions and the Board of Governors; South Carolina's Commission on Higher Education, whose agreement with four-year institutions guaranteed transfer credit for 43 courses from the two-year institutions as

long as students were registered in AA or AS degrees; Arizona's Transfer Articulation Task Force, whose agreement has provided a link between Maricopa Community Colleges and Arizona State University (Sullivan et al., 2004); and the Illinois Articulation Initiative (2001) comprised of postsecondary faculty charged with developing the general education curriculum, designating the lower-division baccalaureate coursework, and providing institutions with transfer advisors. Regardless of the comprehensiveness of the state's transfer policies, the transition from voluntary agreements to state-mandated agreements has been a continuing trend (Bender 1994; Kintzer & Wattenbarger, 1985).

Articulation Policy Classification Schemes

Several classification schemes in the literature categorize articulation policies and practices more specifically, beyond the broad categories of state-mandated and voluntary. These classification schemes have evolved over time. In 1985, Kintzer and Wattenbarger developed four types of transfer and articulation policies in their survey of 30 states: (a) formal state policies that focus on the completion of general education courses or AA or AS degrees prior to transfer; (b) state system transfer policies monitored by a state agency that involved regulating transfer of lower-division course credit; (c) voluntary agreements, either formal or informal, that included liaison committees connecting two-year and four-year institutions; and (d) vocational credit transfer policies. In the 1990s, Hammons and Maignan (1995) conducted research focusing on specific programs of study as opposed to institutional agreements. They identified the following four types of articulation agreements: (a) a single, general agreement that encompasses the details for

all programs of study; (b) individual agreements for each program of study; (c) a single agreement for a number of programs of study that have a common career path; and (d) multiple agreements that support a single program of study. The Education Commission of the States (2001) developed a broader classification scheme that included seven articulation policy types: (a) state legislation, (b) cooperative voluntary agreements, (c) transfer data collection, (d) student transfer incentive programs such as financial aid, guaranteed credit, or admissions priority, (e) student guidelines, (f) statewide common core curricula, and (g) statewide common course numbering systems. More recently, Sullivan et al. (2004) cited four articulation policy types that seem to accommodate the variability of schemes in the previous years: (a) state articulation agreements including transferability of associate degrees, general education courses, or all lower-divisions courses; (b) state-level transfer/articulation bodies that are typically collaborative groups that support state-level articulation initiatives; (c) transfer/articulation officers that are located in both two-year and four-year institutions to help with orientation, advising, and financial aid; and (d) performance data feedback systems on transfer students.

Effects on Transfer

Researchers have indicated that the success of transfer in states that have statewide articulation agreements does not differ significantly compared to states that do not have such agreements (Anderson et al., 2006a; Gross & Goldhaber, 2009). In a study conducted by Gross and Goldhaber (2009) using the NELS88 and IPEDS databases, results indicated that community college transfer students were not any more likely to

transfer to four-year institutions in states that had articulation agreements in place compared to states that did not. This cross-sectional study included traditionally aged students who graduated from high school in the early 1990s and were followed up in 2000. Some important limitations to consider regarding the results of this study include that at present, the study is rather outdated. Articulation agreement policies were in their infancy at this time, more policies exist today and efforts have been made in polishing them. Also, only traditionally aged students were included. In addition, because it was a cross-sectional analysis, the results were obtained through a snapshot of one moment in time as opposed to a longer, more gradual study. Lastly, variables such as advising for transfer students, collaboration between institutions and faculty, and the use of transfer centers and services were not directly included or controlled for, but were instead categorized and measured as "expenditures."

Anderson et al.'s (2006a) study using the BPS89 database also obtained results that supported those of Gross and Goldhaber (2009). However, Anderson et al.'s study also had important limitations to consider: transfer students who had already obtained associate degrees versus those who did not were not differentiated between, and advising and transfer services as well as institutional and faculty collaboration were also not accounted for. The limitations of both Gross and Goldhaber's and Anderson et al.'s studies merit closer examination regarding the effectiveness or ineffectiveness of articulation agreements, especially with respect to faculty collaboration.

Measuring Transfer

Another important variable to discuss when examining the effectiveness of articulation agreements is the way in which transfer students are defined and measured. Studies often fail to differentiate between transfer students who have already earned an associate degree as opposed to students who have only earned a few credits (Gross & Goldhaber, 2009). In addition, it can be difficult to measure whether or not students intend to transfer. "Transfer is an *intention* expressed by some students who take community college classes and a *behavior* manifested by those who eventually matriculate at a four-year college or university" (Cohen & Brawer, 1987, p. 89). According to Cohen and Brawer (1987), approximately 75% of students who begin their postsecondary education at a community college intend to earn a higher degree. These data were collected by the Cooperative Institutional Research Program and were limited to samples of younger students who were approximately 19 years of age, FTIC, and full-time. In addition, asking a question such as "What is the highest degree you intend to earn?" is biased in itself. Most young people aspire to earn a higher degree at some point in their life. Thus, it is typically neither personally nor socially acceptable to indicate otherwise. In addition, asking the question, "What is the primary reason you are attending this college?" will often yield responses indicating a desire to seek employment skills as opposed to earning a higher degree or transferring (Cohen & Brawer, 1987).

Roksa and Keith (2008) argued that many institutions lack sufficient staff and resources to accurately track students. There are several reasons that have been identified as to why collecting data on transfer students is a challenge: some students transfer from

a community college to a university prior to earning an associate's degree; some are reverse transfer students who return to the university; some take courses concurrently at a community college and at a university; some begin their education at a community college, drop out, and then continue their education at a university; and some fall off of the record when they transfer to a university in another state (Cohen & Brawer, 1987). In addition, measurement inconsistencies occur when students who transfer to private institutions or out-of-state intuitions are calculated in statewide articulation agreement effectiveness. Gross and Goldhaber (2009) found that institutions sometimes fluctuate in the extent to which they participate in an articulation agreement. Furthermore, colleges are funded based on enrollment, not on where students go once they leave. Thus, there is no incentive for collecting data on student flow between institutions (Cohen & Brawer, 1987).

In some states, there are well-articulated college agreements, but in others, the community college may serve a different function. For example, "Forty-two percent of all undergraduate students in Florida's public universities previously attended community colleges in that state" (Cohen & Brawer, 1987, p. 93). However, only 17% of university undergraduates in Kansas are community college transfers (Cohen & Brawer, 1987). Moreover, Cohen and Brawer (1987) hypothesized that approximately 250,000 students per year earn an associate degree and transfer to a university, and about 300,000 to 400,000 transfer without having earned an associate degree. Even though these numbers seem rather low, one should consider the fact that many students take courses for general interest, occupational programs, remedial purposes, or noncredit activities. Not all

students are vertical transfers. Vertical transfer refers to the "educational advancement from achievement of undergraduate certificates and the associate degree toward completion of the baccalaureate degree and possibly postgraduate education" (Cuseo, 2001, p. 1). Few students take the path of finishing an associate's degree in two years followed by immediately transferring to a four-year institution. It is more common for students to take a few courses, drop out, or take whatever courses interest them without any pattern (Donovan et al., 1987). Cohen (1989) supported this statement and cited several influences on transfer rates: most community college students attend only part-time, typically do not live on campus or have jobs on campus, are often less involved at the college, leave college to work instead, cannot leave their residence to attend a university, or take a break in their educational career and never return. According to Cohen (1989), a total of 85% of community college students do not obtain a degree, but still feel satisfied with their experience at the college for being able to take courses for personal interest, career development, or basic literacy.

Roksa and Keith (2008) posed an important argument to consider when attempting to measure the effectiveness of articulation agreements. Articulation agreements have been designed to preserve course credits, not to increase transfer rates. Therefore, a more appropriate measure of success would be how well course credits are preserved. Furthermore, Roksa and Keith argued that many researchers have compared states to one another, or analyzed the effectiveness of an articulation agreement only after it has been in place. A potentially more effective means of measurement would be to examine the transfer rate in a state before the agreement was in place compared to after.

Transfer success should be measured by observing the number of individuals who have successfully completed two years of higher education and have an appropriate opportunity to continue their education by pursuing a baccalaureate degree, as opposed to measuring the rates of transfer (Knoell, 1996). Roksa and Keith summarized it well, noting that current research on the effectiveness of articulation agreements on transfer activity was still inconclusive and in need of further examination.

Barriers to Course Transfer

The most persistent and well-known community college issue deals with the transferability of courses: specifically, the extent to which universities accept community college courses (Cohen et al., 2014). Because community college faculty members were trained at universities, they have tended to sort the curricula of the community college to mimic the image of the university. Furthermore, universities have the power of specifying which courses are accepted for transfer based on their requirements for the baccalaureate degree. As a result, community college course changes have stemmed from university-level changes such as graduation requirements or specific courses required from transfer students (Cohen et al., 2014). Universities have often been accused of challenging the course content of community colleges and of mandating additional courses to be taken by transfer students (Cohen & Brawer, 1987). Often times students' credits transfer, but those credits may not necessarily apply to a university major. This causes students to take more courses that are repetitive of what they had already taken at a previous institution. This problem is further intensified by the fact that

many students attend two or more institutions when pursuing a baccalaureate degree (Cohen et al., 2014).

Not all courses are transferable between institutions that participate in articulation agreements despite the fact that articulation agreements stress the importance of course transferability (Cohen et al., 2014). For example, the University of California reportedly accepted only 27% of the community college's non-liberal arts courses. Furthermore, the transferability rates can also differ between universities. The University of Illinois was reported by Cohen et al. (2014) as accepting 16% of non-liberal arts courses while Illinois State University accepted 80% despite the fact that Illinois had a statewide articulation agreement.

Cuseo (2001) identified the following barriers in college policies and procedures that may hinder the ease of transfer: the multitude of community college missions which require the need to offer a variety of courses that are not always transferable, senior institutions that refuse to accept transfer courses unless they are completely identical to their own courses, senior institutions that classify transfer credits as electives as opposed to general education credits, senior institutions that make curricular changes without informing two-year institutions, and failure to adhere to inter-institutional articulation agreements. The lack of portability of financial aid, poor timing of delivering transfer transcripts, inadequate amount of time for transfer students to register, and little to no on-campus housing for transfer students are additional barriers that transfer students face when transferring to a senior institution (Cuseo, 2001).

Collaboration

Frequently, the terms cooperation, coordination, and collaboration are used interchangeably. However, Donaldson and Kozoll (1999) and Lindsay, Queeney, and Smuts (1981) made an important distinction between each of the terms: cooperation "is a strategy in which providers assist each other on an ad hoc basis" (Donaldson & Kozoll, 1999, p. 6); coordination is when organizations ensure "that their activities take into account those of other organizations on a consistent basis" (Lindsay et al., 1981, p. 5); and collaboration is when members work "together jointly and continuously on a particular project towards a specific goal" (Lindsay et al., 1981, p. 5). "Collaboration takes place when people from different units work together in cross-unit teams on a common task or provide significant help to each other" (Hansen, 2013, pp. 14-15). D'Amour, Ferrada-Videla, San Martin Rodriguez, and Beaulieu (2005) added, "Collaboration conveys the idea of sharing and implies collective action oriented toward a common goal, in a spirit of harmony and trust" (p. 116). Collaboration is successful when the relationship and its work are monitored, trust is built, communication is valued, differences are discussed, rest and growth are observed, teamwork is achieved, and fragile relationships are addressed (Donaldson & Kozoll, 1999). Furthermore, there are five essential concepts to collaboration: sharing, partnership, power, interdependency, and process. However, the way in which authors conceptualize collaboration and the factors that influence collaboration vary widely (D'Amour et al., 2005).

Gray (1989) outlined the following key characteristics of collaboration: (a) the solutions of the problem addressed arise as a result of organizations constructively

handling their disagreements, (b) there is joint ownership of the potential solutions to the problem by all participants, (c) all stakeholders are responsible for the future of the problem, and (d) the collaboration process is emergent. These characteristics are similar to those identified in a later study conducted by Butcher, Bezzina, and Moran (2011) who developed five guiding principles for maintaining a sustainable partnership: (a) work out of a shared purpose, establishing purpose across all participants and stakeholders; (b) lead collaboratively, and ensure that shared leadership is expressed formally and informally; (c) relate on a basis of trust, and allocate time for relationships and development of new members; (d) ensure appropriate and adequate resources, and make change when resources are scarce; and (e) remain open to learning and change. According to Gray (1989), new collaborations start with a "mess" in which authority, role definitions, work control, values, and norms are a part and must be addressed. Gray (1989) found that, especially in informal collaborations, interpersonal and social processes that lead to negotiations and shared meanings by the participants resolve these problems.

Stages of Collaborative Relationships

The majority of the literature on collaborative relationships focuses on decisions to collaborate in the first place. The literature is lacking in the necessary actions to develop and maintain relationships after the decision to collaborate has been made, as well as in the variables that lead to deteriorating relationships (Donaldson & Kozoll, 1999). Therefore, Donaldson and Kozoll (1999) identified four developmental stages of collaborative relationships: (a) emergence, (b) evolution, (c) implementation, and (d)

transformation. The first three developmental stages occur in order, but the transformation stage can occur at any stage, impacting other stages. These stages are similar to McCann's (1983) three phases of collaboration: problem-setting, direction-setting, and structuring.

The emergent stage is when the motives for collaborating are assessed, the partnership is formed, and the problem is identified (Donaldson & Kozoll, 1999). The chances of the collaboration moving to the next developmental phase are increased the more that the participants in the collaboration are in agreement on the definition of the problem. The emergent stage is similar to McCann's (1983) problem-setting phase. The problem-setting phase includes identifying the key stakeholders of the issue and mutual agreement between organizations on the definition of the issue at hand (McCann, 1983). This stage allows for task identity and communication. It is a crucial stage in the collaboration and must not be overlooked. In addition, it allows for appreciation of the interdependence that exists among stakeholders.

During the evolution stage, the purpose and the direction of the collaboration are established. This is accomplished through the identification of values and goals (Donaldson & Kozoll, 1999). Donaldson and Kozoll's evolution stage is similar to McCann's (1983) direction-setting phase. The direction-setting phase includes identifying the values of each organization as well as coming to a mutual purpose for the collaboration. This stage helps stakeholders visualize the achievement of their goals.

The next stage is the implementation stage in which actions are taken in order to realize the vision and goals. Factors that affect the collaboration include perceptions of

fair dealing, the formation of shared values and norms that ultimately lead to a vision and goals, and open and honest communication (Donaldson & Kozoll, 1999). A vision is key to a successful collaboration. It details the expected outcomes of the collaboration, promotes long-term working relationships, helps determine feasibility, and incorporates the interests of all participants (Donaldson & Kozoll, 1999). The implementation stage is similar to McCann's (1983) structuring phase. The structuring phase involves the creation of long-term structures that cultivate appreciation and problem solving (McCann, 1983). It typically entails negotiations and the development of a framework for which problem solving can be achieved. This phase includes the assignment of roles and tasks. Finally, transformation, or change in the collaboration, occurs throughout the development process (Donaldson & Kozoll, 1999).

Barriers to Collaboration

In addition to barriers in course transfer, there are barriers in collaboration that can stand in the way of easing the transfer process. Donaldson and Kozoll (1999) identified five tensions that occur in collaborations: (a) tension between creating a vision and having a vision that is engaging and will promote action, (b) tension between informal and formal means of governance, (c) tension between getting work done and forming relationships, (d) tension between taking and avoiding risks, and (e) tension between maintaining stability and making changes. These tensions are linked to several danger signals that indicate that the collaboration may be suffering. The first danger signal is a decrease in communication. This can be manifested through a decline in

meeting attendance, the inability to make decisions, a decline in enthusiasm, nostalgic discussions of past collaborations, and unresponsiveness to deadlines. Another danger signal is a change in language or in the content of communication. Additionally, if one of the organizations dominates the decision making process, this can lead to trouble in the collaboration. The following variables may cause a collaboration to end prematurely: the lack of balance between the formal and informal processes used, a change in leadership or personnel, a lack of clarity in roles and relationships, a rather large increase in members, and a decline in communication (Donaldson & Kozoll, 1999).

Gray (1989) identified the following common problems in collaboration: problems are poorly defined; a consensus is not reached on how problems should be defined; stakeholder interests are independent of one another; stakeholders are poorly identified or unorganized; there is a disparity of power or resources; stakeholders' expertise is varied; access to information is limited; problems are too complex or uncertain; differing perspectives lead to severed relationships; stakeholders fail to solve the problem together; and stakeholders dwell on failed previous procedures and efforts.

Furthermore, Hansen (2013) identified four common barriers that occur in collaboration. These barriers encompass the tensions and danger signals identified by Donaldson and Kozoll (1999) and the problems identified by Gray (1989): (a) the not-invented-here barrier, (b) the hoarding barrier, (c) the search barrier, and (d) the transfer barrier. These barriers hinder collaboration across decentralized industries, industries that value individuality, freedom, and accountability. Hansen stated that the solution is not to force the industry to become centralized, but rather to identify the barriers present

and the corresponding solutions to eliminate them. The final result yields a centralized, coordinated model.

The not-invented-here barrier results when individuals refuse to explore outside their own unit in order to obtain information from others. This is a motivational problem caused by communication that is maintained within a group, fear of violating some sort of status line, the belief that problems should be fixed within the unit itself, and the fear of exposing the unit's problems to outside units. The second motivational barrier is the hoarding barrier. It is caused when colleagues and units begin to compete with each other, narrow incentives to collaboration are in place, there is no time to collaborate, and units fear that power will be lost if knowledge is shared.

The remaining two barriers are not a result of motivational problems, but instead are a result of the inability to collaborate well. Hansen's (2013) third barrier to collaboration is the search barrier. In the search barrier, the unit is searching for information and people but is unable to easily find them. This ability problem is caused by the size of the institution, the physical distance between departments of the institution, information overload, and a lack of networking links. The fourth barrier to collaboration is the transfer barrier. In the transfer barrier, knowledge is not easily transferred from one place to another due to the fact that the knowledge itself may be difficult to convey, the sender and receiver of knowledge may not have a common frame of reference when working together, or there is a weak relationship between the sender and receiver of knowledge.

Existing Collaborative Partnerships

Several researchers have cited the importance of collaboration among institutions in order to facilitate the success of transfer students (Cuseo, 2000; Kintzer & Wattenbarger, 1985; Rifkin, 1998; Tobolowsky, 1998). Cohen and Brawer (2003) emphasized the importance of collaboration in articulation on the program level. Tobolowsky (1998) also encouraged program collaboration through equal faculty representation and involvement from both participating institutions. Furthermore, according to Cuseo (2000), these articulation faculty committees may encourage the creation of articulation agreements across all disciplines ensuring the transferability and consistency in courses between institutions. Most importantly, collaboration between two-year and four-year postsecondary institutions can decrease attrition rates during student transfer (Ignash & Townsend, 2000; Just & Adams, 1997; Wellman, 2002).

Over time, institutions began to recognize the value of collaboration regarding transfer. Donovan (1992) wrote that faculty meetings between two-year and four-year institutions were becoming increasingly more common. Hostos Community College at CUNY developed a transfer model comprised of three stages, each of which involved collaboration among faculty, student services, and administration (Berger & Ortiz Ruiz, 1988). The faculty's role was critical because it was believed that the curriculum belonged to the faculty and that faculty members should address any questions involving transfer credits. This transfer model was made possible through the Urban Community College Transfer Opportunities Program (UCCTOP) founded by the Ford Foundation in 1983. The purpose of UCCTOP was to help community colleges enhance instruction,

academic programs, and support services for transfer students (Berger & Ortiz Ruiz, 1988). Faculty members at Hostos were to determine if congruence existed between the courses and programs at Hostos Community Colleges and select senior colleges. Specifically, they had to analyze and negotiate course-by-course equivalence and transferability. They were expected to hold discussions with senior college faculty to address issues of course requirements and sequencing. Hostos utilized faculty development programs in order to aid the faculty members' understanding of articulation. Faculty at Hostos collaborated with senior institution faculty between departments and disciplines to determine course equivalencies for Hostos courses. This was accomplished by examining syllabi, textbook lists, and final exams (Berger & Ortiz Ruiz, 1988).

In addition, CUNY's public university system put in place articulation policies to regulate transfer credit of liberal arts courses (Bowles, 1988). In an effort to improve the transferability of credit, CUNY implemented faculty-based articulation task forces. The five task forces established a collaborative environment of respect among faculty members at two-year and four-year institutions. The task forces were able to work together to develop 85 recommendations to ease the transfer process. In addition, the collaboration between faculties helped to reduce feelings of elitism between the two-year and four-year faculty members (Bowles, 1988).

New Jersey and Kentucky also participated in partnerships between institutions in which faculty collaborate (Thomas, 1988). The New Jersey Institute of Technology collaborated with community colleges in order to facilitate transfer for engineering and technical majors. Faculty between institutions met and developed course-by-course

equivalencies and articulation agreements. In addition, the Kentucky Council on Higher Education developed a statewide articulation agreement for allied health education for all postsecondary programs including those that are vocational, proprietary, or hospital based (Thomas, 1988). A total of 30 transfer agreements were finalized using competency-based education as an underlying framework. Approximately 100 faculty, administrators, and health practitioners collaborated on the project to ease the transfer process for students. Faculty advisory groups held monthly meetings and developed mutual respect for one another. This respect was deepened by frequent visits between institutions. The groups observed prerequisite courses, contact hours, credit hours, percentage of lecture and laboratory teaching, minimal grade requirements, course sequencing, course objectives, course descriptions, outlines, competencies, evaluation methods, and clinical affiliations used. Barriers to collaboration that occurred included professional elitism and resistance to change (Thomas, 1988). King (1988) suggested involving those who were resistant by having them collect facts and data so as to alter their perception of the problem. She also recommended having group members express their feelings, develop a supportive climate, confront, share, probe, be patient, plan visits, share ownership, expect conflict, and follow-up.

