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AN ANALYSIS OF VIRGINIA TRANSFER POLICY AND ARTICULATION
AGREEMENTS: A COMPARATIVE STUDY OF COMMUNITY COLLEGE
TRANSFER AND NATIVE STUDENTS—ENROLLMENTS AND OUTCOMES
IN A TEACHER PREPARATION PROGRAM

A dissertation submitted in partial fulfillments of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

by

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Abstract

AN ANALYSIS OF VIRGINIA TRANSFER POLICY AND ARTICULATION AGREEMENTS: A COMPARATIVE STUDY OF COMMUNITY COLLEGE TRANSFER AND NATIVE STUDENTS—ENROLLMENTS AND OUTCOMES IN A TEACHER PREPARATION PROGRAM.

By Michael Conway Huffman, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

Virginia Commonwealth University, 2012

Major Director: Dr. William C. Boshier, Jr.
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Transfer articulation is an important policy issue in Virginia. With increasing economic strains on federal and state budgets, pressure on key actors in higher education, and critical teacher shortages, an opportunity presented itself to investigate state transfer policy and articulation agreements designed to facilitate student transfer. Articulation agreements are policy instruments designed to facilitate a seamless transfer of both students and credits from the community college system into senior institutions. Over the last decade increased articulation activity has taken place in the Commonwealth of Virginia driven by higher education costs and articulation specific to teacher preparation due to teacher shortages. This study is an effort to add to the literature by linking the presence of one articulation agreement to increased

enrollments of Virginia Community College System (VCCS) associate degree holders into a 5-year teacher preparation program at Virginia Commonwealth University (VCU). Select academic outcomes of associate degree holders, students who took coursework in the VCCS, and native students were also examined for comparative purposes.

The study engaged a quantitative, nonexperimental, cross-sectional research methodology using existing data related to the 5-year teacher preparation program at VCU. The data collected for the study originated from the initial teacher licensure Master of Teaching (M.T.) programs which include early/elementary, and secondary (6-12) programs in English, foreign languages, history/social studies, mathematics, sciences, and special education. A master file containing 2,349 observations was created from which samples were then drawn for hypotheses testing. Ordinary Least Square regression, multiple regression, and binary logistic regression were used and the results indicated the presence of the 2004 VCU/VCCS Teacher Education Provision Admission (TEPA) articulation agreement had no impact on enrollment likelihood. Earning an associate degree was a strong predictor of graduation likelihood in the teacher preparation program and associate degree holders could also expect to earn fewer cumulative hours in the program—a potential savings of time and money. Total community college credits earned was a strong predictor of teacher licensure likelihood. Race had no impact on elapsed time spent in the teacher preparation program.

The findings of this study suggest the mere presence of an articulation agreement does not guarantee increased enrollments into an academic program, in this case, a 5-year teacher preparation program. Student outcomes also suggest earning the associate degree had significant effects post transfer, almost doubling graduation likelihood. Licensing likelihood is positively affected by total community college credits earned. Results of the models testing common

measures of student academic success—cumulative GPA, Praxis I performance, and GRE performance had no impact on graduation likelihood. Since the extant research is not robust on 5-year teacher preparation programs, further research is recommended specifically on 5-year programs related to the effectiveness of articulation agreements on enrollments—in addition to post transfer student outcomes.

CHAPTER 1. INTRODUCTION

The formal education of the citizenry can have a tremendous impact on the success and prosperity of a nation or state. Education in the United States witnessed the greatest growth in primary and secondary education during the 18th century continuing through the first half of the 20th century. Higher education has experienced a different development pattern that continues to present. A rise in the growth of 4-year baccalaureate granting institutions occurred over the course of the 19th century with significant surges in the latter part of the century primarily due to landmark legislation that created the Morrill Land Grant Act of 1862, which allocated federal land for the establishment of agricultural colleges (Goldin, 1999). Moving into the mid-20th century, the Truman Commission report released in 1947 was a catalyst that helped change the trajectory of higher education in the United States. The Truman report highlighted the phrase *community college* and encouraged their growth in order to afford the citizenry of America greater access to higher education (Boggs, 2010).

Federal and state involvement in higher education certainly involves many actors including presidents, congress, governors, state legislative bodies, commissions, policy-making agencies, university and community college faculty and administrators. One critical component in the higher education landscape over the last century has been the ascent of the community college. Since their birth at the onset of the 20th century, community colleges have established themselves as innovative entities offering viable educational alternatives to prospective students

in the local community. Boggs (2010) described how community colleges have been credited with affording access to many diverse groups and for providing an “open door to opportunity” (p. 2).