Community colleges from California to New York held faculty meetings in which faculty collaborated with colleagues from their respective four-year institutions to discuss standards, syllabi, and placement procedures for transfer students (Donovan, 1992). This led to a more cohesive problem-solving team in which faculty believed that institutional collaboration and curriculum development were parts of their daily responsibilities. In

addition, this led to faculty development programs and team-teaching practices across colleges (Donovan, 1992).

Collaboration between community colleges and four-year institutions has been expanding (SCUP Academy Council, 2014). Eaton (1992) described the ways in which two-year and four-year institution faculty collaborated among 16 partnerships. The goals differed among partnerships. Some institutions were creating new courses, and others were improving placement assessments. The common impact among the partnerships was that stronger relationships were formed among faculty members between institutions. As a result, Eaton recommended that institutions should provide a forum in order for faculty to build relationships. Although Eaton described the ways in which two-year and four-year institution faculty collaborated among 16 partnerships, the ways in which faculty collaborated among these 16 partnerships varied greatly, raising the question of which factors contribute to a strong or weak collaboration.

Wilder Collaboration Factors (WCF)

Of the 20 WCF described by Mattessich et al. (2001), 17 were cited as factors that influence the success of collaboration in the context of higher education. The researcher was unable to find evidence in the literature that having a favorable political and social climate (the third factor), being adaptable (the 12th factor), and having a unique purpose (the 18th factor) were essential factors in the success of postsecondary education collaboration; therefore, these factors, which were located in the environment category, process and structure category, and purpose category, respectively, were not addressed in

the literature review. The following subheadings contain the six categories of successful collaborations, the remaining related factors, and the supporting research on collaboration on transfer in postsecondary education.

Environment

It is imperative that the environment is assessed at the beginning of a collaborative initiative (Mattessich et al., 2001). The first factor is that the history of collaboration or cooperation in the community should be examined (Mattessich et al., 2001). Often times a negative history exists and can lead to Hansen's (2013) hoarding barrier of collaboration when individuals from one institution deliberately refuse to share or collaborate with another institution because they would rather withhold information. Factors that lead to the hoarding barrier include competition, narrow incentives, being too busy, and fear. For example, Stein and Short (2001) found that faculty, departments, and institutions lack experience in collaboration with others who were once identified as competitors as opposed to team members. They argued that institutions often view other institutions suspiciously because there is an underlying competitive principle between them due to metrics such as national rankings, retention rates, and costs. Prager (1991) and Sullivan et al. (2004) echoed this observation regarding the competitive nature in that four-year institutions often make elitist judgments regarding two-year students and the fact that there is a lack of parallelism in curriculum at two-year institutions compared to four-year institutions. This may stem from the notion that existing administrative structures are not built to promote or support collaborative efforts (Bohen & Stiles,

1998). Prager also stated that, unfortunately, some institutions partake in transfer-inhibiting practices such as not abiding by articulation policies and forcing students to reapply when they transfer to the partnering institution. This further damages the history of collaboration between institutions.

Beder's (1984) study on collaboration between continuing education agencies indicated that in order to maintain a successful collaboration, organizations must first determine the resources needed from the environment. In addition to available resources, collaborative groups should also consider how the community perceives the collaboration. Within the environment category, the second factor is that the collaborative group should be seen as a legitimate leader in the community (Mattessich et al., 2001). Stein and Short (2001) found that close institutional collaborations could elicit a good response from the surrounding community. In addition, collaborations in higher education can also lead to better "town and gown" relationships (Cuseo, 2001). As previously mentioned, the third factor, a favorable political and social climate exists, that falls under the environment category was not identified in the literature on collaboration on transfer in higher education.

Membership Characteristics

The fourth factor, which falls under the membership characteristics category is mutual respect, understanding, and trust (Mattessich et al., 2001). In a case study on a partnership between the Australian Catholic University and the Parramatta Catholic Education school system, Butcher et al. (2011) observed that the collaborative groups

benefitted from staff members spending time getting to know each other and the context of each other's organizations. In McLaughlin and Black-Hawkins' (2004) analyses of school-university partnership models, relationships built on trust were identified as an essential item in successful collaborations. Beder (1984), James and Worrall (2000), Stein and Short (2001), and Kezar and Lester (2009) all concluded that committing to developing a relationship built on trust was critical to the success of collaboration in the context of higher education. Often times this development requires collaborative members to examine their underlying assumptions about one another. For example, Purcell and Leppien (1998) found that it was crucial for institutions to first understand the assumptions that each institution brings to the collaboration. In the context of transfer, university faculty may need to be reeducated about community colleges, their missions, and their students (Wright & Middleberg, 1998). There are often prejudices and misconceptions regarding community college preparation. It is imperative to address these misconceptions since faculty expectations on students' academic potential impacts student performance (Wright & Middleberg, 1998).

The fifth factor that is located in the membership characteristics category is an appropriate cross section of members (Mattessich et al., 2001). The kinds of individuals, as well as the number of individuals involved in a collaborative initiative, should be continuously monitored (Mattessich et al., 2001). With respect to faculty collaboration on the success of transfer students, typically counselors, admissions and records officers, transcript analysts, and articulation officers are the members involved, and not faculty (Berger & Ortiz Ruiz, 1988; Cohen et al., 2014; Prager, 1988; Tobolowsky, 1998). This

can be damaging to the collaboration, because an appropriate cross section of members is not present. Faculty should be involved in the development of articulation agreements, and the agreements should be communicated to the faculty, students, and counselors. For example, articulation officers at Laney College met periodically with faculty departmental representatives at Laney and at four-year institutions (Donovan et al., 1987).

When the choice of members in the collaborative group fails to include key personnel, students pay for the lack of collaboration between two-year and four-year institutions regarding transfer by having to repeat courses or by failing upper level courses as a result of lack of preparation (Donovan et al., 1987). Not only should these members be involved, but time must also be devoted to the development of new members (Butcher et al., 2011). Ultimately, it is essential that both faculty and administration develop a working knowledge of collaboration theory in order for inter-institutional relationships to be successful. Collaborative models should be used so that institutions that choose to collaborate have guidance when creating, engaging in, and assessing their collaborative partnerships (Czajkowski, 2007).

Not only should faculty members be included, but faculty must also be "at the heart of" (Wagoner & Kisker, 2013, p. 94) all curricular matters related to transfer. Eaton (1992) recommended that a task force and faculty development programs on teaching and transfer be implemented. Furthermore, existing departmental agreements between institutions should be expanded upon. Based on Wagoner and Kisker's (2013) study on identifying strategies necessary for effectively implementing transfer associate

degrees, curricular committees composed of faculty members must be an integral part of designing transfer pathways. These committees should consist of faculty leaders from a multitude of disciplines from both two-year and four-year institutions. They should be tasked with the duty of alignment at the district and campus levels and should work hand-in-hand with deans, department chairs, and program directors. Feedback should be collected and regularly disseminated (Wagoner & Kisker, 2013).

In addition, two-year and four-year college faculty and administration should collaborate not only on curriculum but also on teaching strategies and outcomes. Institutions should also have faculty from four-year institutions teach courses at two-year institutions and vice versa (Donovan et al., 1987). In order to ease the transfer process, Cuseo (2001) recommended that orientation or transition courses be team-taught by faculty from both institutions. On a larger scale, academic departments or divisions should collaborate between institutions in order to ensure the transferability of courses and to develop program-level articulation agreements (Cuseo, 2001). Ultimately, when programs collaborate, articulation and transfer are strengthened significantly (Cohen et al., 2014).

Postsecondary institutions that collaborate should also be very cautious of the size of the collaborative group. Hansen (2013) articulated this observation further in the identification of the search barrier which occurs when individuals are looking for information and are unable to easily locate it. Factors that contribute to the search barrier include institutional size, distance between units, information overload, and a lack of networks. A common assumption about teams is that the bigger the team, the more

resources available, and thus, the better the team (Coutu, 2009). On the contrary, larger teams have more links that must be managed among members, and this management is often what leads teams into trouble. Donaldson and Kozoll (1999) agreed in that a large increase in the number of participants can act as a barrier to the collaborative process.

The sixth factor, which falls under the membership characteristics category, is that members see collaboration as in their self-interest (Mattessich et al., 2001). Hansen (2013) described the not-invented-here barrier as a struggle in collaboration in which one institution is unwilling to reach outside of its own borders in order to receive input from others. The not-invented-here barrier is classified as a motivational problem caused by insular culture, or collaboration that stays within a unit, but does not extend to outside parties (Hansen, 2013). Sullivan et al. (2004) addressed this barrier with respect to articulation agreements by questioning whether the agreements were a true reflection of collaboration facilitated by state boards or if they were merely one-sided in that two-year colleges are primarily vested in the success of their own students and four-year universities are seeking enrollment increases. Based on their research of school-university partnerships, Baumfield and Butterworth (2007) found that a critical factor in successful collaborations was in configuring the relationship so that mutual interest is established, questions are addressed, and the need to exchange ideas are evident. Furthermore, it must be evident that both institutions will benefit from the collaboration (Butcher et al., 2011).

The second motivational component of the not-invented-here barrier is the status gap. Hansen (2013) described the status gap as the unwillingness of one institution to

collaborate with another due to the belief that it is more or less worthy due to a higher or lower status compared to the other institution. Stein and Short (2001) surveyed postsecondary administrators regarding collaboration on articulation agreements and found that respondents were aware of the importance of territory to their partnering institutions. Both faculty and administration in the survey cited feelings of fear in fighting the status quo as a barrier in the collaboration process. Sullivan et al. (2004) also cited issues of "turf" regarding collaboration on articulation. Turf issues often include professional elitism or resistance to change (Thomas, 1988).

Wagoner and Kisker (2013) stated that getting two-year and four-year faculty and administrators to collaborate on transfer was only "half of the battle" (p. 97). The real challenge is getting these groups to give up a certain level of autonomy or freedom so that effective student-centered transfer policies can be established. Wagoner and Kisker found that aligning learning outcomes in courses between institutions helped in achieving a balance between autonomy and standardizing lower-division courses. Overall, colleges and universities are typically not built for collaboration: each institution has its own mission and strives for autonomy. Institutions often compete with one another in terms of athletics, research, and enrollment (Duffield et al., 2012). It is imperative that the interests and values of each group involved in transfer and articulation are clearly understood in order to achieve a balance between autonomy and efficiency (Wagoner & Kisker, 2013). Thus, the leader must find a way to balance individual autonomy and collective action (Coutu, 2009). Efforts to attain this balance must be made early in the

implementation process so that collaboration between groups is possible and transfer associate degrees are not affected.

In addition, it is crucial that incentives are directly built into the collaborative initiative so that members stay involved (Mattessich et al., 2001). Bohen and Stiles (1998) stated that, "The core of contemporary American higher education is built on the pursuit of knowledge by individual scholars" (p. 39). Common faculty milestones such as the pursuit of a doctoral degree or the tenure process are typically isolated achievements in which faculty members are recognized for their individual, as opposed to collaborative, accomplishments (Bohen & Stiles, 1998). As a result, faculty collaboration is not rewarded in higher education; individual work is more commonly rewarded (Bohen & Stiles, 1998; Kezar & Lester, 2009). The majority of collaborative work for faculty members is often experienced through serving on numerous committees, in which faculty members complain of length and relevance. If faculty members wish to engage in a collaborative project, it is often on their own time outside of their contracted obligations (Bohen & Stiles, 1998). Furthermore, collaboration can be very time consuming for faculty members who already have a full work schedule (Duffield et al., 2012). Kezar (2005) suggested faculty release for collaborative work. Short and Stein (1998) argued that when incentive systems are not in place, faculty and administration are less motivated to collaborate in articulation agreements. Providing incentives to institutions that meet those goals (Hungar & Lieberman, 2001) and providing student incentives such as financial aid or tuition reduction for students who successfully transfer

(Cuseo, 2000; Hungar & Lieberman, 2001; Wellman, 2001) may lead to more successful collaborations.

The seventh factor, the final factor in the membership characteristics category, is the group members' ability to compromise (Mattessich et al., 2001). Duffield et al. (2012) conducted a study on teacher collaboration in higher education partnerships, and concluded that compromise and negotiation are critical components to the collaborative process. In addition, Beder (1984) stated that collaborative boundaries must be permeable, suggesting that the collaborative groups must be able to compromise their structure and interactions when appropriate. This compromise may include the need for one or both groups to give up some autonomy or freedom (Wagoner & Kisker, 2013).

Process and Structure

The eighth factor, which is contained in the process and structure category, is that members must share a stake in both the process and the outcome of the collaboration (Mattessich et al., 2001). It is imperative that both organizations have perceptions of fair dealing, and that one organization is not dominant when it comes to decision-making (Donaldson & Kozoll, 1999). Otherwise, questions of power and who benefits from the collaboration will create tension in the partnership (Lowndes & Skelcher, 1998). Furthermore, the dispersion of power among stakeholders in a collaborative partnership must be carefully considered. If the dispersion among stakeholders varies greatly, or even if it is approximately equal, which can lead to a stalemate in decision-making, the collaboration can fail (Gray, 1985). Ultimately, it is essential that there is joint

ownership to the potential solutions and future of the problem (Gray, 1989; McLaughlin & Black-Hawkins, 2004). If problems regarding the perceptions of fair dealing arise, these problems must be addressed openly (King 1988).

The ninth factor is that multiple layers of participation in the collaboration must exist (Mattessich et al., 2001). With respect to collaboration between two-year and four-year institutions on transfer, faculty, academic departments, and divisions on a larger scale should be involved (Cuseo, 2001). Collaboration should not be hierarchical; it should go across the chain of command (Kezar & Lester, 2009). In addition, there should be equal faculty representation and involvement from both institutions (Tobolowsky, 1998).

The 10th factor is flexibility (Mattessich et al., 2001). Breitborde (1996) and James and Worrall (2000) emphasized the importance of being flexible when it comes to faculty collaboration in higher education. This flexibility often requires taking in account the complications in the professional lives of the group members as well as risk taking. When individuals are hesitant to engage in risk taking, a tension can arise between stability and making change (Donaldson & Kozoll, 1999). These changes include modifying the structure of the collaboration and the roles of its members (McLaughlin & Black-Hawkins, 2004); thus, it is imperative that members remain open to learning and change (Butcher et al., 2011). In addition, boundaries must be permeable, and an atmosphere of trust and commitment must be cultivated. This trust includes a willingness to share information among collaborators. Furthermore, the structures and operating styles of each organization must be accommodating to one another (Beder, 1984).

The eleventh factor is the development of clear roles and policy guidelines (Mattessich et al., 2001). Role development is a critical stage in faculty collaborations (Baumfield & Butterworth, 2007) because it includes the development of tasks and forming a consensus on the responsibilities of each member (Breitborde, 1996). During this stage, the group's values are clearly articulated and define the actions of the members (Kezar & Lester, 2009). If sufficient time is not devoted to this stage, a lack of clarity in roles can occur (Donaldson & Kozoll, 1999), and members may fail to abide by the established practices of the group (Prager, 1991). As previously mentioned, the 12th factor of adaptability that falls under the process and structure category was not identified in the literature on collaboration on transfer in higher education.

The 13th factor is having an appropriate pace of development (Mattessich et al., 2001). This pace often depends on the amount of time that can be dedicated to collaborative work. Hansen (2013) described the hoarding barrier in collaboration as stemming from individuals' beliefs that they do not have time to help, especially if it will cause them to fall behind on their current workload. Stein and Short (2001) and Sullivan et al. (2004) agreed that developing an articulation agreement is very time consuming due to the amount of negotiation, perseverance, and support necessary. With respect to faculty collaboration, faculty members often complain of the length of time it takes to collaborate (Bohen & Stiles, 1998; Duffield et al., 2012). Breitborde (1996) further supported this notion, stating that in order for a collaborative articulation agreement to be successful, administrators must emphasize the investment of time, development of tasks, consensus on responsibilities, understanding in various work styles, ability to be flexible,

and willingness to adjust. In higher education, time must be managed as a resource (McLaughlin & Black-Hawkins, 2004). This may be accomplished through offering faculty release time in which faculty are released from their other duties so that time can be dedicated to collaboration (Kezar, 2005).

Communication

Mattessich et al. (2001) identified two factors within the communication category that lead to successful collaborations. The 14th factor is open and frequent communication. Communication in collaborations should be open, continuous, and honest (Beder, 1984; Donaldson & Kozoll, 1999). In order to best serve the needs of transfer students and to create a strong collaboration between institutions, university transfer program leaders should visit community college campuses and meet with transfer counselors, advisors, administrators, and students (Donovan et al., 1987; Wright & Middleberg, 1998). Collaboration between college presidents, academic deans, faculty, and administration must occur when developing a transfer program in order to convey the message that promoting transfer is an essential goal of each institution (Wright & Middleberg, 1998). Annual graduation reports should be provided to presidents, counselors, and faculty regarding the progress of students in the program (Wright and Middleberg, 1998).

The 15th factor that resides in the communication category is established informal relationships and communication links (Mattessich et al., 2001). Breitborde (1996) and Stein and Short (2001) emphasized the importance of clarifying preferred communication

styles, because individuals who do not discuss any personal barriers in interpersonal skills may cause the collaboration to fall apart. In addition, in order for collaboration to be successful, organizations need to expect conflict (King, 1988), discuss differences, and constructively handle disagreements (Donaldson & Kozoll, 1999).

Purpose

The 16th factor, included in the purpose category, is that successful collaborations have concrete, attainable goals and objectives (Mattessich et al., 2001). Donaldson and Kozoll (1999) stated that successful collaborative groups identify values and goals, monitor their progress, and observe periods of rest and growth. With respect to faculty collaboration, a successful partnership must have a clear goal in which partners are able to see that the end result will offer more than what could be accomplished individually (Duffield et al., 2012; Eaton, 1992). Furthermore, partners must identify the direction necessary to complete the work as well as accurate accountability measures (Kezar & Lester, 2009; Wellman, 2001).

The 17th factor is having a shared vision (Mattessich et al., 2001). Developing a mission is one of the most critical steps in a successful collaboration (Butcher et al., 2011; Donaldson & Kozoll, 1999; Kezar & Lester, 2009; Stein & Short, 2001). It requires stakeholders to reflect on their values, create a shared vision and mutual purpose, establish priorities, and identify the direction necessary to accomplish the work (Kezar & Lester, 2009). "Values are critical to collaboration because values often define the actions and behaviors of organizational members, particularly when they are faced with

organizational changes" (Kezar & Lester, 2009, p. 88). They must be clearly articulated to all collaborative members. Values in the context of higher education are rather complex and distinct. They include academic freedom, autonomy, shared governance, equity and access, and democratic engagement (Clark, 1983).

With respect to higher education, developing a mission typically coincides with developing a strategic plan. As a result, the budgeting, planning, and evaluation processes are also centered on the shared mission (Kezar & Lester, 2009). Focusing on faculty and developing a mission also involve discussions on educational philosophy. The mission statement is continuously revisited to ensure that the core values of the stakeholders are sufficiently represented. If they are not, the mission is revised (Kezar & Lester, 2009). This collaborative revision should include members from across the hierarchical spectrum. Any change in the language of the mission must be clearly communicated. Otherwise barriers such as a lack of a common frame of communication can occur (Donaldson & Kozoll, 1999; Hansen, 2013). Finally, the mission must be communicated to all stakeholders frequently and reflected in activities, and key leaders and conveners must champion the mission statement (Kezar & Lester, 2009). As previously mentioned, the 18th factor that falls under the purpose category, a unique purpose, was not identified in the literature collaboration on transfer in higher education.

Resources

The final category of factors identified by Mattessich et al. (2001) is the resources category. The 19th factor, which falls under the resources category, is having sufficient

funds, staff, materials and time. Butcher et al. (2011) cited the need to ensure adequate resources when initiating faculty collaborations at the postsecondary level. In McLaughlin and Black-Hawkins' (2004) analyses of school-university partnership models, managing time as a resource was identified as a critical factor to the success of partnerships. Furthermore, a barrier identified several times in the literature on faculty collaboration was that individuals do not have time to collaborate (Breitborde, 1996; Stein & Short, 2001; Sullivan et al., 2004).

The final factor that falls under the resources category is skilled leadership (Mattessich et al., 2001). Group leaders or conveners must value joint participation and mutual agreement on the mission of the collaboration. They must also have a good sense of timing and be aware of the environment in order to develop a solid network (Gray, 1985). In addition, it must be evident to the collaborative group that the convener champions the mission statement (Kezar & Lester, 2009). If members of the collaboration question the skills and motives of the convener, they may withdraw (Gray, 1985). In addition, frequent changes in leadership or personnel can result in a barrier to the collaborative process. Therefore it is essential that the convener be carefully selected (Donaldson & Kozoll, 1999).