Transfer and articulation agreements are terms found throughout this study and it is important to have a clear understanding and definition of transfer and articulation agreements at this point. There are many definitions found in the literature but the most concise and clear definition is provided by Ignash and Townsend (2001) when they asserted transfer describes “who” and articulation agreements describe “what.” More specifically, the authors detailed, “Transfer refers to student flow among institutions and programs—the ‘who,’ whereas articulation refers to courses and programs—the ‘what’” (Ignash & Townsend, 2001, p. 174). Transfer and articulation are linked to a systematic process where both students and credits are moved from one institution to another.

The relationship between community colleges and senior institutions in the states evolved significantly over the latter half of the 20th century. In the Commonwealth of Virginia, activity between community colleges and senior institutions began to increase in the 1970s with the recognition of the associate’s degree as acceptable for transfer into senior institutions and the development of articulation agreements (Allan, 1974; Sartori 1977). The pattern of cooperation has continued over time and has been instrumental in strengthening access, capacity, and diversity of higher education in Virginia.

In Virginia transfer articulation between community colleges and senior institutions specific to teacher education programs address a vital state and national policy issue—teacher shortages. Additionally, the federal No Child Left Behind Act of 2001 initiated new requirements for more highly qualified teachers and more accountability from the states and

teacher preparation programs. The National Commission on Teaching and America's Future (2008) published the report *Learning Teams: Creating What's Next* detailing that the United States was poised to lose over 100,000 teachers due to retirement in the 2010-2011 school year. Worse yet, 1.7 million teachers could be out of the workforce in less than 10 years (p. 2).

Unite this reality with the most recent economic recession and the impact on state higher education budgets, and a very stark outlook emerges for growth in our teaching workforce. Moreover, in a State Council for Higher Education in Virginia (SCHEV)/Virginia Community College System (VCCS) (2010a) report entitled *HJR 678: Report on Teacher Shortages in the Commonwealth, with Focus on Enhancing the Transfer Pipeline from Virginia's Community Colleges* revealed the Virginia Department of Education (VDOE) estimated in 2006-2007 that 3,240 students completed teacher education programs. The report continued by emphasizing the number is inadequate to fill the state need (SCHEV/VCCS, 2010a, p.7).

The linkage between the preparation of teachers and the mission of the community college has existed for a significant period of time with some early 20th century junior colleges offering teacher education as a component of their curriculum (Townsend & Ignash, 2003). In Virginia, increasing the opportunities for potential teachers to commence coursework and training in the community college plays a vital role addressing teacher shortages since they can act as a feeder system for the 37 VDOE-approved teacher education programs. Additional research by Blair (2002) and Walker (2003) (as cited in Locklear, Davis, and Covington, 2009, p. 239) indicated that the increasing demand for teachers could be satisfied up to one fourth by the community college.

Ideally, articulation agreements are designed to facilitate a smooth pathway for students and their credits when transitioning from community colleges to senior institutions. According

to the SCHEV (2010a) there were at minimum 14 teacher education agreements in place in 2009 between community colleges and senior institutions in Virginia (p. 20). One question that can be asked is: How effective are the various articulation agreements executed between the VCCS and senior institutions? These agreements affect numerous parties involved in the transfer process and are important policy instruments. Some previous research suggested articulation agreements do not increase the likelihood of transfer and insufficient evidence exists to connect articulation policies with student transfer (Anderson, Sun, & Alfonso 2006; Roksa & Keith, 2008). Other researchers' findings suggest states with strong articulation policies do not necessarily have the largest portion of community college baccalaureate aspirants, but did discover some connection with strong policy and "higher aspirations and student transfers" (Goldhaber, Gross, and DeBurgomaster, 2008, p. 20).

This study examined one articulation agreement specific to teacher preparation between the VCCS and the 5-year teacher preparation program at Virginia Commonwealth University (VCU) a large, urban research university. The 5-year teacher preparation program at VCU is the product of the collaboration between the College of Humanities and Sciences and the School of Education enabling students to pursue early/elementary or secondary teaching levels. Candidates entering the program of choice simultaneously earn a baccalaureate (B.A., B.S. or B.I.S.) and master of teaching (M.T.) degree upon completion of all requirements. In addition, graduates are eligible for licensure in Virginia in their field of study. The program is comprised of 153 total credit hours with a minimum of 120 credit hours for the undergraduate component and a minimum of 33 credit hours in the graduate portion.