Summary

This literature review has provided for a brief historical context of articulation agreements, their policies and practices, and how they have evolved over the decades. This context allows for a better understanding of the development of articulation

agreements, illuminates the relevant need for strengthening articulation agreements, and draws attention to focusing future research on the key element of articulation agreements: collaboration. In addition, the stages of collaborative relationships were examined, the barriers to collaboration were evaluated, and examples of existing collaboration partnerships in higher education were discussed. Lastly, examples from the literature on higher education collaborations were provided for 17 of the 20 WCF.

Stein and Short (2001) concluded that the empirical body of research on the implementation of collaborative articulation partnerships is sparse. They also concluded that there are very few role models of effective institutional collaborations that have survived over the years. As a result, they recommended that future research efforts should focus on examining how different types of collaboration affect the barriers and benefits of partnerships. Furthermore, there is a limited amount of dissertation research that has been focused on the factors of strength and necessary renewal of institution-to-institution articulation agreements. Collins (2008) wrote a qualitative dissertation on finding the key components of the transfer collaboration for the ACHIEVE partnership (a fictitious name to protect the identity of the program) between a historically black university and several community colleges. Deitrick (2008) also completed a dissertation on articulation partnerships. However, his study focused solely on comparing the retention of community college transfer and university native students in an elementary education and early childhood education program. Cejda (1997) found that faculty collaboration on competency-based curriculum agreements improves the transfer function and attainment of baccalaureate degrees. Students in the collaboration sample earned a

higher first semester GPA and a 12% higher graduation rate compared to students in the non-collaboration sample. Cejda concluded that additional research on faculty collaboration is needed to improve the transfer function.

Community colleges have been and will continue to be evaluated on the success of their transfer students at baccalaureate institutions (Cosand, 1979). Although the literature revealed the importance of further examination of collaboration in articulation agreements, it also revealed a lack of research in this field. Cuseo (2000), the Education Commission of the States (2001), Hungar and Lieberman (2001), Rifkin (1998), and Wellman (2001) all cited the need for strengthening existing agreements through collaboration as a future recommendation. Short and Stein (1998) conducted research on articulation agreement collaboration in a qualitative context through surveys focusing on faculty and administrative perspectives. Barriers were mentioned in their research, but it was not the primary focus, nor was it evaluated in the context of faculty collaboration. Therefore, it is evident that faculty collaboration between partnered institutions with articulation agreements needs to be researched further in order to potentially improve the transfer process for undergraduate students.

CHAPTER 3
METHODOLOGY

Introduction

This study was conducted to identify the level of collaboration, defined by the Wilder Collaboration Factors Inventory (WCFI), between State University faculty and the faculty of the Transfer Partnership community colleges in the Curriculum Alignment of the Transfer Partnership articulation agreement (to protect anonymity, the researcher has removed the identities of the colleges and of the program). The researcher also sought to identify any differences between the perceptions of collaboration from State University faculty and those of the faculty from State University's partner community colleges. In this study, the level of collaboration is defined quantitatively using the Likert scale score ranges on the WCFI, which are further described in the data analysis section of this chapter. In addition, perception is defined quantitatively using the Likert scale scores on the WCFI that the participants will choose to evaluate the collaboration.

The WCFI was administered to faculty members at State University and its partnered community colleges who collaborate in curriculum alignment meetings in an effort to increase retention of transfer students. Once the scores were obtained, statistical analyses were used to determine the level of collaboration and if differences existed between the collaboration scores of the State University faculty and those of State University's partner community college faculty.

This chapter has been organized to present the research design, rationale, and philosophical underpinnings of this research. The research questions will then be

discussed as well as the site location. Next, the participant selection and recruitment will be examined. This chapter also contains a detailed description of the data collection instrument, reliability, validity, and data analysis. IRB authorization and originality information is also provided.

Research Design and Rationale

The majority of research on collaboration has been examined through the use of qualitative designs (Gray & Wood, 1991). As a result, qualitative studies have dominated the research on collaboration on the transfer function in higher education, and limited quantitative research exists in this field (Cejda, 1997). This study was conducted using quantitative methods under the positivist paradigm in an effort to contribute to the need for more quantitative research on collaboration in higher education. Guba and Lincoln (1994) defined the positivist paradigm as one of inquiry that searches for the truth or facts about reality. The positivist paradigm implies that there is a constant objective reality that exists and can be measured objectively. In this paradigm, the researcher remains distanced from the research in order to prevent any influences on the results, and the methodology is experimental in nature (Guba & Lincoln, 1994). Quantitative researchers typically seek to understand relationships by taking on a subject-object position as opposed to a subject-subject position (Reichardt & Rallis, 1994). Furthermore, the quantitative researcher aims to separate facts from values, and to search for laws.

The researcher in the present study examined collaboration among faculty who participate in curriculum alignment meetings between community colleges and State

University through the Transfer Partnership program. The Transfer Partnership program is a transfer initiative in response to a state-mandated articulation agreement between community colleges and universities, in which a student who graduates with an AA degree from a community college is guaranteed acceptance into one of the state's universities. The Transfer Partnership program is a partnership between State University and five community colleges: Community Colleges A, B, C, D, and E, designed to help ease the transfer process through integrated admissions and orientation programs, as well as shared facilities and services. Faculty members from each institution meet biannually to collaborate on curriculum alignment in an effort to increase the retention rates of transfer students. During these curriculum alignment meetings, faculty discuss items such as course transferability, learning outcomes, course topics, course modalities, course schedules, placement tests, textbooks, labs, syllabi, assessments, technology, advising, and K-12 curricula. In this study, the researcher surveyed this population using the WCFI to determine the level of collaboration between State University faculty and the faculty of the Transfer Partnership partner community colleges, and if a difference existed between the perceptions of university faculty and community college faculty on collaboration on transfer.

Research Questions

In this study, the following research questions serve as the foundation of the analysis of faculty collaboration in institutional partnerships with articulation agreements. The WCF serve as the underlying conceptual framework.

1. What is the current level of faculty collaboration, as defined by the Wilder Collaboration Factors Inventory, between universities and community colleges that have articulation agreements in place?
2. Is there a difference between the perceptions of university faculty and community college faculty on collaboration on transfer?

Site Location

State University is a large research institution located in the state of Florida. The Transfer Partnership community colleges include Community Colleges A, B, C, D, and E. These colleges are also located in Florida, offer primarily two-year associate degrees and certificates, and have enrollments ranging from 6,500 to 60,000 students (CollegeStats, 2015).

Participant Selection and Recruitment

In 2006, the presidents of State University and Community College E launched the Transfer Partnership program ("Curriculum Alignment," 2015). During this time, faculty and administrators from State University and the five two-year colleges in the Transfer Partnership (Community Colleges A, B, C, D, and E) as well as Community College F began collaborating biannually through curriculum alignment meetings by discipline in an effort to align content to increase the retention of transfer students in the Science, Technology, Engineering, and Mathematics (STEM) disciplines ("Curriculum Alignment," 2015). Faculty from the mathematics, chemistry, biology, and physics

disciplines were the first disciplinary groups to collaborate. Computer programming faculty joined the curriculum alignment meetings in 2012, and engineering faculty joined in 2013.

Population

To obtain a list of all of the members in the population, the researcher accessed the curriculum alignment website, located the meeting minutes for each of the past curriculum alignment meetings, and recorded the names and institutions of each of the attendees. This list included 210 names. The researcher then consulted each institution's website and directory to determine the employee classification of each of the attendees. Attendees whose employment classifications were not listed as faculty were removed from the list. Attendees whose information could not be found in the institution's directory or on the institution's website were removed from the list. This resulted in a total population of 133 faculty members from Community Colleges A, B, C, D, and E and State University who had participated in at least one curriculum alignment meeting. Faculty and administrators from Community College F attended the Curriculum Alignment meetings, but were not part of the Transfer Partnership. For this reason, Community College F is not part of the population for this research study. Of the 133 faculty members, 17 (12.8%) were State University faculty members and 116 (87.2%) were community college faculty members. These data are displayed in Table 1.

Table 1

Faculty Members Participating in Curriculum Alignment by Institution

		Faculty Members	
Type	Institution	*f*	%
Four-year	State University	17	12.8
Two-year	Community College A	20	15.0
	Community College B	13	9.8
	Community College C	21	15.8
	Community College D	25	18.8
	Community College E	37	27.8
Total		133	100.0

Qualifying Criteria

Participants in this study included faculty members who have participated in at least one curriculum alignment meeting since the meetings began in 2006. Their current rank at their institution was that of faculty. Faculty members were currently employed at State University or at one of the Transfer Partnership institutions (Community Colleges A, B, C, D, or E). The researcher included demographic questions on the data collection instrument that ensured that the qualifying criteria for the study were met. Results from respondents who had not met the qualifying criteria were removed from the data analysis.

The entire population of 133 faculty members from Community Colleges A, B, C, D, and E and State University who had participated in at least one curriculum alignment meeting was surveyed. Based on Nulty's study in 2008 on response rates of online surveys, the researcher chose a minimum response rate of 24.8%. This required a

minimum of 33 faculty members to respond: 29 community college faculty members and four university faculty members to match the proportions of the population.

Data Collection Instrument

The data collection instrument that was used for this study is the Wilder Collaboration Factors Inventory (WCFI). This instrument can been used to assess the strengths and weaknesses of organizational collaboration, to analyze the current level of collaboration, as well as to create solutions to collaborative issues (Mattessich et al., 2001). The original survey can be found in Appendix C. It contains 40 Likert-type scale items that pertain to each of the collaboration factors. Each survey item includes a 5-point Likert-type scale response, with a response of 1 indicating that the participant strongly disagrees with the statement, a response of 2 indicating that the participant disagrees with the statement, a response of 3 indicating that the participant is neutral or has no opinion about the statement, a response of 4 indicating that the participant agrees with the statement, and a response of 5 indicating that the participant strongly agrees with the statement.

Some of the language from the original WCFI was modified in order to fit the description of this study: "Agencies in our community" was changed to "Colleges that participate in Transfer Partnership"; "This community" was changed to "the Transfer Partnership colleges"; "Our collaborative group" or "Our collaboration" was changed to "CA meetings," where CA represents the curriculum alignment; and "Organizations" was changed to "colleges." In addition, a few items were added at the end of the survey in

order to have participants select and rank the five most important WCF with respect to faculty collaboration on transfer, collect demographic information, and ensure that the qualifying criteria were met. The demographic questions include the participant's current institution of employment, years of teaching experience, current faculty rank, number of times participated in curriculum alignment meetings, length of time in current faculty rank, most recent time participated in curriculum alignment meetings, discipline participated in at curriculum alignment meetings, last time a course was taught in that discipline, gender, age, and race/ethnicity. A comment box was also provided at the end of the survey if participants wished to leave comments. The adapted WCFI is displayed in Appendix D. The protocol for the Inventory is contained in Appendix E.

The survey was administered using the Qualtrics survey tool via a URL that was emailed to potential participants' institutional email addresses. The survey administration process was designed using the Tailored Design Method as described by Dillman, Smyth, and Melani Christian (2009). The Tailored Design Method includes multiple motivational components that work together to help ensure a high quantity and quality of responses. Dillman et al. (2009) identified several ways of increasing the benefits of participation, which were used in the implementation of this study:

1. Provide information about the survey to participants.
2. Ask participants for their help or advice.
3. Show positive regard by providing a way in which participants can reach someone if help is needed.
4. Say thank you.

5. Support participants' values by explaining how the experiment relates to their work.

In addition, a direct link was provided in the email in order to increase the convenience of responding. Dillman et al. also emphasized the importance of establishing trust with participants when using the Tailored Design Method. To establish trust, the researcher obtained authorization from the Wilder Foundation to use the WCFI for the context of this study (Appendix F). She included a cover letter (Appendix G) to let the participants know that the task was important, and that she would ensure the confidentiality and security of responses.

Dillman et al. (2009) discussed several key features that have been shown to increase participation when implementing web-based surveys. The following features that they recommended were used in the implementation of this survey:

1. Personalize each email invitation with Dear [First name] [Last name].
2. Use multiple contacts and vary the message across them.
3. Keep email contacts short and to the point.
4. Send the email request from a professional-appearing email sender and address.
5. Provide clear instructions for how to access the survey.
6. Assign each sample member a unique ID number.

Reliability and Validity

The WCFI was developed by examining various applications of collaboration across a number of disciplines (health care, government, business, community development, education, and economic development), but reliability and validity testing of the instrument had not occurred until 2004. "Reliability concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials" (Carmines & Zeller, 1979, p. 11). Reliability suffers when the responses of the sample fail to reflect those of the population. Derose, Jackson, and Beatty (2004) were able to establish reliability measures for 17 of the 20 WCF from their study on collaboration as a means to improve health care. In addition, Vogt (2000) used the WCFI to assess collaboration processes in employment services for dislocated workers between Private Industry Council agencies and community colleges in Virginia, also contributing to establishing reliability of the WCFI. The data collection instrument for this research study was administered to the entire population, as opposed to a sample of the population. This minimized concerns for reliability or margins of error.

Validity is "the extent to which any measuring instrument measures what it is intended to measure" (Carmines & Zeller, 1979, p. 17). Townsend and Shelley (2008) conducted a study in which the WCFI was used to measure interagency collaboration between community college personnel and the Workforce Investment Network Job Center personnel. One of their research goals was to validate the WCFI. Participants for the study were employees of Mississippi's 45 Workforce Investment Network Job Centers and 15 community colleges (n = 572). Through the use of exploratory factor

analysis, the 40 collaborative factors were grouped into four categories that explained 55.5% of the total variance: (a) community, (b) membership, (c) purpose, and (d) resources. The factors within these categories exhibited Cronbach alphas between 0.66 and 0.86. The significant categories served to validate the instrument. Three of the factors (cross-section of members, unique purpose, and sufficient resources) revealed lower reliability measures, but key relationships existed between the inventory items that defined these factors. Townsend and Shelley could not detect reliability for these factors because each included only one inventory item. Overall, they found that the WCFI addressed the necessary components of successful collaboration.

Panel of Experts

To further establish validity of the WCFI, a panel of experts was consulted to examine the instrument in the context of faculty collaboration in higher education. The panel consisted of one member from State University and one member from Community College E, both of whom serve as key leaders in faculty collaboration of curriculum alignment between institutions. These experts were not members of the survey pool of the population. The panel included: Associate Vice President of Regional Campuses Enrollment Services and Marketing Services, State University; Dean of Students and Career Program Advisor, Community College E.

Members of the panel were asked to examine the survey items to determine if they were relevant to the research questions with respect to the selected population, to improve the formatting of the survey, and to check that the verbiage of the survey was

appropriate for the selected population. The panel was provided with a description of the study including the research questions, the original WCFI (Appendix C), the adapted WCFI (Appendix D), and the participant contact letter (Appendix G).

Data Analysis

The researcher was unable to find evidence in the literature that having a favorable political and social climate (the third factor), being adaptable (the 12th factor), and having a unique purpose (the 18th factor) were essential factors in the success of postsecondary education collaboration with regard to student transfer. However, these factors may be significantly related to other factors present in the WCFI. Thus, the researcher conducted a factor analysis to further validate the survey instrument and to establish theoretically significant categories for its use in the context of postsecondary faculty collaboration on transfer (Yong & Pearce, 2013).

The first research question, "What is the current level of faculty collaboration, as defined by the Wilder Collaboration Factors Inventory, between universities and community colleges that have articulation agreements in place?" was analyzed by comparing the mean responses for each factor to the mid-range score of 3.0. The levels of collaboration have been defined by Mattessich et al. (2001) in the following manner: scores of 4.0 or higher indicate strength in that factor, scores ranging from 3.0 to 3.9 are borderline, and scores of 2.9 or lower indicate weakness in that factor. To determine the score for each factor, the scores of all of the survey items in that factor are averaged. An average of all of the participants' scores for each factor was calculated. A Wilcoxon

Signed Rank test was used to compare the mean scores for each factor to the mid-range score of 3.0 (3.0 represents Neutral, No Opinion). This test was used because Likert data is ordinal in scale. The intervals between response items are not equidistant because of the varying degrees of perception of the participants (Davis, 2007). Thus, a nonparametric test was necessary, justifying the selection of the Wilcoxon Signed Rank test over a One Sample t-test.

The second research question, "Is there a difference between the perceptions of university faculty and community college faculty on collaboration on transfer?" was analyzed using the Mann-Whitney Test with a level of significance of 0.05. The Mann-Whitney Test was used because Likert-type data are ordinal data and the researcher was seeking to find a difference between two independent groups: the university faculty mean collaboration scores per factor and the community college faculty mean collaboration scores per factor (Chalmer, 1987). All statistical analyses for each research question were conducted using SPSS.

Ethical Considerations

The researcher assigned each participant a unique ID number in order to keep track of responses. This ID number was kept confidential by the researcher, protecting the confidentiality of participant responses. The ID numbers were stored on the researcher's private computer. The survey responses did not require any names or identifying information except responses to demographic questions. Furthermore, participants were assured that their participation was completely voluntary.

IRB Authorization

Prior to the implementation of this research, approval by the University of Central Florida's Institutional Review Board (IRB) was sought to ensure that the study was performed ethically, and that participants were informed of their rights and of the confidentiality measures that were taken to protect their information (Appendix H). Participants were notified of the purpose of the study, what he or she was expected to do, the length of participation, how the findings would be used, and the contact information of the researcher. In addition, the researcher contacted the IRB chairs of each of the community colleges. Community Colleges A, B, C, and E requested that the researcher complete their institution's IRB process; IRB approval was received from each of those institutions. The IRB chair of Community College D and State University honored the approval that the researcher had received from the University of Central Florida.

Originality Score

The dissertation proposal was submitted to Turnitin.com to be reviewed for originality. Removing references and citations, quotes, and hits of less than 1% further reduced the originality score. This brought the originality score well below the 10% requirement. The University of Central Florida also requires the dissertation chair to submit the final dissertation manuscript to iThenticate to be reviewed for originality. The researcher's major professor submitted this dissertation to iThenticate and shared the originality results with all members of the dissertation committee.

Summary

This dissertation research consists of a quantitative study under the positivistic research paradigm. This approach was used in an effort to contribute to the need for more quantitative research on collaboration in higher education. The research questions, site location, participant selection and recruitment criteria were described in this chapter. An adapted version of the WCFI in the context of higher education was used as the data collection instrument. Reliability and validity were discussed along with procedures for analyzing the data. The ethical considerations, IRB authorization, and originality score requirement were also discussed. The following chapters contain the data analysis and findings as well as a discussion of the results, conclusions, and recommendations.

CHAPTER 4
DATA ANALYSIS AND FINDINGS

Introduction

The purpose of this study was to identify the level of collaboration and differences in perceptions of State University faculty and the faculty of the Transfer Partnership community colleges in the curriculum alignment of the Transfer Partnership articulation agreement. The level of collaboration and perception were defined quantitatively using the Likert scale score ranges on the WCFI. Mattessich et al. (2001) defined the Likert scale scores as follows: a response of 1 indicates that the participant strongly disagrees with the statement, a response of 2 indicates that the participant disagrees with the statement, a response of 3 indicates that the participant is neutral or has no opinion about the statement, a response of 4 indicates that the participant agrees with the statement, and a response of 5 indicates that the participant strongly agrees with the statement. The levels of collaboration are defined as follows: scores of 4.0 or higher indicate strength in that factor, scores ranging from 3.0 to 3.9 are borderline, and scores of 2.9 or lower indicate weakness in that factor. To determine the score for each factor, the scores of all of the survey items in that factor were averaged. Once the scores for each factor were obtained, the mean of all of the participants' scores for each factor were calculated.

In this chapter, the research methodology used to conduct the study is detailed. This includes the response rate, the demographic data of the participants, and the results of the statistical tests conducted to answer the two research questions. All data were

analyzed using SPSS version 23.0 for Mac at the $\alpha = .05$ level of significance. The outcomes of these results are addressed in Chapter 5.

Review of Methodology and Response Rate

The WCFI was administered via email to faculty members at State University and its partner community colleges who collaborated in the curriculum alignment meetings. The researcher emailed the first contact letter (Appendix G) to the participants on August 10, 2015. Three of the participants' emails were returned and marked "undeliverable". The researcher was unable to locate an alternative email address for these participants; therefore, they did not receive any additional contact letters and did not provide any responses to the survey. The second contact letter (Appendix I) was sent to the participants on August 25, 2015. Two weeks after the second contact letter was sent, the researcher had only received one response from State University. The researcher was concerned about the lack of participation from State University participants, and contacted the dean of Academic and Student Affairs of the College of Sciences to receive help. The researcher provided the dean with a short statement to include in an email to all participants to encourage participation (Appendix J). In addition, the researcher sent a third contact letter to all participants on September 17 immediately after the dean emailed the short statement (Appendix K). The researcher did not receive any additional survey responses from State University participants from the third contact letter; therefore, she emailed a fourth contact letter to participants on September 28, 2015 (Appendix L). The fourth contact letter resulted in obtaining more than the minimal number of responses

necessary. After reviewing the data, one participant's responses from Community College C and one participant's responses from Community College E were removed due to failure to meet the qualifying criteria. There were three participants who did not complete the entire survey; their responses were removed from the data analysis. In addition, there were eight participants (five community college faculty members and three State University faculty members) who indicated that they wished not to respond. The number and percentage of qualified participants who responded from State University and the five participating community colleges are displayed in Table 2.

Table 2

Responding Faculty Members by Type of Institution

Type	Institution	*f*	%
Four-year	State University	6	35.3
Two-year	Community College A	6	30.0
	Community College B	3	23.1
	Community College C	10	47.6
	Community College D	9	36.0
	Community College E	16	43.2

The minimum response rate that the researcher established in Chapter 3 was 24.8%. The overall number of qualified responses was $n = 50$, or 37.6%. The qualified responses included six State University faculty members and 44 community college faculty members. As indicated in Table 2, the response rate from State University participants was 35.3%, and the aggregate response rate from the community college participants was 38.9%.

Demographics

The researcher included demographic questions in the survey instrument in order to accurately describe the population and to ensure that the qualifying criteria had been met. The demographic characteristics of the participants with respect to gender, age, and race/ethnicity are included in Table 3. The majority of participants were male (54%), ranged in age between 35 to 44 years old (30%), and identified as White (68%).

The qualifying criteria for the population required participants to be current faculty members. The survey instrument included questions on current faculty rank, how long the participant had held that rank, and the number of years that participants had taught at their current institution. The majority of participants were tenured faculty (54%), held their current faculty rank for two to five years (38%), and had been teaching for six to ten years (38%) or 11 years or more (38%). This information is summarized in Table 4.

Table 3

Study Population by Gender, Age, and Race/Ethnicity

Characteristic	*f*	%
Gender		
Male	27	54.0
Female	20	40.0
Other	0	0.0
Prefer not to disclose	3	6.0
Age		
25 – 34 years old	4	8.0
35 – 44 years old	15	30.0
45 – 54 years old	13	26.0
55 – 64 years old	12	24.0
65 years or older	4	8.0
Prefer not to disclose	2	4.0
Race/Ethnicity		
White	34	68.0
Hispanic or Latino	6	12.0
Black or African American	4	8.0
Native American or American Indian	0	0.0
Asian/Pacific Islander	1	2.0
Other	1	2.0
Prefer not to disclose	4	8.0

Table 4

Participants by Current Rank, Tenure Status, and Years Teaching

Characteristic	*f*	%
Current faculty rank		
Part-time	4	8.0
Full-time, non-tenure earning	8	16.0
Full-time, tenure earning	11	22.0
Tenured	27	54.0
Time in rank		
1 year or less	5	10.0
2 – 5 years	19	38.0
6 – 10 years	13	26.0
11 years or more	13	26.0
Years teaching		
Less than 1 year	0	0.0
1 – 5 years	12	24.0
6 – 10 years	19	38.0
11 years or more	19	38.0

The survey also included questions with respect to participation in the curriculum alignment meetings. Participants were asked how frequently (frequency), how long (duration), and the most recent time (recency) that they had participated in a curriculum alignment meeting. The majority of participants had attended a curriculum alignment meeting between two and five times (60%), had been attending meetings for one to three years (44%), and had been to a meeting less than one year ago (56%). These data are summarized in Table 5.

Table 5

Curriculum Alignment Participation

Characteristic	*f*	%
Frequency		
1 time	6	12.0
2 – 5 times	30	60.0
6 – 10 times	10	20.0
More than 10 times	4	8.0
Not Applicable	0	0.0
Duration		
Less than 1 year	5	10.0
1 – 3 years	22	44.0
4 – 6 years	16	32.0
7 years or more	5	10.0
Not applicable	2	4.0
Recency		
Less than 1 year ago	28	56.0
1 – 2 years ago	16	32.0
3 – 4 years ago	4	8.0
5 or more years ago	1	2.0
Not applicable	1	2.0

The survey instrument also included questions regarding the curriculum alignment disciplines. Participants were asked to indicate all disciplines in which they had attended a curriculum alignment meeting as well as how recently they had taught a course in any of those disciplines. The majority of participants had attended a curriculum alignment meeting in the discipline of Biology (38%) and had taught a course in their indicated discipline less than one year ago (96%) as indicated in Table 6.

Table 6

Curriculum Alignment (CA) Meetings by Discipline and Recency of Attendance

CA Meetings	*f*	%
Discipline		
Biology	19	38.0
Chemistry	7	14.0
Engineering	3	6.0
Math	9	18.0
Physics	10	20.0
Programming	3	6.0
Recency		
Less than 1 year ago	48	96.0
1 – 2 years ago	1	2.0
3 – 4 years ago	0	0.0
5 or more years ago	0	0.0
Not applicable	1	2.0

The demographic data are informative in understanding the characteristics of the population, the experience that the population had as faculty members in their current roles, and the involvement that the population had in the curriculum alignment meetings. This information serves as a foundation for the analysis and reasoning of the research questions.

Analysis of Research Questions

The subheadings that follow include an analysis of the WCF that the participants chose and ranked as the most important, a factor analysis that categorizes the pattern of correlations within the factors based on participant responses, and the statistical analyses for the research questions that guided this study.

Wilder Collaboration Factors

Participants were asked to select five of the 20 WCF that they believed to be the most important factors that influenced the success of collaboration between two-year and four-year postsecondary faculty on transfer student retention. The results are recorded in Table 7.

Table 7

Participants' Selection of Five Most Important Wilder Collaboration Factors

Factor	Responses		% of cases
	f	%	
History of collaboration or cooperation in the community	3	1.2	6.0
Collaborative group seen as a legitimate leader in the community	4	1.6	8.0
Favorable political and social climate	7	2.8	14.0
Mutual respect, understanding, and trust	30	12.0	60.0
Appropriate cross section of members	17	6.8	34.0
Members see collaboration as in their self-interest	11	4.4	22.0
Ability to compromise	16	6.4	32.0
Members share a stake in both process and outcome	21	8.4	42.0
Multiple layers of participation	12	4.8	24.0
Flexibility	5	2.0	10.0
Development of clear roles and policy guidelines	17	6.8	34.0
Adaptability	7	2.8	14.0
Appropriate pace of development	2	0.8	4.0
Open and frequent communication	17	6.8	34.0
Established informal relationships and communication links	5	2.0	10.0
Concrete, attainable goals and objectives	25	10.0	50.0
Shared vision	22	8.8	44.0
Unique purpose	0	0.0	0.0
Sufficient funds, staff, materials, and time	9	3.6	18.0
Skilled leadership	20	8.0	40.0

The total number of responses recorded was comprised of the five Likert scale type responses multiplied by the sample size (n = 50) or 250 total responses. The percentage of responses column in Table 7 includes the percentage of respondents based on the total number of responses recorded of participants who chose each factor. The percentage of cases column indicates the percentage of the total number of respondents (n = 50) who chose each factor. The five factors that received the highest frequency of responses were: mutual respect, understanding, and trust (60%); concrete, attainable goals and objectives (50%); shared vision (44%); members share a stake in both process and outcome (42%); and skilled leadership (40%). None of the participants chose unique purpose as a most important factor.

After selecting the most important factor, respondents ranked the five factors that they selected on a scale of 1 to 5 where 1 represented the most important factor and 5 represented the least important factor. The means, medians, and frequencies of the ranked factors are included in Table 8.

The factors with the smallest means indicate that respondents ranked those factors as most important. The five factors that have the smallest means are: shared vision (M = 2.32, f = 22); mutual respect, understanding, and trust (M = 2.67, f = 30); concrete, attainable goals and objectives (M = 2.76, f = 25); skilled leadership (M = 2.80, f = 20); and multiple layers of participation (M = 2.83, f = 12).

Table 8

Rank of Most Important Factors

Factor	*M*	Median	*f*
History of collaboration or cooperation in the community	4.00	5	3
Collaborative group seen as a legitimate leader in the community	4.75	5	4
Favorable political and social climate	3.29	3	7
Mutual respect, understanding, and trust	2.67	2	30
Appropriate cross section of members	3.35	4	17
Members see collaboration as in their self-interest	2.91	3	11
Ability to compromise	2.88	3	16
Members share a stake in both process and outcome	3.24	4	21
Multiple layers of participation	2.83	3	12
Flexibility	3.40	4	5
Development of clear roles and policy guidelines	3.18	3	17
Adaptability	3.71	4	7
Appropriate pace of development	4.00	4	2
Open and frequent communication	2.88	3	17
Established informal relationships and communication links	3.40	3	5
Concrete, attainable goals and objectives	2.76	2	25
Shared vision	2.32	2	22
Unique purpose	N/A	N/A	0
Sufficient funds, staff, materials, and time	3.56	4	9
Skilled leadership	2.80	2.5	20

Factor Analysis

The researcher used a principal components analysis to remove superfluous WCF and identify underlying components or categories that explain the pattern of correlations within the factors. The analysis was run on the mean score of each of the questions for each factor. In order to conduct a principal components analysis, a sample size of a minimum of 150 cases or 5 to 10 cases per variable is required (Thurstone, 1974). This assumption was met since there were 50 responses for 20 factors. In addition, the analysis requires the variables to be linearly related with no outliers. Q-Q plots and

histograms suggested support for meeting the linearity assumption, but the Shapiro-Wilk test did not. However, the linearity assumption is somewhat relaxed for ordinal data (Thurstone, 1974). The researcher tested the outliers assumption and found that the component scores were all less than one standard deviation away from the mean. The correlation matrix was examined to determine if there were any variables that were not strongly correlated with any other variable. The level of correlation used to determine if a variable should be included was $r \geq 0.3$. All variables had at least one correlation above $r = 0.3$.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicated that factors needed to be removed in order to have a KMO of 0.5 or higher. The history of collaboration or cooperation in the community and the sufficient funds, staff, materials, and time factors were removed to meet this criterion. Statistical significance values from the correlation matrix warranted the removal of the adaptability factor as well. Once the variables were removed, the overall KMO measure was 0.83 with individual KMO measures all greater than 0.7. Kaiser (1974) classified these results as "middling" to "meritorious." Bartlett's Test of Sphericity was used to ensure that there were correlations between the variables. The test indicated statistical significance ($\chi^2 = 521.672$, $p < 0.0005$, df = 136). This suggested that the data were suitable for a principal components analysis.

Based on the eigenvalue-one criterion, percentage of variance explained, and the scree plot, four components were retained explaining 47.2%, 7.7%, 7.5%, and 6.5% of the total variance, respectively. This solution explained 69% of the total variance. A

correlation among the variables was expected, so an oblique rotation method was employed, specifically, the Promax method. This led to a solution containing a "simple structure" (Thurstone, 1947).

The researcher developed the associated names of the four components (Evolution, Implementation, Emergence, and Communication) based on the descriptions of the WCF that fell within each component and the stages of collaboration as defined by Donaldson and Kozoll (1999). Component loadings and communalities of the rotated solution are displayed in Table 9, and the WCFs that fell within each component are shown in boldface type. The first component, Evolution, contains WCF 8, members share a stake in both process and outcome; WCF 16, concrete, attainable goals and objectives; WCF 13, appropriate pace of development; WCF 9, multiple layers of participation; WCF 17, shared vision; and WCF 6, members see collaboration as in their self-interest. The second component, Implementation, contains WCF 7, ability to compromise; WCF 10, flexibility; WCF 4, mutual respect, understanding, and trust; and WCF 20, skilled leadership. The third component, Emergence, contains WCF 18, unique purpose; WCF 2, collaborative group seen as a legitimate leader in the community; WCF 5, appropriate cross section of members; and WCF 11, development of clear roles and policy guidelines. The fourth component, Communication, consists of WCF 15, established informal relationships and communication links and WCF 14, open and frequent communication. The un-rotated component matrix and scree plot are included in Appendix M.

Table 9

Factor Analysis Components and Communalities: Wilder Collaboration Factors

Items	Rotated Component Coefficients				Communalities
	Component 1	Component 2	Component 3	Component 4	
WCF 8: Members share a stake in both process and outcome	**1.034**	- .174	- .044	- .076	.803
WCF 16: Concrete, attainable goals and objectives	**.711**	.084	- .153	.340	.721
WCF 13: Appropriate pace of development	**.683**	- .191	.220	.246	.700
WCF 9: Multiple layers of participation	**.565**	.418	- .097	- .108	.642
WCF 17: Shared vision	**.552**	.219	.109	.147	.709
WCF 6: Members see collaboration as in their self-interest	**.529**	.369	- .053	.092	.659
WCF 7: Ability to compromise	- .233	**.985**	- .175	.134	.696
WCF 10: Flexibility	.234	**.671**	- .022	.046	.701
WCF 4: Mutual respect, understanding, and trust	.032	**.602**	.277	.101	.711
WCF 20: Skilled leadership	.084	**.542**	.200	.185	.652

Items	Rotated Component Coefficients				Communalities
	Component 1	Component 2	Component 3	Component 4	
WCF 18: Unique purpose	- .374	.326	**.878**	- .033	.771
WCF 2: Collaborative group seen as a legitimate leader in the community	.029	- .159	**.866**	.096	.714
WCF 5: Appropriate cross section of members	.243	- .184	**.675**	- .190	.496
WCF 11: Development of clear roles and policy guidelines	.446	- .051	**.522**	- .048	.660
WCF 15: Established informal relationships and communication links	.012	.159	- .104	**.816**	.706
WCF 14: Open and frequent communication	.263	.086	.124	**.577**	.671
WCF 3: Favorable political and social climate	.427	.483	.037	- .566	.710

Research Question 1

The first research question explored was, "What is the current level of faculty collaboration, as defined by the Wilder Collaboration Factors Inventory, between universities and community colleges that have articulation agreements in place?" To respond to this question, the scores of each WCF were analyzed with respect to the levels of collaboration defined by Mattessich et al. (2001): scores of 4.0 or higher indicated strength in that factor, scores ranging from 3.0 to 3.9 were borderline, and scores of 2.9 or lower indicated weakness in that factor. This analysis was conducted using the Wilcoxon Signed Rank test, which compares the median scores for each factor to the mid-range score of 3.0 (3.0 represents Neutral, No Opinion). The null hypothesis was that the median score per each WCF was different than the mid-range score of 3.0. The measures of central tendency for each factor as well as the significance of the Wilcoxon Signed Rank test are located in Table 10.

Table 10

Level of Collaboration: Measures of Central Tendency and Significance of Wilcoxon Signed Rank Test

Factor	Measures of Central Tendency				Significance
	Mean	Median	Mode	Range	
History of collaboration or cooperation in the community	3.58	4.00	4.00	3.50	.000
Collaborative group seen as a legitimate leader in the community	3.63	3.75	3.00	2.50	.000
Favorable political and social climate	4.05	4.00	4.00	2.50	.000
Mutual respect, understanding, and trust	3.87	4.00	4.00	3.50	.000
Appropriate cross section of members	3.46	3.50	3.00	3.00	.000
Members see collaboration as in their self-interest	4.12	4.00	4.00	4.00	.000
Ability to compromise	3.58	4.00	4.00	3.00	.000
Members share a stake in both process and outcome	3.56	4.00	4.00	3.00	.000
Multiple layers of participation	3.27	3.50	3.00	4.00	.073
Flexibility	3.76	4.00	4.00	3.00	.000
Development of clear roles and policy guidelines	3.38	3.50	4.00	3.50	.018
Adaptability	3.60	3.50	4.00	3.00	.000
Appropriate pace of development	3.43	3.50	4.00	3.50	.001

Factor	Measures of Central Tendency				Significance
	Mean	Median	Mode	Range	
Open and frequent communication	3.73	4.00	4.00	4.00	.000
Established information relationships and communication links	3.60	4.00	4.00	3.50	.000
Concrete, attainable goals and objectives	3.79	4.00	4.00	3.00	.000
Shared vision	3.79	4.00	4.00	3.00	.000
Unique purpose	3.76	3.50	3.50	3.00	.000
Sufficient funds, staff, materials, and time	2.98	3.00	3.00	3.00	.873
Skilled leadership	3.74	4.00	4.00	4.00	.000

There was a statistically significant difference ($p < .05$) between the median score and the mid-range score of 3.0 for 18 of the 20 WCF. The medians of these factors indicated that the center of the response scores was close to or equal to 4.0, suggesting strength in those factors. The two WCF that indicated no statistically significant difference between the median score and the mid-range score of 3.0 were multiple layers of participation ($p = .073$) and sufficient funds, staff, materials, and time ($p = .873$). The results of these two WCF shared similarities with the comments that a few participants provided at the end of the survey. The following comments will be analyzed in conjunction with the first research question in Chapter 5:

Comment 1 (Community College C participant)

> The biggest issue with the whole curriculum alignment project is NOT with the two and four year institutes. We can align with the entire college system rather easily. The true issue is trying to align with the K-12 system, which we have been trying to do in recent years. The issue with that is not the K-12 teachers, they are onboard, rather Tallahassee and the Department of Education. They are so fixated on the FCAT in the past and FSA now, that they don't allow a teacher to actually teach. Instead they have to teach a test. Compound that issue with the complete and utter lack of motivation/drive in the K-12 students due to lack of parental involvement (usually), and you end up with a K-12 student who doesn't care because for the most part, the parents don't care, and the students know that there is little to no long term ramifications. If you want to reform education it stems from restructuring at the state and federal level, but more importantly, and this goes for ALL education, K-12, two year institutes and four year institutes, we have to make the students care. . . and that is not the responsibility of the teacher, but rather the PARENTS. If the teacher is excited about what he or she is teaching, then the students will key in on it, just as much as if the parents are apathetic the students key in on that.

Comment 2 (Community College C participant)

> Attending these meetings (of recent times) has become much more difficult due to class-teaching schedules.

Comment 3 (Community College D participant)

> I feel that the curriculum alignment has focused too much on what should be in courses, with the result that the recommended topics far exceed what can realistically be taught in a course. More important is the pedagogy; HOW a topic is taught is far more important than whether or not thermodynamics, for example, is included in the curriculum. There is far too much pressure to mandate what must be included in any particular course.

Comment 4 (Community College E participant)

> I quit the committee because we would spend a considerable amount of time on making decisions, but the practices that we agreed to adopt were not followed by professors. It is a noble goal, but most of the adjuncts will just teach what they want. The adjuncts outnumber us, so to get this to work you really need them to "buy in".

Research Question 2

The second research question explored was, "Is there a difference between the perceptions of university faculty and community college faculty on collaboration on transfer?" A Mann-Whitney test was conducted in order to find a difference between two independent groups in which the dependent variable data were ordinal in measurement scale. The null hypothesis was that there was no statistically significant difference in the perceptions of university faculty and community college faculty on collaboration on transfer when tested at the $\alpha = .05$ level of significance. The mean rank and sum of ranks

for the community college and university faculty per WCF are included in Table 11. The test statistics are included in Table 12.

Table 11

Mann-Whitney Ranks: University and Community College Faculty

Factor	Faculty Classification	Mean Rank	Sum of Ranks
History of collaboration or cooperation in the community	Community College	25.68	1130.00
	University	24.17	145.00
Collaborative group seen as a legitimate leader in the community	Community College	26.77	1178.00
	University	16.17	97.00
Favorable political and social climate	Community College	25.38	1116.50
	University	26.42	158.50
Mutual respect, understanding, and trust	Community College	25.13	1105.50
	University	28.25	169.50
Appropriate cross section of members	Community College	26.06	1146.50
	University	21.42	128.50
Members see collaboration as in their self-interest	Community College	25.44	1119.50
	University	25.92	155.50
Ability to compromise	Community College	25.30	1113.00
	University	27.00	162.00
Members share a stake in both process and outcome	Community College	25.34	1115.00
	University	26.67	124.00
Multiple layers of participation	Community College	26.16	1151.00
	University	20.67	124.00
Flexibility	Community College	25.83	1136.50
	University	23.08	119.50

Factor	Faculty Classification	Mean Rank	Sum of Ranks
Development of clear roles and policy guidelines	Community College	26.26	1155.50
	University	19.92	119.50
Adaptability	Community College	26.11	1149.00
	University	21.00	126.00
Appropriate pace of development	Community College	26.15	1150.50
	University	20.75	124.50
Open and frequent communication	Community College	25.15	1106.50
	University	28.08	168.50
Established informal relationships and communication links	Community College	25.28	1112.50
	University	27.08	162.50
Concrete, attainable goals and objectives	Community College	26.01	1144.50
	University	21.75	130.50
Shared vision	Community College	26.00	1144.00
	University	21.83	108.00
Unique purpose	Community College	26.52	1167.00
	University	18.00	108.00
Sufficient funds, staff, materials, and time	Community College	26.42	1162.50
	University	18.75	112.50
Skilled leadership	Community College	24.85	1093.50
	University	30.25	181.50

Table 12

Mann-Whitney Test Statistics

Factor	Mann-Whitney U	Wilcoxon W	*Z*	Asymp. Sig. (2-tailed)
History of collaboration or cooperation in the community	124.00	145.00	-.245	.806
Collaborative group seen as a legitimate leader in the community	76.00	97.00	-1.757	.079
Favorable political and social climate	126.50	1116.50	-.172	.079
Mutual respect, understanding, and trust	115.50	1105.50	-.509	.611
Appropriate cross section of members	107.50	128.50	-.748	.454
Members see collaboration as in their self-interest	129.50	1119.50	-.083	.934
Ability to compromise	123.00	1113.00	-.290	.772
Members share a stake in both process and outcome	125.00	1115.00	-.211	.833
Multiple layers of participation	103.00	124.00	-.878	.380
Flexibility	117.50	138.50	-.468	.640
Development of clear roles and policy guidelines	98.50	119.50	-1.033	.302
Adaptability	105.00	126.00	-.847	.397
Appropriate pace of development	103.50	124.50	-.886	.375
Open and frequent communication	116.50	1106.50	-.482	.630
Established informal relationships and communication links	122.50	1112.50	-.298	.766
Concrete, attainable goals and objectives	109.50	130.50	-.693	.488
Shared vision	110.00	131.00	-.690	.490
Unique purpose	87.00	108.00	-1.397	.162
Sufficient funds, staff, materials, and time	91.50	112.50	-1.237	.216
Skilled leadership	103.50	1093.50	-.953	.341

Results indicated that there was no statistically significant difference ($p > .05$) in the perceptions of university faculty and community college faculty on collaboration on transfer for any of the 20 WCF.