Articulation activity between the VCCS and VCU has been consistent over time with one identified guaranteed admission agreement for general admission to the university executed in

1992. Articulation between the VCCS and VCU related to teacher education has been robust over the last decade. Agreements and effective year specific to the VCCS and teacher preparation programs follow:

- 2004 VCU/VCCS TEPA- Teacher Education Provision Agreement: (PK-6); Middle Education (6-8); selected areas of Special Education.
- 2007 VCU/VCCS TEPA- Teacher Education Provision Agreement: (PK-6).
- 2007 VCU/J. Sargeant Reynolds Community College Teacher Preparation Agreement: Early/Elementary; Secondary Education: English; Social Studies; Foreign Languages; Biology; Chemistry; Physics; and Mathematics.
- 2010 VCU/VCCS Pre-Teacher Education Admission Agreement: Early/Elementary (NK-6).

Although a number of agreements exist, the articulation agreement of interest in this study is the 2004-2005 VCU/VCCS TEPA-Teacher Education Provision Agreement: (PK-6); Middle Education (6-8); selected areas of Special Education. This specific agreement was selected because it was the first articulation agreement executed with the VCCS specific to the 5-year teacher preparation program at VCU and encompassed all 23 community colleges in the system. The agreement was executed in 2003 and was in place from 2004 through 2007 when it was superseded by the 2007 VCU/VCCS TEPA –Teacher Education Provision Agreement: (PK-6).

Conceptual Framework

Since the humble beginnings in 1901 of the first community college in Illinois, much has been discussed and debated regarding the community college and its creation, influence, and prospects going forward. Various theories concerning the community college have been put forth over time including systems, functionalist, Marxist, institutionalist, and state relative

autonomy (Anderson, Alfonso, & Sun, 2006; Brint & Karabel, 1989; Cain 1999; Dougherty, 1994). These are key theories that have been used to examine questions ranging from the motives for creating the community college in America to the discussions of its current and future role in higher education.

Dougherty provided an overview of various theories and debates associated with the American community college in his 1994 book, *The Contradictory College: The Conflicting Origins, Impacts, and Futures of the Community College*. Dougherty's work is an attempt to provide some resolution to the debate between the critics and defenders on what he identified as three main questions regarding the community college.

- What is the impact of the community college on students, business, and the elite universities? (p. 7)
- Why and how did community colleges develop? (p. 7)
- Why did community colleges differentiate their originally academic program to become so strongly vocational? (p. 7)

An overview of the previously noted theories as they have been applied in studies of the community college follows.

Systems Theory: Cain (1999) viewed the community college as a holistic entity. He referred to the community college as the “Wal-Mart” of education and touted the need to study it in its entirety rather than viewing its parts (p. 12). He employed systems theory to study the community college as a whole to gain knowledge about the interaction of the parts that comprise the entity. Cain (1999, pp.13-16) cited Laszlo (1972) and his description of the following characteristics of systems:

- Systems are wholes with irreducible properties. Although individuals or parts of a system may depart a system, the whole system does not change radically. Even if faculty or administrators join or depart the system, the basic system does not change. He asserted that the identity of the system “comes from the totality” (p. 13).
- Systems maintain themselves in a changing environment. Survival is the operative word for systems and its critical for the entity to survive as a whole rather than a focus on survival of the individual parts (p. 14).
- Systems create themselves in response to the challenge of the environment. In order for a system to survive it must be able to change, however, the change must be gradual in order to maintain stability.
- Natural systems are coordinating interfaces in nature’s hierarchy. More specifically, systems must rely on other systems for support.

Cain (1999) used the aforementioned characteristics in his analysis of the community college. He asserted that by examining the whole system, a better understanding of the community college and its mission can be realized and contends that future research should be undertaken in a “systemic” manner (p. 26). He cautioned that by trying to be everything to everyone, the community college has discounted itself in higher education, much like Wal-Mart is a discount chain to its customers (p. 139).