Summary

This chapter detailed the research methodology and demographic data for the participants including response rates along with the results of the statistical tests conducted on the level of collaboration and differences in perception between State University faculty and the community college faculty in the curriculum alignment of the Transfer Partnership articulation agreement. An analysis of the participants' choices and rankings for the five most important WCF that influenced the success of collaboration between two-year and four-year postsecondary faculty on transfer student retention was provided. Furthermore, the result of a principal components analysis that was used to remove superfluous WCF and identify underlying components that explained the pattern of correlations within the factors was also included. The discussion, recommendations, and conclusions based on these analyses are provided in Chapter 5.

CHAPTER 5
DISCUSSION, RECOMMENDATIONS, & CONCLUSIONS

Introduction

The purpose of this study was to build on the limited amount of research on postsecondary collaboration by examining partnerships between community colleges and four-year institutions with articulation agreements and faculty that collaborate in order to increase the retention rate of their transfer students. This, in turn, could lead to a systemic approach for strengthening existing articulation agreements and a framework that faculty could use to develop productive partnerships, possibly yielding a smoother transition for transfer students. This chapter discusses the results of the data analysis and findings of the research questions. This discussion generated implications for policy and practice, which, in tandem with the limitations and delimitations of the study, generated recommendations for future research. The chapter closes with concluding remarks.

Discussion

The subheadings that follow include a discussion of the support from the literature for the WCF that the participants chose and ranked as the most important, the factor analysis results that connect the WCF with stages of collaboration, and the research questions that guided this study.

Wilder Collaboration Factors

Mattessich et al. (2001) declared a need for future research to determine the relative importance of each of the WCF. To examine this need in the context of faculty

collaboration on transfer, this study asked participants to select the five WCF that they perceived to be the most important and to rank them by order of importance. The five WCF that participants chose as most important included the following: (1) mutual respect, understanding, and trust; (2) concrete, attainable goals and objectives; (3) shared vision; (4) members share a stake in both process and outcome; and (5) skilled leadership. The highest ranked WCF included the following: (1) shared vision; (2) mutual respect, understanding, and trust; (3) concrete, attainable goals and objectives; (4) skilled leadership; and (5) multiple layers of participation. None of the participants chose the "unique purpose" WCF as one of the most important factors. The researcher anticipated this result, because she did not find any literature supporting this factor in the context of postsecondary faculty collaboration.

According to the Inventory Protocol (Appendix E), the "mutual respect, understanding, and trust" WCF had the third-highest number of references (10) in the literature review compared to the other WCF in the context of collaboration in higher education. Therefore, the literature supports the result that the majority of participants selected this factor as one of the most important and ranked it second-highest. Although participants chose as the most important WCF the (1) concrete, attainable goals and objectives, (2) shared vision, (3) members share a stake in both process and outcome, (4) skilled leadership, and (5) multiple layers of participation, these factors did not have as many references in the literature review compared to other WCF. There were four references for concrete, attainable goals and objectives, three references for shared vision, two references for members share a stake in both process and outcome, one reference for

skilled leadership, and three references for multiple layers of participation as indicated in the Inventory Protocol (Appendix E). Because the participants selected the aforementioned WCF as the most important, but support from the literature was not as strong, there is a need for future research examining these particular WCF in the context of postsecondary faculty collaboration on transfer.

The WCF that the majority of the participants chose as the most important fell under the membership characteristics, process and structure, purpose, and resources categories from the conceptual framework. The majority of the participants did not choose WCF from the environment and communication categories as the most important factors. At the time that the survey was administered, the majority of the curriculum alignment faculty members had been collaborating between one and three years. The WCF that fall under the environment and communication categories (history of collaboration or cooperation in the community, collaborative group seen as a leader in the community, favorable political and social climate, open and frequent communication, and established informal relationships and communication links) are factors that focus more on the start of a collaboration as opposed to an already-established collaboration. Therefore, it is possible that the participants did not choose these factors as the most important because the curriculum alignment group was already at an established collaborative stage. This observation suggested the need to examine the WCF with respect to the collaborative stages discussed in the literature review: (a) emergence, (b) evolution, (c) implementation, and (d) transformation (Donaldson & Kozoll, 1999). The

researcher conducted this analysis in conjunction with the results of the factor analysis in the subheading that follows.

Factor Analysis

Mattessich et al. (2001) stated that there is no significance to the names of the WCF categories or to the way in which the factors were grouped. Thus, the researcher conducted a principal components analysis to remove superfluous WCF and to identify underlying categories that explain the correlations among the factors. As determined by the KMO measure of sampling adequacy, the researcher removed from the analysis the history of collaboration or cooperation in the community, sufficient funds, staff, materials, and time, and adaptability factors. This removal was necessary because if the KMO requirement is not met, a study cannot produce distinct and reliable components (Kaiser, 1974). As stated in Chapter 2, the researcher did not find literature supporting the adaptability WCF in the context of postsecondary collaboration. Therefore, the literature review supports the removal of the adaptability factor. However, the Inventory Protocol (Appendix E) includes five references for the history of collaboration or cooperation in the community WCF and six references for the sufficient funds, staff, materials, and time WCF. The literature did not support the removal of those factors from the principal components analysis, but such removal was necessary to run the analysis.

The principal components analysis created four categories that the researcher named (1) Emergence, (2) Evolution, (3) Implementation, and (4) Communication. The

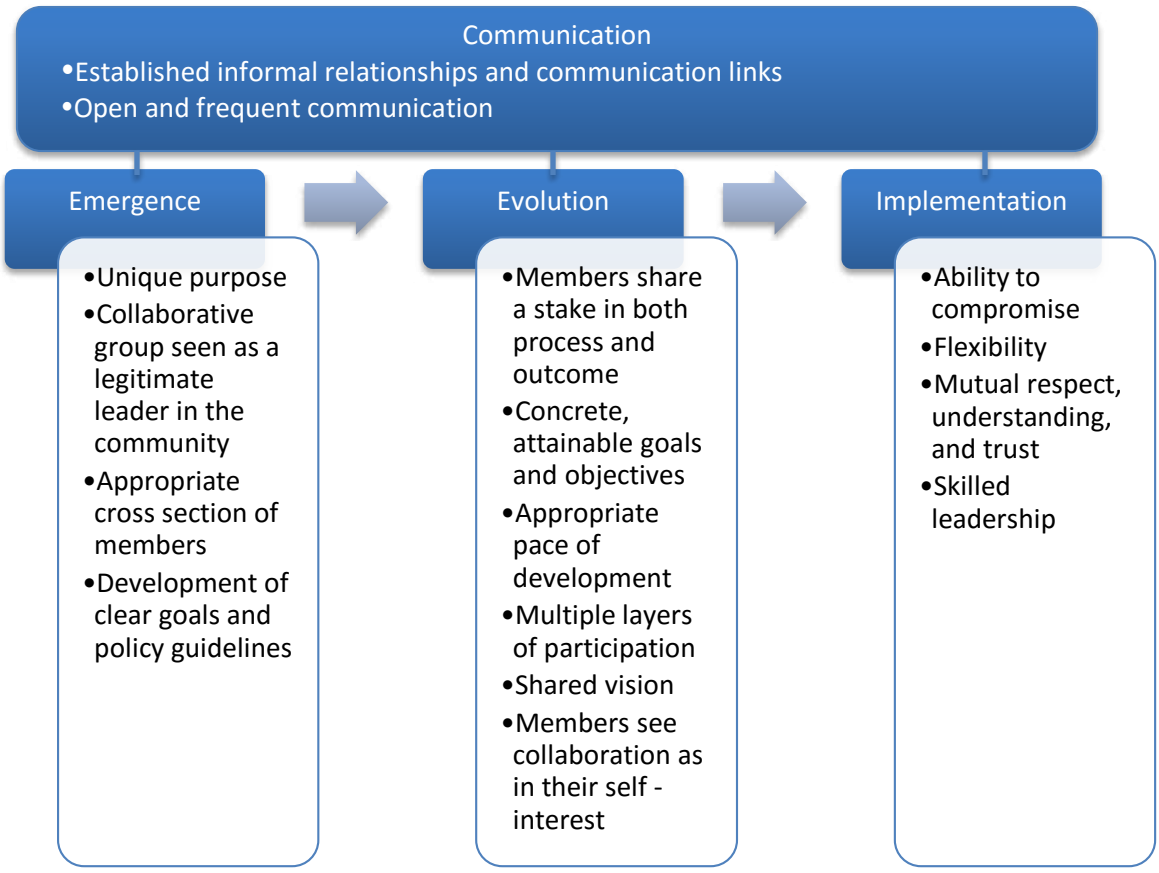
Emergence category contained the following WCF: unique purpose; collaborative group seen as a legitimate leader in the community; appropriate cross section of members; and development of clear goals and policy guidelines. These factors are characteristic of Donaldson and Kozoll's (1999) emergence stage of collaboration. During the emergence stage, potential collaborators assess their motives for collaboration, form a partnership, and identify their problem. In addition, the key stakeholders of the issue are involved and the task is identified and communicated.

The Evolution category contained the following WCF: members share a stake in both process and outcome; concrete, attainable goals and objectives; appropriate pace of development; multiple layers of participation; shared vision; and members see collaboration as in their self-interest. These factors are characteristic of Donaldson and Kozoll's (1999) evolution stage of collaboration. In this stage, collaborators establish the purpose and direction of the collaboration by identifying the values and goals of the collaborators.

The Implementation category contained the following WCF: ability to compromise; flexibility; mutual respect, understanding and trust; and skilled leadership. These factors are characteristic of Donaldson and Kozoll's (1999) implementation stage of collaboration. In this stage, communicating openly and honestly and incorporating the interests of all participants, collaborators take actions in order to realize their shared vision and goals. At this stage, collaborators also negotiate and develop a framework for problem solving.

The Communication category contained the following WCF: established informal relationships and communication links and open and frequent communication. These WCF are the only two that Mattessich et al. (2001) included in the Communication category of the WCF conceptual framework. The Communication category entails frequent interaction among collaborative group members, by which group members provide updates, openly discuss issues, and convey all necessary information to the group members in both formal and informal ways.

The results of the factor analysis with respect to the stages of collaboration led the researcher to create a modified conceptual framework, displayed in Figure 2. The arrows in the figure indicate the progression from one stage (principal components analysis category) to the next, and the corresponding WCF are listed beneath the title of each stage. The Communication category is listed at the top of the figure and is connected to all three stages, because communication occurs throughout the collaborative process. It is noteworthy that the five most important factors that received the highest frequency of responses as well as the five most important factors that were ranked the highest are all present in the framework in the Evolution and Implementation stages. The researcher expected this result, because the curriculum alignment collaboration is no longer in its beginning or Emergence stage.



Note. Copyright by N. Shorter.

Figure 2. Wilder collaboration factors merged with Donaldson and Kozoll's collaboration stages

Research Question 1

The first research question explored was, "What is the current level of faculty collaboration, as defined by the Wilder Collaboration Factors Inventory, between universities and community colleges that have articulation agreements in place?" The results showed that there was a statistically significant difference between the median score and the mid-range score of 3.0 for 18 of the 20 WCF. The medians of these factors

indicated that the center of the response scores was close or equal to 4.0. Mattessich et al. (2001) stated that, "Scores of 4.0 or higher show a strength and probably don't need special attention" (p. 42). Therefore, the results suggest that the current level of collaboration of the group based on the WCF scores is generally strong. The three or four highest-scoring factors may represent strengths on which the collaborative group can draw in order to sustain collaboration, especially during challenging times. The three highest-scoring factors include the following: members see collaboration as in their self-interest; favorable political and social climate; and mutual respect, understanding, and trust. These results suggest that the curriculum alignment group members understand how each of the participating colleges will benefit from the collaboration, feel that the political leaders and general public support the mission of the group, and share an understanding and respect of one another.

Mattessich et al. (2001) suggested the following interpretation: "Scores from 3.0 to 3.9 are borderline and should be discussed by the group to see if they deserve attention" (p. 42). If just a few scores "fall between 3.0 and 3.9, you can probably be confident that your group has no major shortcomings" (p. 43). Because 12 of the 20 WCF had a median score of 4.0, it is possible that the group has no major problems with collaboration or that it has a few factors on which to focus. The two WCF that indicated no statistically significant difference between the median score and the mid-range score of 3.0 were multiple layers of participation, and sufficient funds, staff, materials, and time. These factors are connected to the comments that the participants provided at the end of the survey.

Comment 1 (Community College C participant)

> The biggest issue with the whole curriculum alignment project is NOT with the two and four year institutes. We can align with the entire college system rather easily. The true issue is trying to align with the K-12 system, which we have been trying to do in recent years. The issue with that is not the K-12 teachers, they are onboard, rather Tallahassee and the Department of Education. They are so fixated on the FCAT in the past and FSA now, that they don't allow a teacher to actually teach. Instead they have to teach a test. Compound that issue with the complete and utter lack of motivation/drive in the K-12 students due to lack of parental involvement (usually), and you end up with a K-12 student who doesn't care because for the most part, the parents don't care, and the students know that there is little to no long term ramifications. If you want to reform education it stems from restructuring at the state and federal level, but more importantly, and this goes for ALL education, K-12, two year institutes and four year institutes, we have to make the students care. . . and that is not the responsibility of the teacher, but rather the PARENTS. If the teacher is excited about what he or she is teaching, then the students will key in on it, just as much as if the parents are apathetic the students key in on that.

The author of Comment 1 argued for a need for more layers of participation. Specifically, the author argued that state legislators and members of the Department of

Education should be integrated into the curriculum alignment collaboration. In addition, the author stated that there is a pressing need for parents of K-12 students to instill values in their children regarding what they are learning. The curriculum alignment committee may need to explore the 2 + 2 + 2 articulation agreement in Illinois, which integrates high school career education curricula with community colleges and four-year institutions (Sullivan et al., 2004). Cuseo (2001) added that it is critical for divisions on a larger scale beyond faculty and academic departments to be involved in the collaboration. The researcher does not know whether Comment 1 describes the underlying reason that the participants' scores were in the borderline range, but the comment serves as one possible explanation. The author of Comment 4 also argued for the need for multiple layers of participation:

Comment 4 (Community College E participant)

> I quit the committee because we would spend a considerable amount of time on making decisions, but the practices that we agreed to adopt were not followed by professors. It is a noble goal, but most of the adjuncts will just teach what they want. The adjuncts outnumber us, so to get this to work you really need them to "buy in".

The notion that the adjuncts are teaching "what they want" may be a result of the tension in collaboration between maintaining stability and making changes (Donaldson & Kozoll, 1999). There may be a resistance to the changes that the members of the

collaborative group are proposing. Gross and Goldhaber (2009) mentioned that institutions sometimes fluctuate in the extent to which they participate in an articulation agreement. Perhaps this fluctuation includes a lack of participation on the part of the adjunct faculty. Comments 1 and 4 provide two possible explanations for why the participants' scores for the multiple layers of participation WCF were in the borderline range. There is not enough evidence to suggest that these two comments represent the viewpoints of the entire population surveyed.

The authors of Comments 2 and 3 discuss issues regarding the sufficient funds, staff, materials, and time WCF, especially issues with time:

Comment 2 (Community College C participant)

> Attending these meetings (of recent times) has become much more difficult due to class-teaching schedules.

Comment 3 (Community College D participant)

> I feel that the curriculum alignment has focused too much on what should be in courses, with the result that the recommended topics far exceed what can realistically be taught in a course. More important is the pedagogy; HOW a topic is taught is far more important than whether or not thermodynamics, for example, is included in the curriculum. There is far too much pressure to mandate what must be included in any particular course.

The author of Comment 2 felt that there was not sufficient time in his or her schedule to participate in the collaboration. Breitborde (1996), Butcher et al. (2011), McLaughlin and Black-Hawkins (2004), Stein and Short (2001), and Sullivan et al. (2004) all cited the importance of managing time in postsecondary collaboration. The author of Comment 3 also discussed the need for more time, but he or she wanted that time in the classroom rather than in the collaboration. This author's lack of time to review the course materials that the committee proposed may be hindering his or her participation in the collaboration. These comments describe potential reasons that the participants' scores were in the borderline range for the sufficient funds, staff, materials, and time WCF. However, there is not enough evidence to suggest that these two comments represent the viewpoints of the entire population surveyed.

Research Question 2

When interpreting WCFI scores, Mattessich et al. (2001) argued the need to examine whether representatives of all organizations in the collaboration rate the factors similarly. To address this need, this study explored a second research question: "Is there a difference between the perceptions of university faculty and community college faculty on collaboration on transfer?" Results indicated that there was no statistically significant difference between the perceptions of university faculty and community college faculty on collaboration on transfer for any of the 20 WCF. The similarity in perceptions may be a result of the advanced stage of the collaborative group. That is, there might have been statistically significant differences in perceptions between university faculty and

community college faculty at the Emergence stage of the collaboration, but the members' perceptions changed as the collaboration evolved. The possible effects of the members' perceptions of collaboration over time merits future research. The proposed framework created from the factor analysis may serve as a guide.

Overall, the results of the research questions were unexpected. Despite the considerable amount of literature on barriers to collaboration, the results of the study indicated a rather strong level of collaboration and no statistically significant difference between the perceptions of the university and community college faculty. Hansen's (2013) hoarding barrier of collaboration warned collaborative groups of competitiveness between organizations. Prager (1991) and Sullivan et al. (2004) added that the competitive nature of four-year institutions often leads to elitist judgments regarding two-year institutions. However, there was no statistically significant evidence of the presence of the hoarding barrier in the curriculum alignment collaboration.

A second barrier to collaboration mentioned in the literature was Hansen's (2013) status gap of the not-invented-here barrier. Stein and Short (2001), Sullivan et al. (2004), and Wagoner and Kisker (2013) all cautioned postsecondary organizations about issues of "turf" and autonomy in collaboration. In order to arrive at a shared vision, it is essential that one institution does not fear the status of another. The results of this study did not show evidence of this barrier.

Purcell and Leppien (1998) emphasized the importance of understanding the misconceptions and prejudices regarding community colleges, their missions, and their students. A deficit in this understanding could result in the hindrance of mutual respect,

understanding, and trust. It is noteworthy that the results did not indicate a weakness in the mutual respect, understanding, and trust WCF, and participants chose and ranked this factor as one of the most important.

Implications for Practice and Policy

Based on the five most important and the five highest-ranked WCF, faculty members of collaborative groups in postsecondary education should set aside time to learn about each other, formulate clear short-term and long-term goals, develop a shared vision with a common language, find a leader who will dedicate attention and care to his or her role, devote adequate time and resources to developing ownership among all participants, and include key members from different layers of each organization in the collaboration (Mattessich et al., 2001). Participants in the current study provided comments at the end of the survey regarding an issue with time. Because collaboration is often very time consuming for faculty members who already have full work schedules (Duffield et al., 2012), collaborative groups may benefit from Kezar's (2005) suggestion of using faculty release or some other incentive to participate in collaborative work. Short and Stein (1998) argued that without incentive systems, faculty and administration are less motivated to collaborate in articulation agreements.

Participants in the current study also described a lack of multiple layers of participation in the collaboration with respect to K-12 policy-makers. Although articulation agreements currently exist in some states that integrate high school career education curricula with the community colleges and four-year institutions, there may be

a need to expand this practice. The use of 2 + 2 + 2 articulation agreements may be the key to aligning systems so that the necessary stakeholders are involved in the collaborative process, potentially leading to a smoother transfer process and a higher transfer student retention rate. Collaboration must play a central role in such agreements. Because statewide articulation agreements alone are not enough to impact transfer rates (Anderson et al., 2006a; Gross & Goldhaber, 2009; Handel & Williams, 2012), perhaps statewide articulation agreements should include a policy on faculty, staff, and administrative collaboration among institutions. However, this leads to the question of the ultimate purpose of these agreements: Is the motive behind these agreements primarily course transferability or on retention? Do policy-makers see a distinction between these terms? Articulation agreements are a means to access to a baccalaureate degree, but should policies be reshaped to focus beyond merely the entrance to the four-year institutions and toward the retention of students after they have transferred? Currently, agreements are designed to emphasize course transferability (Roksa & Keith, 2008), but it may be time for policy-makers to revisit agreements in the context of retention.