Institutionalist: From the institutionalist vantage, growth in the community college and its vocational role in education were instigated by universities over time in effort to ensure the value of the baccalaureate degree was maintained. Although critical of the community college, under this theory vocational education is recognized for its value to students and ultimately the business environment. However, universities had a vested interest in supporting the vocational

nature of the community college. Community colleges consequently draw students otherwise bound for 4-year institutions affording them more selectivity (Dougherty, 1994, p. 20; Brint & Karabel, 1989, p.104).

Marxists: These critics of the community college argue that students are trained in the community college as low-wage labor for business interests. Moreover, students' baccalaureate aspirations are effectively stymied by the community college in order to prevent transfer out of vocational programs designed to keep a ready made, low-wage workforce in place. Class inequality in a capitalist system is perpetuated under this critical view (Dougherty, 1994, p. 18).

Functionalist: These supporters of the community college believe access and opportunity are central to its mission and aids minority participation in higher education. The community college serves a well regarded role of higher education access for students and a supplier of a vocationally trained workforce. Simply described the community college is a provider of higher education at a "low cost to the student and at moderate cost to society" (Medsker, 1960, p. 4).

State Relative Autonomy: Dougherty (1994) submits this theory in his attempt to address the development of the community college and how it became "so thoroughly vocationalized" (p. 22). According to this theory, government officials are the focal point of research when addressing the origins of educational change (p. 280). Moreover, Dougherty theorized that government officials respond to their own autonomous interests and principals—however, these officials are only relatively autonomous (p. 281). Dougherty explained the reason for the relative autonomy of government officials is they frequently acquiesce to the influence of powerful interest groups who control votes and financial resources state officials need for reelection (p. 281).

Continuing along the lines of influence Stone (2002) weighed in on the issue in the following:

Fortunately, the vast gap between self-interest and public interest is bridged in the polis by some potent forces: influence, cooperation, and loyalty. Influence is inherent in communities, even communities of two. People are not freewheeling, freethinking atoms whose desires arise from spontaneous generation. (p. 23)

Birkland (2005) also addressed the influence and public perception of interest groups on our elected officials. The author highlighted the fact that numerous interest groups employ the tactic of lobbying government officials and further detailed that “lobbying has gained negative connotations, because it conjures up images of ‘smoke-filled rooms’ and secret dealings between shadowy lobbyists and less-than honest officials” (p. 85).

Anderson, Alfonso et al. (2006) published *Rethinking Cooling Out at Public Community Colleges: An Examination of Fiscal and Demographic Trends in Higher Education and the Rise of Statewide Articulation Agreements* utilizing Dougherty’s state relative autonomy theory as a lens to view articulation agreements in their research. The study examined both fiscal and demographic trends and the relation to an increase in the development of articulation agreements by states over a decade from 1985 to 1995. Deploying state relative autonomy as a framework, the authors theorized that an increase in statewide articulation agreements may be linked to the interests of state officials in controlling higher education costs, in addition to managing private interests and the electorate (Anderson, Alfonso et al., 2006, p. 425).

The proposed study will also draw from Dougherty’s state relative autonomy theory and parallel one area of Anderson, Alfonso et al. (2006)—the interest of state officials in controlling higher education costs—coupled with a further interest in addressing critical teacher shortages.

Increased teacher education articulation activity at VCU driven by state officials may have impacted enrollments into the teacher preparation program.

The literature reviewed in this study shows a pattern of legislation in Virginia since the 1950s related to transfer and articulation and the importance of utilizing the community college system to control higher education costs (Couturier, 2006; Dougherty, 1994; Herndon, 2006; HB57, 2006; SCHEV, n/d, 2003, Senate Bill 538, 2006; Wellman, 2002). The use of the community college to control costs is achieved by lowering the cost of attaining the baccalaureate degree by using the community college for the freshman and sophomore years.

Further buttressing the early interest of state officials in controlling costs related to higher education, Dougherty (1994) revealed that by the 1950s legislators and governors had finally taken notice of the community college as a viable alternative to 4-year institutions (pp. 165-166). Moreover, community colleges began to appear increasingly attractive due to the increasing demand for higher education, the lower cost of community college, and budgetary strains of higher education (Dougherty, 1994, p. 166).

Due to the current stark budgetary environment, the focus on controlling higher education costs in Virginia has arguably never been higher. Although legislative activity in Virginia related to transfer has been present since the 1960s, the last decade has seen increasing legislation related to transfer and articulation as budgets for state higher education have steadily declined. Wellman (2002) noted how state budget cuts united with increasing demand in enrollments has influenced states to use the community college as cost-effective alternative.

Statement of the Problem

Transfer articulation is an important policy issue in Virginia. With increasing economic strains on federal and state budgets coupled with constant pressure on governors, legislative

bodies, and other actors to provide access and affordability in higher education, an opportunity presents itself to investigate state transfer policy and articulation agreements designed to facilitate student transfer. More specifically, investigating the impact of one articulation agreement executed between the VCCS and the 5-year teacher preparation program at VCU as related to associate degree transfer enrollments and selected student outcomes.

Faced with an alarming shortage of teachers and higher standards for educators as mandated by the federal 2001 No Child Left Behind Act, Virginia is attempting to address teacher shortages. Most recently, SCHEV (2010a) published *HJR 678: Report on Teacher Shortages in the Commonwealth, with Focus on Enhancing the Transfer Pipeline from Virginia's Community Colleges* revealing a number of measures being pursued including the use of the community college as a pathway to teacher education. Among the actions contained in the legislation are increasing the use of articulation agreements between community colleges and senior institutions, focused community college recruitment by senior institutions, and enhanced tracking of community college transfers once enrolled in teacher preparation programs. These forces provide the backdrop to examine Virginia transfer policy and the identified articulation agreement to gain further insight into its impact, in addition to selected student outcomes.

Purpose of the Study

The purpose of this study was to explore the impact of a specific articulation agreement and its relationship to enrollments and select academic outcomes of community college transfer and native students in a 5-year teacher preparation program. This study focused on two entities operating in the state system of higher education in Virginia—the 23 community colleges comprising the VCCS and VCU. The specific agreement of interest is the 2004-2005 Teacher Education Provision Agreement (VCU/VCCS TEPA) executed between the VCCS and VCU.

The unit of analysis for the study was the group of community college transfers (degree and nondegree holders) and native students identified as being admitted into the teacher preparation program from 1994 through 2009.

Central Research Questions

1. What is the impact of the 2004-2005 VCU/VCCS TEPA articulation agreement as measured by associate degree transfer enrollments into the teacher preparation program?
2. How do VCCS associate degree holders and nonassociate degree transfer students compare to native students as measured by select academic outcomes in the teacher preparation program including time spent in the program, cumulative GPA, Praxis I scores, GRE scores, cumulative hours earned, and licensure?

Research Hypotheses

Dependent and independent variables are italicized in each hypothesis:

H₀1. Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is UNAFFECTED by the 2004 VCU/VCCS TEPA articulation agreement.

H_a. Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is AFFECTED by the 2004 VCU/VCCS TEPA articulation agreement.

H₀2a. *Elapsed time spent* in the program after admission is UNAFFECTED by *total credits earned* at the community college.

H_a. *Elapsed time spent* in the program after admission is AFFECTED by *total credits earned* at the community college.

H₀2b. *Elapsed time spent* in the program is UNEFFECTED by race.

H_a. *Elapsed time spent* in the program is AFFECTED by race.

H₀3a. *Cumulative GPA* at graduation is UNAFFECTED by *credits earned* in the community college or earning an *associate degree*.

H_a. *Cumulative GPA* at graduation is AFFECTED by *credits earned* in the community college or earning an associate degree.

H₀3b. *Licensing* is UNAFFECTED by *credits earned* in the community college.

H_a. *Licensing* is AFFECTED by *credits earned* in the community college.

H₀4a. At the time of admission into teacher preparation, *graduation likelihood* is UNAFFECTED by *credits earned* at the community college, *GPA*, and *Praxis I* performance.

H_a. At the time of admission into teacher preparation, *graduation likelihood* is AFFECTED by *credits earned* at the community college, *GPA*, and *Praxis I* performance.

H₀4b. *Graduation likelihood* is UNAFFECTED by *earning a degree* from the community college.

H_a. *Graduation likelihood* is AFFECTED by *earning a degree* from the community college.

H₀4c. *Graduation likelihood* is UNAFFECTED by both *credits earned* and *earning a degree* at the community college.

H_a. *Graduation likelihood* is AFFECTED by both *credits earned* and *earning a degree* at the community college.

H₀4d. *Graduation likelihood* is UNAFFECTED by *GRE* performance.

H_a. *Graduation likelihood* is AFFECTED by *GRE* performance.