Collaboration between community colleges and four-year institutions has been expanding (SCUP Academy Council, 2014). Therefore, it is imperative that these institutions are not merely "checking the box" that collaboration is occurring, but are monitoring its progression and effectiveness. Postsecondary institutions participating in faculty collaboration through articulation agreements should develop a philosophy, principles, and guidelines for collaboration. Ultimately, it is essential that both faculty

and administration develop a working knowledge of collaboration theory for inter-institutional relationships to be successful. Collaborators should use collaborative models, so that institutions that choose to collaborate have guidance when creating, engaging in, and assessing their collaborative partnerships (Czajkowski, 2007). The Factor Analysis subheading of this chapter provided a suggested framework that integrates the WCF with Donaldson and Kozoll's (1999) stages of collaboration. This framework may serve as a guide for institutions to check the level of collaboration occurring during the various stages of collaborative work. In addition, members of collaborative groups can take the WCFI at the beginning and middle of a collaborative project to assess the strengths, weaknesses, and differences in perceptions. Feedback from the WCFI should be collected and regularly disseminated (Wagoner & Kisker, 2013). This use of the WCFI constitutes a means to possibly facilitate a systemic approach to strengthening existing articulation agreements, as cited in the literature (Cuseo, 2000; Education Commission of the States, 2001; Hungar & Lieberman, 2001; Rifkin, 1998; Wellman, 2001). It is imperative that the limitations and delimitations of this study are considered with regards to the generalizability of the aforementioned implications. This information is included in the Data Collection Instrument, Limitations, and Delimitations subheadings that follow.

Data Collection Instrument

The data collection instrument that was used for this study failed to meet some of the guidelines for properly composing survey questions as proposed by Dillman et al.

(2009). Dillman et al. (2009) stressed the importance of asking participants one question at a time. The fifth survey item in the data collection instrument used in this study stated, "The political and social climate seems to be 'right' for starting a collaborative project like this one." A participant may have agreed that the political climate was right but disagreed that the social climate was right, or vice versa. This ambiguity may have made it difficult for participants to select an appropriate response. Survey items 25, 29, and 32 also contained the use of the word "and" such that these items asked participants more than one question at a time.

Dillman et al. (2009) also suggested developing lists of answer categories that include all possible reasonable answers. Several of the questions at the end of the survey asked participants to indicate the number of years that they had been teaching or participating in the curriculum alignment meetings. The answer choices included only whole-year responses. The survey did not permit participants to indicate responses that consisted of a fraction of a year. This limitation may have caused confusion among participants because not all possible answers were present.

Two of the survey items included verbiage that pertained more to collaborative work that had just started as opposed to an ongoing effort. Survey item five, "The political and social climate seems to be 'right' for starting a collaborative project like this one," and survey item six, "The time is right for this collaborative project," both included language that solicited feedback on a new collaborative initiative. This language may have caused confusion among participants because the collaboration is no longer in its

infancy. Ultimately, these limitations of the data collection instrument may have affected the abilities of the participants to select appropriate response choices.

Limitations

The limitations of this research study include the following:

1. Due to the self-reporting nature of the survey instrument, it was not possible to ensure authenticity of the respondents.
2. Although the study surveyed the entire population, not all members of the population responded.
3. The curriculum alignment meetings were held months before the survey was administered. This schedule required the participants to respond to survey questions based on their ability to recollect events.

Delimitations

The delimitations of this research study include the following:

1. The sample was limited to respondents from a specific population: two-year and four-year faculty from public institutions in Florida in select disciplines.
2. The study did not examine the interpersonal, collegial relationships among disciplines and institutions.
3. The study used a single theoretical lens.
4. The survey instrument included closed-ended Likert scale items as opposed to open-ended questions.

5. Non-faculty members, including advisors and administrators, were present at the curriculum alignment meetings, but (as supported by the literature) only faculty members were surveyed.
6. The study used a mean to calculate the scores for each factor in the WCFI (Mattessich et al., 2001). However, because the response choices are Likert-scale items that are ordinal in measurement, statistical analyses required the use of nonparametric tests. Nonparametric tests are conducted with respect to the median as opposed to the mean.
7. The results of nonparametric statistical tests often have lower power than their parametric equivalents, making it more difficult to detect differences between groups and to quantify those differences (Chalmer, 1987).

Recommendations for Future Research

Based on the limitations and delimitations of the study, the researcher makes several recommendations for future research. The level and perceptions of postsecondary faculty collaboration on transfer at other institutions of different classifications in various geographical locations should be studied in order to contribute to the generalizability of the results. Not only should the study include the WCFI, but it should also integrate follow-up interviews to enrich the participants' perspectives through qualitative data. It is possible that the interpersonal, collegial relationships among disciplines and institutions can affect collaboration. Future research should examine these elements more closely. The comments that the participants provided in this study demonstrate this

need, in order to offer explanation for the scores for each factor. Further research should be conducted on the proposed conceptual framework by measuring how the level and perceptions of collaboration may change throughout each collaborative stage. Because the collaboration examined in the current study was ongoing, emerging questions include: How do the WCF and proposed conceptual framework correlate with collaborations that are short term and have an end in sight? What happens to the level of collaboration among postsecondary institutions if a key leader, such as a college president, leaves the institution? Furthermore, what happens if a new institution enters a pre-existing collaborative partnership? Will such an addition alter the perceptions among faculty participants?

The current research study focused on measuring the level and perception of faculty collaboration on transfer. Future research should be conducted on the level and perception of collaboration of advisors, staff, and administrators. The perceptions of these groups should be compared to one another in order to measure collaboration across all major stakeholders at the colleges. Additionally, future research should be dedicated to measuring the effects that postsecondary faculty collaboration has on the retention rates of transfer students as well as on course transfer. Further comparisons can be drawn between institutions with state-mandated versus voluntary articulation agreements.

Conclusions

Research indicates that transfer students' retention and persistence is lacking compared to students who are native to four-year institutions (Berkner, He, & Cataldi,

2002; Pascarella & Terenzini, 2005). One effort at developing a smoother transition for transfer students is the implementation of articulation agreements between two-year and four-year institutions. However, research shows that merely having an articulation agreement in place is not enough to impact transfer rates (Anderson, Sun, & Alfonso, 2006a; Gross & Goldhaber, 2009; Handel & Williams, 2012). As a result, evidence suggests that there is a pressing need to perfect program alignment between two-year and four-year institutions as well as the collaboration between them (Best & Ghering, 1993; Davies & Casey, 1999; Packard, Gagnon, & Senas, 2012). Researchers believe that institutions can accomplish this alignment if they engage in faculty collaboration (Ignash & Townsend, 2000; Knoell, 1990; Tobolowsky, 1998). The purpose of the study was to build upon the limited research on postsecondary collaboration in an effort to develop a systemic approach to strengthening existing articulation agreements and a framework that faculty could use to develop productive partnerships. This study explored the ways faculty in two- and four-year institutions with articulation agreements collaborate to improve the retention rates of transfer students using the Wilder Collaboration Factors (WCF) as a theoretical lens. The study analyzed the level of collaboration and differentiated between the perceptions of collaboration among university and community college faculty.

The results revealed the participants' five most important WCF: (1) mutual respect, understanding, and trust; (2) concrete, attainable goals and objectives; (3) shared vision; (4) members share a stake in both process and outcome; and (5) skilled leadership, and the participants' five highest-ranked WCF: (1) shared vision; (2) mutual

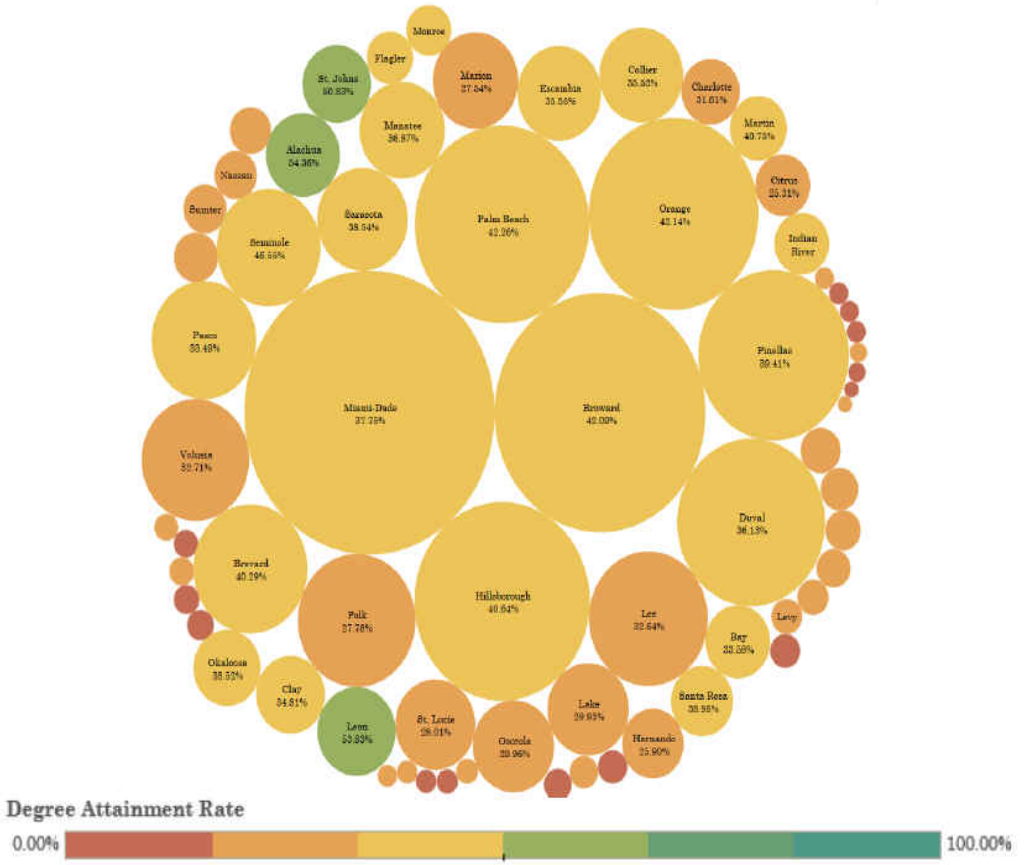
respect, understanding, and trust; (3) concrete, attainable goals and objectives; (4) skilled leadership; and (5) multiple layers of participation. The researcher created a modified conceptual framework using a principal components analysis, which linked the WCF to Donaldson and Kozoll's (1999) stages of collaboration named (1) Emergence, (2) Evolution, and (3) Implementation, all connected through Communication.

An analysis of the level of collaboration revealed that the participants demonstrated strength in 18 of the 20 WCF. The two remaining WCF were informed by participants' comments regarding the need for multiple layers of participation and sufficient time for collaboration. The analysis also indicated that there was no statistically significant difference between the perceptions of collaboration among university and community college faculty.

As a result, recommendations included allocating faculty release time or incentives for collaboration, expanding articulation agreements to include K-12 alignment and policies on faculty collaboration, and using the WCFI as a tool to continue to assess the strengths, weaknesses, and differences in perception among university and community college faculty as they advance in collaborative stages. However, a number of key questions remain: How do the WCF and proposed conceptual framework correlate with collaborations that are short term and have an end in sight? What happens to the level of collaboration among postsecondary institutions if a key leader, such as a college president, leaves the institution? What happens if a new institution enters a pre-existing collaborative partnership? Will such an addition alter the perceptions among faculty participants? The exploration of these questions is critical for the role that faculty

collaboration plays in the transfer function and in reaching President Obama's (2014) goal of increasing access to higher education. Regularly assessing the strengths, weaknesses, and differences in perception among university and community college faculty with respect to the collaborative stages could be a key stepping stone in developing a systemic approach to strengthening existing articulation agreements, yielding a smoother transition for transfer students and advancing toward the President's goal.

APPENDIX A
DEGREE ATTAINMENT RATES IN FLORIDA COUNTIES



Source: U.S. Census Bureau, 2012 American Community Survey 5-year Estimates. Color shows percent of residents in county with an associate's degree or higher, size shows estimate of 25 to 64 year olds in a county.

Reproduced with permission from *Collaboration: Recent gains, future challenges: A closer look at degree attainment in Florida,* by the Florida College Access Network Copyright 2014, Florida C.A.N.!

APPENDIX B
PERMISSION TO USE INTELLECTUAL PROPERTY

From: Nichole Shorter [mailto:nichole.shorter@me.com]
Sent: Friday, May 29, 2015 2:59 PM
To: tmiller@floridacollegeaccess.org; nichole.shorter@knights.ucf.edu
Subject: Request for Permission of Use (Doctoral Dissertation)

Dear Troy Miller,

My name is Nichole Shorter and I am a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I am conducting research on collaboration between faculty at two-year postsecondary institutions and faculty at four-year postsecondary institutions on the subject of retention of transfer students. I am requesting permission to reprint "Chart 5: Degree Attainment Rates in Florida Counties for Adults Ages 25 to 64: 2012" from the policy research brief, *Recent gains, future challenges: A closer look at degree attainment in Florida* Volume VIII, Issue 2 (July, 2014) in my dissertation. I will include the following copyright notice in my dissertation, and will also mention the Florida College Access Network in my acknowledgments section:

Reprinted from *Collaboration: Recent gains, future challenges: A closer look at degree attainment in Florida,* by the Florida College Access Network Copyright 2014, Florida C.A.N.!

Will you grant me permission for the aforementioned request? If you have any questions or concerns, please do not hesitate to contact me.

Thank You,

Nichole A. Shorter, MS
Doctoral Candidate
Higher Education & Policy Studies
College of Education
University of Central Florida
nichole.shorter@knights.ucf.edu
(407) 230-0985

Miller, Troy

To: Nichole Shorter

RE: Request for Permission of Use (Doctoral Dissertation)

Of course, no rush. Good luck! TM

Troy
(813) 974-2873
www.floridacollegeaccess.org

APPENDIX C
ORIGINAL WILDER COLLABORATION FACTORS INVENTORY

The Wilder Collaboration Factors Inventory

Name of Collaboration Project _____ Date _____

Statements about Your Collaborative Group:

Factor	Statement	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
History of collaboration or cooperation in the community	1. Agencies in our community have a history of working together	1	2	3	4	5
	2. Trying to solve problems through collaboration has been common in this community. It's been done a lot before.	1	2	3	4	5
Collaborative group seen as a legitimate leader in the community	3. Leaders in this community who are not part of our collaborative group seem hopeful about what we can accomplish.	1	2	3	4	5
	4. Others (in this community) who are not a part of this collaboration would generally agree that the organizations involved in this collaborative project are the "right" organizations to make this work.	1	2	3	4	5
Favorable political and social climate	5. The political and social climate seems to be "right" for starting a collaborative project like this one.	1	2	3	4	5
	6. The time is right for this collaborative project.	1	2	3	4	5
Mutual respect, understanding, and trust	7. People involved in our collaboration always trust one another.	1	2	3	4	5
	8. I have a lot of respect for the other people involved in this collaboration.	1	2	3	4	5
Appropriate cross section of members	9. The people involved in our collaboration represent a cross section of those who have a stake in what we are trying to accomplish.	1	2	3	4	5
	10. All the organizations that we need to be members of this collaborative group have become members of the group.	1	2	3	4	5
Members see collaboration as in their self-interest	11. My organization will benefit from being involved in this collaboration.	1	2	3	4	5
Ability to compromise	12. People involved in our collaboration are willing to compromise on important aspects of our project.	1	2	3	4	5
Members share a stake in both process and outcome	13. The organizations that belong to our collaborative group invest the right amount of time in our collaborative efforts.	1	2	3	4	5

Factor	Statement	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
	14. Everyone who is a member of our collaborative group wants this project to succeed.	1	2	3	4	5
	15. The level of commitment among the collaboration participants is high.	1	2	3	4	5
Multiple layers of participation	16. When the collaborative group makes major decisions, there is always enough time for members to take information back to their organizations to confer with colleagues about what the decision should be.	1	2	3	4	5
	17. Each of the people who participate in decisions in this collaborative group can speak for the entire organization they represent, not just a part.	1	2	3	4	5
Flexibility	18. There is a lot of flexibility when decisions are made; people are open to discussing different options.	1	2	3	4	5
	19. People in this collaborative group are open to different approaches to how we can do our work. They are willing to consider different ways of working.	1	2	3	4	5
Development of clear roles and policy guidelines	20. People in this collaborative group have a clear sense of their roles and responsibilities.	1	2	3	4	5
	21. There is a clear process for making decisions among the partners in this collaboration.	1	2	3	4	5
Adaptability	22. This collaboration is able to adapt to changing conditions, such as fewer funds than expected, changing political climate, or change in leadership.	1	2	3	4	5
	23. This group has the ability to survive even if it had to make major changes in its plans or add some new members in order to reach its goals.	1	2	3	4	5
Appropriate pace of development	24. This collaborative group has tried to take on the right amount of work at the right pace.	1	2	3	4	5
	25. We are currently able to keep up with the work necessary to coordinate all the people, organizations, and activities related to this collaborative project.	1	2	3	4	5
Open and frequent communication	26. People in this collaboration communicate openly with one another.	1	2	3	4	5

APPENDIX D
ADAPTED WILDER COLLABORATION FACTORS INVENTORY

Block 1

Please enter the unique identifying number that was emailed to you in the box below.

Block 2

Instructions
1. Read each item.
2. Select the response that indicates how much you agree or disagree with each item.
3. Do not skip any items.

"Don't know"
If you feel that you don't know how to answer an item, or that you don't have an opinion, select the "Neutral, No Opinion" response.

Opinion falls "in between two responses"
For scoring purposes:
If you feel that your opinion lies in between "Strongly Disagree" and "Disagree", select "**Strongly Disagree**". If you feel that your opinion lies in between "Strongly Agree" and "Agree", select "**Agree**".

"CA meetings" refers to the Curriculum Alignment meetings between State University and its partner colleges in the disciplines of Biology, Chemistry, Engineering, Math, Physics, and Programming.

History of collaboration or cooperation in the community

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
1. Colleges that participate in Transfer Partnership have a history of working together.	○	○	○	○	○

2. Trying to solve problems through collaboration has been common for the Transfer Partnership colleges. It's been done a lot before.	○	○	○	○	○

Collaborative group seen as a legitimate leader in the community

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
3. Leaders in the Transfer Partnership colleges who are not part of our CA meetings seem hopeful about what we can accomplish.	○	○	○	○	○
4. Others (in the Transfer Partnership colleges) who are not part of the CA meetings would generally agree that the colleges involved in the CA meetings are the "right" colleges to make this work.	○	○	○	○	○

Favorable political and social climate

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
5. The political and social climate seems to be "right" for starting a collaborative project like this one.	○	○	○	○	○
6. The time is right for this collaborative project.	○	○	○	○	○

Mutual respect, understanding, and trust

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
7. People involved in our CA meetings always trust one another.	○	○	○	○	○
8. I have a lot of respect for the other people involved in the CA meetings.	○	○	○	○	○

Appropriate cross section of members

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree

9. The people involved in our CA meetings represent a cross section of those who have a stake in what we are trying to accomplish.	○	○	○	○	○
10. All the colleges that we need to be members of the CA meetings have become members of the CA meetings.	○	○	○	○	○

Members see collaborations as in their self-interest

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
11. My college will benefit from being involved in the CA meetings.	○	○	○	○	○

Ability to compromise

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
12. People involved in our CA meetings are willing to compromise on important aspects of our project.	○	○	○	○	○

Members share a stake in both process and outcome

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
13. The colleges that belong to our CA meetings invest the right amount of time in our collaborative efforts.	○	○	○	○	○
14. Everyone who is a member of our CA meetings wants this project to succeed.	○	○	○	○	○
15. The level of commitment among the CA meeting participants is high.	○	○	○	○	○

Multiple layers of participation

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
16. When the CA group makes major decisions, there is always enough time for members to take					

information back to their colleges to confer with colleagues about what the decision should be.	○	○	○	○	○
17. Each of the people who participate in decisions in the CA meetings can speak for the entire discipline they represent at their college, not just a part.	○	○	○	○	○

Flexibility

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
18. There is a lot of flexibility when decisions are made; people are open to discussing different options.	○	○	○	○	○
19. People in the CA meetings are open to different approaches to how we can do our work. They are willing to consider different ways of working.	○	○	○	○	○

Development of clear roles and policy guidelines

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
20. People in the CA meetings have a clear sense of their roles and responsibilities.	○	○	○	○	○
21. There is a clear process for making decisions among partners in the CA meetings.	○	○	○	○	○

Adaptability

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
22. This collaboration is able to adapt to changing conditions, such as fewer funds than expected, changing political climate, or change in leadership.	○	○	○	○	○
23. This CA group has the ability to survive even if it had to make major changes in its plans or add some new members in order to reach its goals.	○	○	○	○	○

Appropriate pace of development

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
24. This CA group has tried to take on the right amount of work at the right pace.	○	○	○	○	○
25. We are currently able to keep up with the work necessary to coordinate all the people, colleges, and activities related to this collaborative project.	○	○	○	○	○

Open and frequent communication

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
26. People in the CA meetings communicate openly with one another.	○	○	○	○	○
27. I am informed as often as I should be about what goes on in the CA meetings.	○	○	○	○	○
28. The people who lead the CA meetings communicate well with the members.	○	○	○	○	○

Established informal relationships and communication links

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
29. Communication among the people in the CA meetings happens both at formal meetings and in informal ways.	○	○	○	○	○
30. I personally have informal conversations about our work with others who are involved in the CA meetings.	○	○	○	○	○

Concrete, attainable goals and objectives

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
31. I have a clear understanding of what our CA group is trying to accomplish.	○	○	○	○	○
32. People in our CA group know and understand our goals.	○	○	○	○	○

33. People in our CA group have established reasonable goals.	○	○	○	○	○

Shared vision

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
34. The people in this CA group are dedicated to the idea that we can make this project work.	○	○	○	○	○
35. My ideas about what we want to accomplish with this collaboration seem to be the same as the ideas of others.	○	○	○	○	○

Unique purpose

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
36. What we are trying to accomplish with our collaborative project would be difficult for any single college to accomplish by itself.	○	○	○	○	○
37. No other colleges in the community are trying to do exactly what we are trying to do.	○	○	○	○	○

Sufficient funds, staff, materials, and time

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
38. Our CA group has adequate funds to do what it wants to accomplish.	○	○	○	○	○
39. Our CA group has adequate "people power" to do what it wants to accomplish.	○	○	○	○	○

Skilled leadership

	Strongly Disagree	Disagree	Neutral, No Opinion	Agree	Strongly Agree
40. The people in leadership positions for this CA group have good skills for working with other people and organizations.	○	○	○	○	○

Block 3

From the 20 items listed below, select 5 items that you believe are the most important items that influence the success of collaboration between two-year and four-year postsecondary faculty on transfer student retention.