H₀5. *Cumulative hours earned* in the graduate portion of the degree program ARE LOWER for *associate degree* holders.

H_a. *Cumulative hours earned* in the graduate portion of the degree program ARE EITHER UNCHANGED or HIGHER for *associate degree* holders.

Methodology

The study was a quantitative, nonexperimental, cross-sectional research design to seek answers to the research questions and hypotheses. The quantitative data procedures examined the enrollments and outcomes of both native (first time freshman) and community college students (both degree holders and nondegree holders) who were admitted into the VCU 5-year teacher preparation program.

Secondary data sources were accessed to investigate the impact of an articulation agreement implemented between the VCCS and the VCU 5-year teacher preparation program and selected student outcomes. The use of secondary data in research has been increasing and Nachmias and Nachmias (2000) attribute the increase to three main reasons: “conceptual-substantive reasons, methodological reasons, and cost” (p. 277). For conceptual-substantive reasons, the use of secondary data may be the only available data for specific research topics. According to the authors the methodological advantages of secondary data include the following (p. 278):

- Opportunities for replication if using accurate data.
- Data collected at different time periods offer longitudinal design opportunities.
- Validity of measurement may be improved and therefore allow for stronger empirical analysis.
- Increased sample size, representativeness, and quantity of observations which can assist with generalizations.

- Secondary data can be used to triangulate and help with increasing validity of the results from primary data.

Ezzy (2010) noted that quantitative research deals primarily with “what” and “how many” type of research questions and the chief methods used are analyzing secondary data, surveys, and structured interviews (p. 67). In addition, quantitative methods are used in the study of social issues from a “big picture” vantage using data that can be statistically analyzed for patterns (p. 68).

Secondary Data Sources

The secondary data used for this study were comprised of student teacher preparation program enrollment and academic records that were obtained from the VCU School of Education Student Services Access database and physical file system. Individual student files and transcripts were reviewed on an as-needed-only basis to authenticate community college degree and location. In addition, graduation and legacy related data also were accessed from the university Banner information system. A comprehensive master file was created from which appropriate samples were drawn to test the hypotheses.

Significance of the Study

Operating in an environment of declining higher education funding at the state level coupled with the most recent economic recession, the pressure on government actors to ensure access and affordability in higher education has never been greater. This study, which examined state transfer policy and the impact of an articulation agreement as a policy instrument, was timely and may offer insights to future researchers and policy makers.

A 2003 Education Commission of the States (ECS) Teaching Quality Research report entitled, *Eight Questions on Teacher Preparation: What Does the Research Say*, reviewed

previous research and identified areas of weakness in studies focusing on teacher education. Moreover, the report called for more research related to teacher preparation starting with undergraduate studies and continuing through the conclusion of teacher preparation. In addition, there have been very few studies focusing on the impact of articulation agreements and transfer specifically related to teacher preparation programs, and as of this writing, none found by this researcher focusing on a 5-year teacher preparation program.

A greater understanding of the impact state transfer policy and articulation agreements have on students may benefit the future development of transfer articulation at the state, university, and community college levels. Additionally, researchers in the field see a need for more studies related to community college transfers and native students. Flaga (2006) appealed for more comparative studies of community college transfers and native students in order to better understand the two groups. Roksa and Keith (2008) mentioned previous findings from articulation related studies have been varied and underscored that some studies focused on “individual-level” effects of articulation related policies have found no impact on the probability of a student transitioning to 4-year institutions (pp. 236-237).

Townsend and Wilson (2006a) detailed that many studies focus on student characteristics such as gender or race and then a specific performance attribute such as hours transferred from the community college in order to assess student outcomes such as time to degree attainment (p. 441). Roksa and Keith (2008) noted that research has been conducted on articulation agreements from the vantage of state participation but few actually inspect their effectiveness (p. 238). The authors suggested the “best test of the effect of articulation policy would be to examine a given set of outcomes before and after a policy is implemented” (p. 238). Their approach to examining articulation policy effectiveness was an observation of academic

outcomes post transfer rather than the more predominant method of exploring the likelihood of student transfer.