- ☐ History of collaboration or cooperation in the community
- ☐ Collaborative group seen as a legitimate leader in the community
- ☐ Favorable political and social climate
- ☐ Mutual respect, understanding, and trust
- ☐ Appropriate cross section of members
- ☐ Members see collaboration as in their self-interest
- ☐ Ability to compromise
- ☐ Members share a stake in both process and outcome
- ☐ Multiple layers of participation
- ☐ Flexibility
- ☐ Development of clear roles and policy guidelines
- ☐ Adaptability
- ☐ Appropriate pace of development
- ☐ Open and frequent communication
- ☐ Established informal relationships and communication links
- ☐ Concrete, attainable goals and objectives
- ☐ Shared vision
- ☐ Unique purpose
- ☐ Sufficient funds, staff, materials, and time
- ☐ Skilled leadership

Using a 1 to 5 point scale where 1 means "most important" and 5 means "least important" rank the following items that you believe are important in influencing the success of collaboration between two-year and four-year postsecondary faculty on transfer student retention.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
» History of collaboration or cooperation in the community	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
» Collaborative group seen as a legitimate leader in the community	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- » Favorable political and social climate
- » Mutual respect, understanding, and trust
- » Appropriate cross section of members
- » Members see collaboration as in their self-interest
- » Ability to compromise
- » Members share a stake in both process and outcome
- » Multiple layers of participation
- » Flexibility
- » Development of clear roles and policy guidelines
- » Adaptability
- » Appropriate pace of development
- » Open and frequent communication
- » Established informal relationships and communication links
- » Concrete, attainable goals and objectives
- » Shared vision
- » Unique purpose
- » Sufficient funds, staff, materials, and time
- » Skilled leadership

Block 4

Select your institution of employment.

- ◯ State University
- ◯ Community College A
- ◯ Community College B
- ◯ Community College C
- ◯ Community College D
- ◯ Community College E
- ◯ None of the above

For how many years have you been teaching at your current institution?

- ◯ Less than 1 year
- ◯ 1 - 5 years
- ◯ 6 - 10 years
- ◯ 11 years or more
- ◯ Not applicable

Select your current faculty rank.

- ◯ Part-time
- ◯ Full-time, non-tenure earning
- ◯ Full-time, tenure-earning
- ◯ Tenured
- ◯ Not a faculty member

How long have you been in your current faculty rank?

- ◯ 1 year or less
- ◯ 2 - 5 years
- ◯ 6 - 10 years
- ◯ 11 years or more

How many times have you participated in a Curriculum Alignment meeting?

- ◯ 1 time
- ◯ 2 - 5 times
- ◯ 6 - 10 times
- ◯ More than 10 times
- ◯ Not applicable

For how long have you been participating in the Curriculum Alignment meetings?

- ◯ Less than 1 year
- ◯ 1 - 3 years
- ◯ 4 - 6 years
- ◯ 7 years or more
- ◯ Not applicable

When was the most recent time that you participated in a Curriculum Alignment meeting?

- ◯ Less than 1 year ago
- ◯ 1 - 2 years ago
- ◯ 3 - 4 years ago
- ◯ 5 or more years ago
- ◯ Not applicable

Select the discipline(s) that you participate in during the Curriculum Alignment meetings. Check all that apply.

- ☐ Biology
- ☐ Chemistry
- ☐ Engineering
- ☐ Math
- ☐ Physics
- ☐ Programming

When was the most recent time that you taught a course in any of the disciplines that you selected?

- ◯ Less than 1 year ago
- ◯ 1 - 2 years ago
- ◯ 3 - 4 years ago
- ◯ 5 or more years ago
- ◯ Not applicable

Select your gender.

- ◯ Male
- ◯ Female
- ◯ Other *(please specify):*
- ◯ Prefer not to disclose

Select your age.

- ◯ Under 18 years old
- ◯ 18 - 24 years old
- ◯ 25 - 34 years old
- ◯ 35 - 44 years old
- ◯ 45 - 54 years old
- ◯ 55 - 64 years old
- ◯ 65 years or older
- ◯ Prefer not to disclose

Select your race/ethnicity.

- ◯ White
- ◯ Hispanic or Latino
- ◯ Black or African American
- ◯ Native American or American Indian
- ◯ Asian/Pacific Islander
- ◯ Other *(please specify):*
- ◯ Prefer not to disclose

Block 5

You have reached the end of the survey. Thank you for your valuable feedback!

If you would like to provide comments, please enter them in the box below:

APPENDIX E
INVENTORY PROTOCOL

Categories	Factors	Supporting Research	Survey Item
Environment	History of collaboration or cooperation in the community	(Beder, 1984; Bohen & Stiles, 1998; Prager, 1991; Stein & Short, 2001; Sullivan, Dyer, and Franklin, 2004)	1, 2
	Collaborative group seen as a leader in the community	(Cuseo, 2001; Stein & Short, 2001)	3, 4
Membership Characteristics	Mutual respect, understanding, and trust	(Beder, 1984; Butcher, Bezzina, & Moran, 2011; James & Worrall, 2000; Kezar & Lester, 2009; McLaughlin & Black-Hawkins, 2004; Purcell & Leppien, 1998; Stein & Short, 2001; Wright & Middleberg, 1998)	7, 8
	Appropriate cross-section of members	(Berger & Ortiz Ruiz, 1988; Butcher, Bezzina, & Moran, 2011; Cohen, Brawer, & Kisker, 2014; Cuseo, 2001; Czajkowski, 2007; Donovan, Shaier-Peleg, & Forer, 1987; Eaton, 1992; Prager, 1988; Tobolowsky, 1998; Wagoner & Kisker, 2013)	9, 10
	Members see collaboration as in their self-interest	(Baumfield & Butterworth, 2007; Bohen & Stiles, 1998; Butcher, Bezzina, & Moran, 2011; Cuseo, 2000; Duffield, Olson, & Kerzman, 2012; Hungar & Lieberman, 2001;	11

Categories	Factors	Supporting Research	Survey Item
	Ability to compromise	Kezar, 2005; Kezar & Lester, 2009; Short & Stein, 1998; Stein & Short, 2001; Sullivan, Dyer, & Franklin, 2004; Thomas, 1988; Wagoner & Kisker, 2013; Wellman, 2001) (Beder, 1984; Duffield, Olson, & Kerzman, 2012; Wagoner & Kisker, 2013)	12
Process and Structure	Members share a stake in both process and outcome	(King, 1988; McLaughlin & Black-Hawkins, 2004)	13, 14, 15
	Multiple layers of decision-making	(Cuseo, 2001; Kezar & Lester, 2009; Tobolowsky, 1998)	16, 17
	Flexibility	(Beder, 1984; Breitborde, 1996; Butcher, Bezzina, & Moran, 2011; James & Worrall, 2000; McLaughlin & Black-Hawkins, 2004)	18, 19
	Development of clear roles and policy guidelines	(Baumfield & Butterworth, 2007; Breitborde, 1996; Kezar & Lester, 2009; Prager, 1991)	20, 21
	Appropriate pace of development	(Bohen & Stiles, 1998; Breitborde, 1996; Duffield, Olson, & Kerzman, 2012; Kezar, 2005; McLaughlin & Black-Hawkins, 2004; Stein & Short, 2001; Sullivan, Dyer, & Franklin, 2004)	24, 25

Categories	Factors	Supporting Research	Survey Item
Communication	Open and frequent communication	(Beder, 1984; Donovan, Shaier-Peleg, & Forer, 1987; Wright & Middleberg, 1998)	26, 27, 28
	Established informal and formal communication links	(Beder, 1984; Breitborde, 1996; Butcher, Bezzina, & Moran, 2011; James & Worrall, 2000; King, 1988; Stein & Short, 2001; Wright & Middleberg, 1998)	29, 30
Purpose	Concrete, attainable goals and objectives	(Duffield, Olson, & Kerzman, 2012; Eaton, 1992; Kezar & Lester, 2009; Wellman, 2001)	31, 32, 33
	Shared vision	(Butcher, Bezzina, & Moran, 2011; Kezar & Lester, 2009; Stein & Short, 2001)	34, 35
Resources	Sufficient funds	(Breitborde, 1996; Butcher, Bezzina, & Moran, 2011; Kezar, 2005; McLaughlin & Black-Hawkins, 2004; Stein & Short, 2001; Sullivan, Dyer, & Franklin, 2004)	38, 39
	Skilled convener	(Kezar & Lester, 2009)	40

Source: Mattessich, P. W., Murray-Close, M., & Monsey, B. R. (2001). *Collaboration: What makes it work* (2nd ed.). St. Paul, MN: Wilder Research.

APPENDIX F
PERMISSION TO USE WILDER INVENTORY

Heather Johnson Yesterday at 10:17 AM

To: nichole.shorter@knights.ucf.edu

FW: Request for Permission of Inventory Use (Doctoral Dissertation)

HJ

Hello Nichole,

Thank you for your interest in the Wilder Collaboration Factors Inventory. You have our permission to use, illustrate, and modify the Inventory as long as you cite us as the original source, as you say you will do. I think it would be better for you to use the following citation (or both citations, if you are using information from the book), as Fieldstone Alliance no longer exists.

Mattessich, P., Murray-Close, M., & Monsey, B. (2001). *Wilder Collaboration Factors Inventory*. St. Paul, MN: Wilder Research.

Let me know if you have any questions and good luck with your dissertation!

Heather

From: nichole.shorter [mailto:nichole.shorter@knights.ucf.edu]
Sent: Thursday, May 28, 2015 5:41 PM
To: Wilder Webmaster; nichole.shorter
Subject: Request for Permission of Inventory Use (Doctoral Dissertation)

To Whom It May Concern,

My name is Nichole Shorter and I am a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I am conducting research on collaboration between faculty at two-year postsecondary institutions and faculty at four-year postsecondary institutions on the subject of retention of transfer students. I am requesting permission to create an illustration of the Wilder Collaboration Factors and their corresponding categories in my dissertation. In addition, I am requesting permission to modify the Wilder Collaboration Factors Inventory for the purposes of my study, and to distribute an electronic version of the modified inventory to my survey population. I will include the following copyright notice in my dissertation, and will also mention the Amherst H. Wilder Foundation in my acknowledgments section:

Adapted from *Collaboration: What Makes it Work, 2nd Edition,* by Mattessich et al. Copyright 2001, Fieldstone Alliance.

Will you grant me permission for the aforementioned requests? If you have any questions or concerns, please do not hesitate to contact me.

Thank You,

Nichole A. Shorter, MS
Doctoral Candidate
Higher Education & Policy Studies
College of Education
University of Central Florida
nichole.shorter@knights.ucf.edu
(407) 230-0985

APPENDIX G
PARTICIPANT CONTACT LETTER 1

August 10, 2015

Dear [NAME],

My name is Nichole Shorter and I am a faculty member at one of the Transfer Partnership colleges and a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I am writing to you to ask for your help with a study on collaboration between faculty at two-year postsecondary institutions and faculty at four-year postsecondary institutions on the subject of retention of transfer students. The purpose of this study is to build upon the limited amount of research on postsecondary collaboration by examining partnerships between two-year and four-year institutions that have articulation agreements in place and faculty who collaborate on transfer student retention.

It is my understanding that you have participated in at least one of the Curriculum Alignment discipline meetings that occur among Community College A, Community College B, Community College C, Community College D, Community College E, and State University in the disciplines of biology, chemistry, engineering, math, physics, or programming. I am contacting postsecondary education faculty from these institutions that have participated in at least one of the Curriculum Alignment meetings to determine the level of collaboration between faculty at two-year and four-year institutions.

Your participation would involve the completion of a survey via the URL link provided in the paragraph below. The survey should take approximately 15 minutes to complete. The survey does not have to be completed in one sitting; you can save it and return to it later. Please read the consent form that is attached to this email. The connection between the individual participants and their responses will be kept confidential. This survey is voluntary. If for some reason you prefer not to respond, please let me know by replying to this email with "Wish Not to Respond". The aggregate results of the survey will be shared with participants via email.

By accessing this survey, you certify that you are 18 years of age or older.
To access the survey, click on the following link: [Active Survey Link]

Your unique identifying number is **[Identifying Number]**

If you have any questions or comments about this study, I would be happy to talk to you. You can contact me by directly replying to this email.

Thank you very much for helping with this important study.

Sincerely,

Nichole A. Shorter, MS
Doctoral Candidate
Higher Education & Policy Studies
College of Education and Human Performance
University of Central Florida
nichole.shorter@knights.ucf.edu

APPENDIX H
INSTITUTIONAL REVIEW BOARD APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Nichole A. Shorter**

Date: **July 24, 2015**

Dear Researcher:

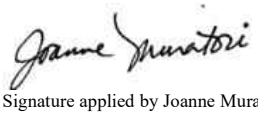
On 07/24/2015, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	An Analysis of Faculty Collaboration on Student Transfer through Articulation Agreements
Investigator:	Nichole A Shorter
IRB Number:	SBE-15-11464
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:



Signature applied by Joanne Muratori on 07/24/2015 02:20:11 PM EDT

IRB manager

APPENDIX I
PARTICIPANT CONTACT LETTER 2

August 25, 2015

Dear [NAME],

My name is Nichole Shorter and I am a faculty member at one of the Transfer Partnership colleges and a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I recently sent you an email asking you to respond to a brief survey about faculty collaboration in the Curriculum Alignment discipline meetings that occur among the Transfer Partnership colleges. As a faculty member who has participated in a Curriculum Alignment meeting, your input is highly valued in building upon the limited amount of research on postsecondary faculty collaboration on transfer student retention.

This survey is short and should only take fifteen minutes to complete. If you have already completed the survey, please accept my sincere thanks. If you have not yet responded to the survey, I encourage you to take a few minutes to complete it.

The connection between the individual participants and their responses will be kept confidential. Please read the consent form that is attached to this email. This survey is voluntary. If for some reason you prefer not to respond, please let me know by replying to this email with "Wish Not to Respond". The aggregate results of the survey will be shared with participants via email.

By accessing this survey, you certify that you are 18 years of age or older.
To access the survey, click on the following link: [Active Survey Link]

Your unique identifying number is **[Identifying Number]**

I sincerely appreciate your assistance and value your input. If you have any questions or comments about this study, I would be happy to talk to you. You can contact me by directly replying to this email.

Thank you for you help by completing the survey.

Sincerely,

Nichole A. Shorter, MS
Doctoral Candidate
Higher Education & Policy Studies
College of Education and Human Performance
University of Central Florida
nichole.shorter@knights.ucf.edu

APPENDIX J
DEAN CONTACT LETTER

To our Curriculum Alignment partners:

You may have received an invitation to complete a survey on faculty collaboration by Nichole Shorter, a doctoral student at UCF. If you have not responded, I encourage you to complete the survey. The purpose of her research is to examine the level of faculty collaboration that occurs between two-year and four-year institutions on transfer student retention; therefore, your responses are very important. If you were selected to participate, she will send you a final reminder to complete the survey.

On behalf of Nichole,
Thank you,

Associate Dean of Academic and Student Affairs
College of Sciences

APPENDIX K
PARTICIPANT CONTACT LETTER 3

September 17, 2015□□

Dear [NAME],□□

My name is Nichole Shorter and I am a faculty member at one of the Transfer Partnership colleges and a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I am hoping you may be able to give about fifteen minutes of your time to respond to a brief survey about faculty collaboration in the Curriculum Alignment discipline meetings that occur among the Transfer Partnership colleges. As a faculty member who has participated in at least one Curriculum Alignment meeting, your responses are very important to this research.□

If you have already completed the survey, I sincerely thank you for your time. If you have not yet responded, I would like to urge you to complete the survey. I plan to close the survey by Friday September 25th, so I wanted a chance to email everyone who has not responded to make sure you had a chance to participate. It is only by hearing from nearly everyone in the sample that I can be sure that the results truly represent the Curriculum Alignment faculty. □□

The connection between the individual participants and their responses will be kept confidential. Please read the consent form that is attached to this email. This survey is voluntary. If for some reason you prefer not to respond, please let me know by replying to this email with "Wish Not to Respond". The aggregate results of the survey will be shared with participants via email. □□

By accessing this survey, you certify that you are 18 years of age or older.
To access the survey, click on the following link: [Active Survey Link]

Your unique identifying number is **[Identifying Number]**□□

Thank you in advance for completing the survey. Your responses are important! If you have any questions or comments about this study, I would be happy to talk to you. You can contact me by directly replying to this email.

Sincerely,

Nichole A. Shorter, MS□
Doctoral Candidate□
Higher Education & Policy Studies□
College of Education and Human Performance□
University of Central Florida□
nichole.shorter@knights.ucf.edu

APPENDIX L
PARTICIPANT CONTACT LETTER 4

September 28, 2015

Dear [NAME],

My name is Nichole Shorter and I am a faculty member at one of the Transfer Partnership colleges and a doctoral candidate at the University of Central Florida College of Higher Education & Policy Studies. I am hoping you may be able to give about fifteen minutes of your time to respond to a brief survey about faculty collaboration in the Curriculum Alignment discipline meetings that occur among the Transfer Partnership colleges. As a faculty member who has participated in at least one Curriculum Alignment meeting, your responses are very important to this research.

If you have already completed the survey, I sincerely thank you for your time. If you have not yet responded, I would like to urge you to complete the survey. I have extended the deadline to the survey to close by Friday October 2nd. I wanted a chance to email everyone who has not responded to make sure you had a chance to participate. It is only by hearing from nearly everyone in the sample that I can be sure that the results truly represent the Curriculum Alignment faculty.

The connection between the individual participants and their responses will be kept confidential. Please read the consent form that is attached to this email. This survey is voluntary. If for some reason you prefer not to respond, please let me know by replying to this email with "Wish Not to Respond". The aggregate results of the survey will be shared with participants via email.

By accessing this survey, you certify that you are 18 years of age or older.
To access the survey, click on the following link: [Active Survey Link]

Your unique identifying number is **[Identifying Number]**

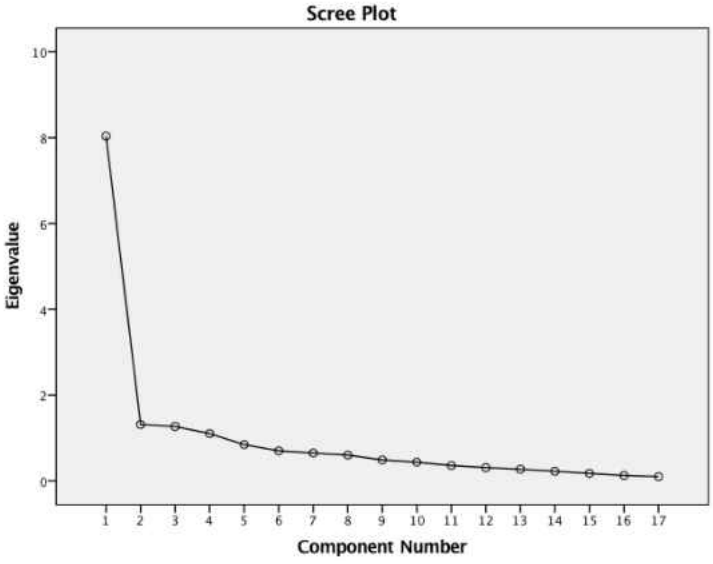
Thank you in advance for completing the survey. Your responses are important! If you have any questions or comments about this study, I would be happy to talk to you. You can contact me by directly replying to this email.
Sincerely,

Nichole A. Shorter, MS
Doctoral Candidate
Higher Education & Policy Studies
College of Education and Human Performance
University of Central Florida
nichole.shorter@knights.ucf.edu

APPENDIX M
COMPONENT MATRIX AND SCREE PLOT

Component Matrix[a]				
	Component			
	1	2	3	4
Shared vision	.833	-.042	-.004	-.120
Mutual respect, understanding and trust	.789	-.005	-.111	.275
Members see collaborations as in their self-interest	.783	-.075	-.165	-.114
Flexibility	.770	-.070	-.299	.117
Skilled leadership	.768	-.088	-.077	.220
Concrete, attainable goals and objectives	.754	-.262	.034	-.288
Appropriate pace of development	.744	-.035	.270	-.267
Development of clear roles and policy guidelines	.738	.268	.201	-.063
Multiple layers of participation	.726	.052	-.301	-.149
Members share a stake in both process and outcome	.715	.121	-.012	-.527
Open and frequent communication	.682	-.359	.276	.014
Collaborative group seen as a legitimate leader in the community	.611	.274	.476	.198
Unique purpose	.596	.313	.214	.522
Favorable political and social climate	.537	.423	-.486	-.079
Ability to compromise	.534	-.246	-.447	.388
Appropriate cross section of members	.495	.425	.265	.010
Established informal relationships and communication links	.457	-.642	.271	.107

Extraction Method: Principal Component Analysis.
a. 4 components extracted.