Community college and university faculty and administrators can certainly benefit from further research into the impact of articulation agreements and student outcomes. The state has a vested interest in ensuring student access, affordability, and coursework from previous institutions are properly credited and resources spent on college credit are not unnecessarily duplicated. Additionally, examining academic outcomes of community college transfer students can be helpful when assessing achievement, particularly in a highly visible and critical area of teacher preparation. Further expanding on the importance of studying student outcomes, SCHEV/VCCS (2010b) provided a number of key recommendations related to teacher preparation and transfer between 2 and 4-year institutions in Virginia. The report called on community colleges to have accurate student success data on those about to transfer to senior institutions and for both community colleges and senior institution articulation partners to “develop recommendations for program improvement based on the student success data” (SCHEV/VCCS, 2010b, p. 23).

On March 26, 2010, Virginia Governor Robert McDonnell signed *Executive Order Number Nine*, which established the Governor’s Commission on Higher Education Reform, Innovation and Investment. Key among the many identified priorities for the commission, the following excerpt from the Executive Order highlights the potential importance of the proposed study: “Increased collaboration among high schools, community colleges, four-year institutions, and private providers to reduce the time and cost of obtaining a college degree” in Virginia (Virginia Executive Order, 2010, p. 4).

Collaboration in the form of articulation between the community colleges and senior state institutions will certainly play a role in the calculus on how we educate our citizens and enhance degree attainment going forward. The findings of this study will hopefully provide additional guidance to policy makers and higher education faculty and administration on the impact of articulation agreements and pathways to degree attainment in the critical shortage area of teacher education. The preparation of highly qualified teachers where current demand in Virginia exceeds supply certainly has significant public policy ramifications. An opportunity is present for this study to potentially add to the existing knowledge base of articulation policy and transfer related to teacher preparation.

Delimitations

The study was delimited by the following:

1. One 5-year teacher preparation program at a senior institution in Virginia and the 23 community colleges comprising the VCCS.
2. The following variables related to student outcomes: (a) teacher preparation enrollment event date, (b) GPA at the time of admission to teacher preparation program, (c) Praxis I performance, (d) students' race, (e) GRE performance, (f) total community college credits earned, (g) cumulative earned hours in teacher preparation, (h) cumulative GPA in teacher preparation, (i) graduation, and (j) licensure.

Limitations

The study had limitations due to the data deriving from a single institution and the inability to therefore generalize the findings. In addition, the data collection and entry process involved different individuals over a period of time exceeding a decade that created potential for inconsistencies with data format conformity and accuracy of data. It was impossible to

determine the degree of awareness, or exposure to, the 2004-2005 VCU/VCCS-TEPA agreement by community college students and the impact it may or may not have had on their individual level decision-making process related to transferring to VCU.

Key Terms and Definitions

The following section will address key terms and definitions used in this study. In addition to the previous definition of transfer and articulation found in the introduction, Cohen and Brawer (1987) also submitted, “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” (p. 89). Another definition of articulation suggested by Cohen and Brawer (1996) described articulation as the movement of “students’ academic credits from one point to another” (p. 205). Anderson, Sun et al. (2006) state, “Specifically, articulation agreements serve to negotiate the requirements for students’ movement from institution to institution and support the transfer intent” (p. 263).

There are additional types of transfer and supplementary definitions that need to be detailed.

1. A *two-four transfer* or *vertical transfer* is the movement from a 2-year institution to a 4-year or senior institution.

2. A *two + two transfer* relates to a transfer from a 2-year institution to a 2-year institution.

3. A *three-one transfer* occurs when a student attends a 2-year institution for 3 years and then transfers into the 4-year institution for a final year. The student stays an additional year at the community college after earning the associates degree before transferring to the senior institution for a final year.

4. A *4-year-2-year* or *reverse transfer* details a movement by a student from a 4-year institution to a 2-year institution.

5. *Swirling* occurs where students enroll back and forth numerous times between 2-year and 4-year institutions. A student in these instances may attend multiple institutions or take credits simultaneously at different institutions before finally earning the baccalaureate.

6. *Associate degree* is a 2-year degree awarded by a community college.

7. *Associate of Arts* or *A.A.* is a degree awarded by a community college.

8. *Associate of Science* or *A.S.* is a degree awarded by a community college.

9. *Associate of Applied Science* or *A.A.S.* is a degree awarded by a community college.

The *A.A.S.* degree is a career specific terminal degree not intended for transfer to a senior institution.

10. *Teacher education/preparation programs* are state endorsed programs designed to prepare teachers in early, elementary, and secondary teaching areas.

11. *Native students* are students who enter the university as first-time freshmen.