LIST OF REFERENCES

Anderson, G. M., Sun, J. C., & Alfonso, M. (2006a). Effectiveness of statewide articulation agreements on the probability of transfer: A preliminary policy analysis. *The Review of Higher Education, 29*(3), 261-291.

Anderson, G. M., Alfonso, M., & Sun, J. C. (2006b). Rethinking cooling out at public community colleges: An examination of fiscal and demographic trends in higher education and the rise of statewide articulation agreements. *Teachers College Record, 108*(3), 422-451.

Baumfield, V., & Butterworth, M. (2007). Creating and translating knowledge about teaching and learning in collaborative school-university research partnerships: An analysis of what is exchanged across the partnerships, by whom and how. *Teachers and Teaching: Theory and Practice, 13*(4), 411-427.

Beder, H. (1984). Principles for successful collaboration. *New Directions for Continuing Education, 1984*(23), 85-90.

Bender, L. W. (1990). *Spotlight on the transfer function: A national study of state policies and practices.* Washington, D.C.: American Association of Community and Junior Colleges.

Bender, L. W. (1994). State articulation policies: Myths and realities. In J. L. Ratcliff, S. Shwarz, & L. H. Ebbers (Eds.), *Community Colleges* (pp. 165-182). Boston, MA: Pearson Custom.

Berger, R., & Ortiz Ruiz, A. M. (1988). The crucial role of faculty in transfer articulation. In C. Prager (Ed.), *Enhancing articulation and transfer* (pp. 39-47). San Francisco, CA: Jossey-Bass.

Berkner, L., He, S., & Cataldi, E. (2002). *Descriptive summary of 1995-96 beginning postsecondary students: Six years later* (Statistical Analysis Report No. NCES 2003-151). Washington, DC: US Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics.

Best, G. A., & Ghering, D. D. (1993). The academic performance of community college transfer students at a major state university in Kentucky. *Community College Review, 21*(2), 32-41.

Bogart, Q., & Murphey, S. (1985). Articulation in a changing higher education environment. *Community College Review, 13*(2), 17-22.

Bohen, S. J., & Stiles, J. (1998). Experimenting with models of faculty collaboration: Factors that promote their success. *New Directions for Institutional Research, 100*, 39-55.

Bowles, D. (1988). Transferability in the liberal arts and sciences. In C. Prager (Ed.), *Enhancing articulation and transfer* (pp. 27-37). San Francisco, CA: Jossey-Bass.

Breitborde, M. L. (1996). Creating community in the classroom: Modeling new basic skills in teacher education. *Journal of Teacher Education, 47*(5), 367-374.

Butcher, J., Bezzina, M., & Moran, W. (2011). Transformational partnerships: A new agenda for higher education. *Innovative Higher Education, 36*(1), 29-40.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment.* London: Sage.

Cejda, B. (1997). Faculty collaboration and competency-based curriculum agreements: Meaningful links in transfer education. *Michigan Community College Journal: Research & Practice, 4*(1), 69-78.

Chalmer, B. J. (1987). *Understanding statistics*. New York, NY: Marcel Dekker.

Clark, B. R. (1983). *The higher education system: Academic organization in cross-national perspective.* Berkeley: University of California Press.

Cohen, A. M. (1989). *Commitment to transfer.* Los Angeles, CA: ERIC Clearinghouse for Junior Colleges.

Cohen, A. M., & Brawer, F. B. (1987). *The collegiate function of community colleges.* San Francisco, CA: Jossey-Bass.

Cohen, A. M., & Brawer, F. B. (2003). *The American community college* (3rd ed.). San Francisco, CA: Jossey-Bass.

Cohen, A. M., Brawer, F. B., & Kisker, C. B. (2014). *The American community college.* San Francisco, CA: Jossey-Bass.

Cosand, J. P. (1979). *Perspective: Community colleges in the 1980s.* Washington, DC.: Council of Universities and Colleges, American Association of Community and Junior Colleges.

Colleges & Campus News. (2010, November). *Quality growth: UCF is nation's second-largest.* University of Central Florida. Retrieved from http://today.ucf.edu/quality-growth-ucf-is- nations-second-largest/

CollegeStats. (2015). *Largest colleges in Florida.* Retrieved from http://collegestats.org/colleges/florida/largest/

Collins, C. F. (2008). *Using collaboration theory to learn about an articulation and transfer agreement between selected community colleges and a local university.* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (3314140)

Coutu, D. (2009). Why teams don't work. *Harvard Business Review, 87*(5), 98-105.

Curriculum Alignment. (2015, May). *Curriculum Alignment.* State University. Retrieved from https://www.curriculumalignment.stateuniversity.edu/display/CA/Curriculum+Alignment

Cuseo, J. S. (2000, November). *The case for careful attention to the transfer transition.* Paper presented at the National Conference on Students in Transition Cincinnati, OH.

Cuseo, J. (2001). *The transfer transition from two-year to four-year institution: Critical issues & promising practices.* Retrieved from http://uwc.edu/sites/uwc.edu/files/imce-uploads/employees/academic-resources/esfy/_files/transfer_transition_from_two-year_to_four-year_institution.pdf

Czajkowski, J. M. (2007, March). *Leading successful interinstitutional collaborations using the collaboration success measurement model.* In Chair Academy's 16th Annual International Conference, Jacksonville, FL.

D'Amour, D., Ferrada-Videla, M., San Martin Rodriguez, L., & Beaulieu, M. (2005). The conceptual basis for interprofessional collaboration: Core concepts and theoretical frameworks. *Journal of Interprofessional Care, 1*, 116-131.

Davies, T. G., & Casey, K. (1999). Transfer student experiences: Comparing their academic and social lives at the community college and university. *College Student Journal, 33*(1), 60-71.

Davis, J. B. (2007). *Statistics using SAS enterprise guide.* Cary, NC: SAS Institute.

Deitrick, M. W. (2008). *Effecting transfer and retention of community college students through formalized program-to-program articulation agreements with four-year institutions.* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses. (3333051)

Derose, K. P., Jackson, C. A., & Beatty, A. (2004). *Evaluation of community voices Miami: Affecting health policy for the uninsured.* Santa Monica, CA: RAND.

Dillman, D. A., Smyth, J. D., & Melani Christian, L. (2009). *Internet, mail, and mixed-mode surveys: The Tailored Design Method* (3rd ed.). Hoboken, NJ: John Wiley & Sons.

Donaldson, J. F., & Kozoll, C. E. (1999). *Collaborative program planning: Principles, practices, and strategies.* Malabar, FL: Krieger.

Donovan, R. A. (1992). Practices and trends in academic transfer. *Transfer Working Papers, 3*(3), 1-4.

Donovan, R. A., Shaier-Peleg, B., & Forer, B. (1987). *Transfer: Making it work. A community college report.* (Report No. ISBN-0-87117-167-8). Washington DC: American Association of Community and Junior Colleges.

Duffield, S., Olson, A., & Kerzman, R. (2012). Crossing borders, breaking boundaries: Collaboration among higher education institutions. *Innovative Higher Education, 38*(3), 237-250.

Eaton, J. (1992). *Faculty and transfer: Academic partnerships at work.* Washington, DC.: American Council on Education.

Education Commission of the States. (2001). *State notes: Transfer and articulation.* Denver, CO: Education Commission of the States.

Education Commission of the States. (2014). *Transfer and articulation: Statewide guaranteed transfer of associate degree.* Denver, CO: Education Commission of the States.

Florida Board of Governors. (2007). *Proposing a blueprint for higher education in Florida: Outlining the way to a long-term master plan for higher education in Florida.* Tallahassee, FL: Pappas Consulting Group Inc., State University System.

Florida College Access Network. (2010). *The big goal in Florida*. Retrieved from http://www.floridacollegeaccess.org/wp-content/uploads/2012/10/2010_1.pdf

Florida Department of Education. (2003). *"2+2" in Florida.* Tallahassee: Author.

Florida Postsecondary Education Planning Commission. (1999). *Evaluation of Florida's two-plus-two articulation system.* Tallahassee: Author.

Florida Senate Bill 1716. (2008). *Senate Bill No. 1716.* Retrieved from www.flsenate.gov/data/session/2008/Senate/bills/billtext/pdf/s1716er.pdf

Florida State Board of Education. (2006). *Administrative rule 6A-10.024.* Tallahassee, FL: Florida Department of Education.

Floyd, D. L. (2006). Achieving the baccalaureate through the community college. New *Directions for Community Colleges, 2006*(135), 59-72.

Garcia Falconetti, A. M. (2009). 2 + 2 statewide articulation policy, student persistence, and success in Florida universities. *Community College Journal of Research and Practice, 33*(4), 238-255. doi:10.1080/10668920802581109

Gray, B. (1985). Conditions facilitating interorganizational collaboration. *Human Relations, 38*(10), 911-936.

Gray, B. (1989). *Collaborating: Finding common ground for multi-party problems.* San Francisco, CA: Jossey-Bass.

Gray, B., & Wood, D. J. (1991). Collaborative alliances: Moving from practice to theory. *The Journal of Applied Behavioral Science, 27*(1), 3-22.

Gross, B., & Goldhaber, D. (2009). *Community college transfer and articulation policies: Looking beneath the surface* (Working Paper No. 2009-1). Retrieved from ERIC database. (ED504665)

Grossbach, B. L. (1991). Generating faculty dialogue across colleges. *The National Center for Academic Achievement and Transfer, 2*(1), 3-14.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage.

Gutierrez, D. A. (2004). Articulation agreements that foster a transfer mentality In B. C. Jacobs (Ed.), *The college transfer student in America: The forgotten student.* Washington, DC: American Association of Collegiate Registrars and Admissions Officers.

Hammons, F. T., & Maignan, G. (1995). *A status report on the established articulation agreements to support Florida's statewide tech prep initiative.* Retrieved from: http://sun6.dms.state.fl.us/flstw/tpaind.html

Handel, S. J. (2011). *Improving student transfer from community colleges to four-year institutions: The perspectives of leaders from baccalaureate-granting institutions.* Retrieved from College Board website: http://advocacy.collegeboard.org/sites/default/files/11b3193transpartweb110712.pdf

Handel, S. J., & Williams, R. A. (2012). *The promise of the transfer pathway: Opportunity and challenge for community college students seeking the baccalaureate degree.* Retrieved from: http://advocacy.collegeboard.org/sites/default/files/community-college-transfer-pathway-5163.pdf

Hansen, M. T. (2013). *Collaboration: How leaders avoid the traps, create unity, and reap big results.* Boston, MA: Harvard Business Press.

Hills, J. R. (1965). Transfer shock: The academic performance of the junior college transfer. *The Journal of Experimental Education, 33*(2), 201-215.

Hungar, J. Y., & Lieberman, J. (2001). *The road to equality: Report on transfer for the Ford Foundation* (Accession No. ED 455856). New York, NY: Ford Foundation.

Ignash, J. M., & Townsend, B. K. (2000). Evaluating state-level articulation agreements according to good practice. *Community College Review, 28*(3), 1–21.

Ignash, J. M., & Townsend, B. K. (2001). *Statewide transfer and articulation policies: Current practices and emerging issues.* Westport, CT: Albex.

Illinois Articulation Initiative (IAI). (2001). *iTransfer: The Illinois transfer portal.* Retrieved from https://www.itransfer.org/IAI

James, M., & Worrall, N. (2000). Building a reflective community: Development through collaboration between a higher education institution and one school over 10 years. *Educational Action Research, 8*(1), 93-114.

Just, D. A., & Adams, D. A. (1997). The art of articulation: Connecting the dots. *New Directions for Community Colleges, 1997*(97), 29–39.

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39,* 32-36.

Kezar, A. (2005). Redesigning for collaboration within higher education institutions: An exploration into the developmental process. *Research in Higher Education, 46*, 831-860. doi:10.1007/s11162-004-6227-5

Kezar, A. J., & Lester, J. (2009). *Organizing higher education for collaboration: A guide for campus leaders.* San Francisco, CA: Jossey-Bass.

King, E. C. (1988). Winning together: Negotiating transfer agreements in allied health. In C. Prager (Ed.), *Enhancing articulation and transfer* (pp. 63-71). San Francisco, CA: Jossey-Bass.

Kintzer, F. C., & Wattenbarger, J. L. (1985). *The articulation/transfer phenomenon: Patterns and directions.* Washington, DC: American Association of Community and Junior Colleges.

Kisker, C. B., Wagoner, R. L., & Cohen, A. M. (2011). *Implementing statewide transfer & articulation reform: An analysis of transfer associate degrees in four states.* Los Angeles, CA: Center for the Study of Community Colleges.

Knoell, D. M. (1990). *Transfer, articulation, and collaboration: Twenty-five years later.* Washington, DC: American Association of Community and Junior Colleges.

Knoell, D. M. (1996). Moving toward collaboration in transfer and articulation. *New Directions for Community Colleges, 1996*(96), 55-64.

Laerd Statistics. (2013). *Stratified random sampling*. Lund Research Ltd. Retrieved from http://dissertation.laerd.com/stratified-random-sampling.php

Lauren, B. (2004). Transfer and articulation: Survey of state practices. In B. C. Jacobs (Ed.), *The college transfer student in America: The forgotten student* (pp. 109-129). Washington, DC: American Association of Collegiate Registrars and Admissions Officers.

Lindsay, C. A., Queeney, D. S., & Smutz, W. D. (1981). *A model and process for university/professional association collaboration*. University Park, PA: The Pennsylvania State University, Division of Planning Studies.

Lowndes, V., & Skelcher, C. (1998). The dynamics of multi-organizational partnerships: An analysis of changing modes of governance. *Public Administration, 76*(2), 313-333.

Lumina Foundation. (2013). *Steady progress in increasing college attainment--but much more to do.* Lumina Foundation. Retrieved from http://www.luminafoundation.org/stronger_nation/report/main-narrative.html

Mattessich, P. W., & Monsey, B. R. (1992). *Collaboration: What makes it work.* St. Paul, MN: Amherst H. Wilder Foundation.

Mattessich, P. W., Murray-Close, M., & Monsey, B. R. (2001). *Collaboration: What makes it work* (2nd ed.). St. Paul, MN: Fieldstone Alliance.

McCann, J. E. (1983). Design guidelines for social problem-solving interventions. *Journal of Applied Behavioral Science, 19*, 177-189.

McLaughlin, C., & Black-Hawkins, K. (2004). A schools-university research partnership: Understandings, models, and complexities. *Journal of In-Service Education, 30*(2), 265-283.

National Center for Public Policy and Higher Education. (2011). *Affordability and transfer: Critical to increasing baccalaureate degree completion*. Retrieved from http://www.highereducation.org/reports/pa_at/

National Student Clearinghouse Research Center. (2015). *Contribution of two-year institutions to four-year completions*. Retrieved from National Student Clearinghouse Research Center website:

http://nscresearchcenter.org/wpcontent/uploads/SnapshotReport17-2YearContributions.pdf

Nulty, D. D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education, 33*(3), 301-314.

Office of Program Policy Analysis and Government Accountability. (2002*). Articulation works for most community college transfer students, but some problems continue*. (OPPAGA Rep. No. 02-05 at 077). Tallahassee, FL: Office of the Florida Legislature.

Packard, B. W., Gagnon, J. L., & Senas, A. J. (2012). Navigating community college transfer in science, technical, engineering, and mathematics fields. *Community College Journal of Research and Practice, 36*(9), 670-683. doi:10.1080/10668926.2010.495570

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research.* San Francisco, CA: Jossey-Bass.

Prager, C. (1988). *Enhancing articulation and transfer.* San Francisco, CA: Jossey-Bass.

Prager, C. (1991, October). *Internal transfer and articulation.* Paper presented at the Council of Two-Year Colleges of Four-Year Institutions, Bar Harbor, ME.

President Barack Obama's State of the Union Address. (2014, January 28). [Official Web Site of the White House and President Barack Obama]. Retrieved from http://www.whitehouse.gov/the-press-office/2014/01/28/president-barack-obamas-stateunion-address

Purcell, J. H., & Leppien, J. H. (1998). Building bridges between general practitioners and educators of the gifted: A study of collaboration. *Gifted Child Quarterly, 42*(3), 172-181.

Reichardt, C. S., & Rallis, S. F. (1994). *The qualitative-quantitative debate: New perspectives.* San Francisco, CA: Jossey-Bass.

Remarks by the President in State of Union Address--As prepared for delivery. (2009, February 24). [Official Web Site of the White House and President Barack Obama]. Retrieved from http://www.whitehouse.gov/the_press_office/Remarks-of-President-Barack-Obama-Address-to-Joint-Session-of-Congress

Remarks by the President in State of Union Address. (2010, January 27). [Official Web Site of the White House and President Barack Obama]. Retrieved from http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address

Remarks by the President in State of Union Address. (2011, January 25). [Official Web Site of the White House and President Barack Obama]. Retrieved from http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address

Response to U.S. Department of Education request for information (RFI) on promising and practical strategies to increase postsecondary success (n.d.). Retrieved from http://www2.ed.gov/documents/college-completion/valencia-college-1.doc

Richardson, R. (1993). Faculty in the transfer and articulation process: Silent partners or missing link? *Community College Review, 21*(1), 14-47.

Rifkin, T. (1998). *Policy paper: Improving articulation policy to increase transfer* (Accession No. ED439770). Denver, CO: Education Commission of the States.

Robertson, P., & Frier, T. (1996). *The role of the state in transfer and articulation.* New Directions for Community Colleges. San Francisco, CA: Jossey-Bass.

Roksa, J., & Calcagno, J. C. (2010). Catching up in community colleges: Academic preparation and transfer to four-year institutions. *Teachers College Record, 112*(1), 260-288.

Roksa, J., & Keith, B. (2008). Credits, time, and attainment: Articulation policies and success after transfer. *Educational Evaluation and Policy Analysis, 30*(3), 236-254.

SCUP Academy Council. (2014). *Report on trends in higher education planning 2014.* Ann Arbor, MI: Society for College and University Planning.

Seidman, A. (2005). *Minority student retention: Resources for practitioners.* Retrieved from http://www.cscsr.org/docs/MinorityStudentRetentionResourcesforPractitioners2006.pdf

Sheskin, D. J. (2004). *Handbook of parametric and nonparametric statistical procedures* (3rd ed.). Boca Raton, FL: Chapman & Hall/CRC.

Short, P. M., & Stein, R. B. (1998). Collaborative doctoral education: Overcoming barriers, building coalitions, and achieving results. *NCA Quarterly, 72*(4), 457-461.

Shugart, S. (2010). *Strategic Planning.* Valencia College. Retrieved from http://president.valenciacollege.edu/category/strategic-planning/

Stein, R. B., & Short, P. M. (2001). Collaboration in delivering higher education programs: Barriers and challenges. *The Review of Higher Education, 24*(4), 417-435. doi:10.1353/rhe.2001.0010

Sullivan, B. L., Dyer, B. G., & Franklin, F. K. (2004). Articulation to Collaboration? Understanding the development of issues surrounding articulation agreements. In B. C. Jacobs (Ed.), *The college transfer student in America: The forgotten student* (pp. 87-108). Washington, DC: American Association of Collegiate Registrars and Admissions Officers.

Thomas, G. (1988). Transfer relationships between two-year and four-year technological programs. In C. Prager (Ed.), *Enhancing articulation and transfer* (pp. 49-55). San Francisco, CA: Jossey-Bass.

Thurstone, L. L. (1947). *Multiple factor analysis.* Chicago, IL: University of Chicago Press.

Tobolowsky, B. (1998). *Improving transfer and articulation policies.* Los Angeles, CA: ERIC Clearinghouse for Community Colleges.

Townsend, A., & Shelley, K. (2008). Validating an instrument for assessing workforce collaboration. *Community College Journal of Research and Practice, 32*(2), 101-112.

Townsend, B. K., & Ignash, J. (2000, November). *Assumptions about transfer behavior in state-level articulation agreements: Realistic or reactionary?* Paper presented

at the annual meeting of the Association for the Study of Higher Education, Sacramento, CA.

UCF Regional Campuses. (2012, July). *Transfer Partnership to UCF*. University of Central Florida. Retrieved from http://regionalcampuses.ucf.edu/Transfer Partnership/

Vogt, R. J. (2000). Collaboration processes between Private Industry Council agencies and community colleges in Virginia concerning the provision of employment services for dislocated workers. *Dissertation Abstracts International, 61*(4), 1257.

Wagoner, R. L., & Kisker, C. B. (2013). Putting the pieces together and asking the hard questions: Transfer associate degrees in perspective. *New Directions for Community Colleges, 2012*(160), 91-103.

Wellman, J. V. (2001). Assessing state accountability systems. *Change, 33*(2), 46-52.

Wellman, J. V. (2002). *State policy and community college-baccalaureate.* (National Center Report, No. 02-6). Washington, DC: National Center for Public Policy and Higher Education and the Institute for Higher Education Policy.

Wright, L. M., & Middleberg, R. (1998). Lessons learned from a long-term collaboration. *New Directions for Community Colleges, 1998*(103), 5-12.

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials for Quantitative Methods in Psychology, 9*(2), 79-94.