12. *Full-time-equivalent enrollment* or *FTE* is utilized when measuring enrollments and equals one student who is enrolled full-time for an entire academic year—including summer—and is based on total credit hours (State Higher Education Executive Officers [SHEEO], 2009).

13. *Guaranteed admission agreement* or *GAA* is an agreement executed by the VCCS and a senior institution in Virginia covering general admission into the senior institution. These do not guarantee admission into specific programs (e.g., teacher preparation).

Summary

Chapter 1 has provided an overview of the study with details explaining the role of transfer policy and articulation in addition to the conceptual framework informing the study.

The research questions and hypotheses for the study were developed using Dougherty's state relative autonomy theory as a lens to view articulation agreements and studies found in the literature by Anderson, Alfonso et al. (2006), Anderson, Sun et al. (2006), Roksa and Keith (2008), Glass and Harrington (2002), and SCHEV (2010b) examining the effectiveness of articulation agreements and related student outcomes. The methodology has been outlined and the significance of the study, delimitations, and limitations has been detailed. Important definitions related to the proposed study have also been included. In the upcoming chapters, Chapter 2 will detail the literature review and Chapter 3 the research methodology employed for the study.

CHAPTER 2. LITERATURE REVIEW

The purpose of this chapter is to present a review of the literature relating to transfer policy in Virginia and articulation agreements associated with the teacher preparation program at Virginia Commonwealth University (VCU) and the 23 colleges comprising the Virginia Community College System. More specifically, the study will examine the influence of one articulation agreement on the enrollment of VCCS associate degree holders into the teacher preparation program at VCU. In addition, the study will observe and compare outcomes of native VCU students with students from the VCCS who were admitted into the teacher preparation program.

The issues related to student transfer and articulation certainly has implications on the national, state, and local stage. On the national front a number of federal agencies have been involved in the articulation process, and according to Cohen and Brawer (1996) federal entities such as the National Endowment for the Humanities and National Science Foundation have sponsored programs in the past that encouraged cooperation and articulation between community colleges and 4-year institutions. Referring to the rising attention in the early 1970s at the federal level on access and equality in higher education, Kintzer (1973) points out the Education Amendment Act of 1972 and the Report on Higher Education, 1971 (more commonly referred to as the Newman Report) as key factors (pp. 160-161).

Since community colleges and state colleges and universities are state, not federal institutions, most initiatives and policies related to articulation agreements have developed at the state level. Dougherty (1994) expands on state involvement in the history and ongoing development of the community college and points out that states are given the authority over education by virtue of the reserve clause of the U.S. Constitution (Dougherty, 1994, p. 145). In the early 20th century state legislation involving local community college formation appeared in 1907 in California, Illinois in 1937, Washington State in 1941, and New York in 1948 (p. 145). The development of the community college over the last 100 years coupled with Virginia transfer policy and teacher preparation articulation agreement development formed the backdrop for this study.

A review of literature was conducted using the following databases: WorldCat (via FirstSearch), Eric Index to Education Materials, Dissertation Abstracts Online, State Council of Higher Education for Virginia (SCHEV) website, the Virginia General Assembly Legislative Information System, and the VCCS website. The search terms used in various combinations were articulation agreements, policy, public policy, transfer policy, Virginia, Commonwealth of Virginia, community college, teacher preparation, and student outcomes. The WorldCat search returned 460 records when articulation agreements were searched: 54 records with articulation agreements and public policy entered, 135 records when articulation agreements and transfer policy were searched, 16 records when articulation agreements and Virginia and community colleges were entered, and 16 records under articulation agreements and teacher preparation.

The ERIC Index to Education Materials database returned 182 results using articulation agreements: 40 results under transfer policy; 7 results using articulation agreements, Virginia, and community colleges; 2 records using articulation agreements and teacher preparation; 1

result using articulation agreements and public policy; and 64 results using articulation agreements and policy.

Dissertations Abstracts Online database returned 8 results searching transfer policy and articulation agreements, 2 records searching articulation agreements and teacher preparation, 4 records searching articulation agreements and Virginia, 7 records searching Virginia and transfer policy, 4 records searching articulation agreements and Virginia, 2 results searching articulation agreements and teacher preparation, and 10 records searching teacher preparation and Virginia.

In addition, the SCHEV, VCCS, and Virginia General Assembly Legislative Information System websites were searched for reports, research, and legislation using keywords articulation agreements, transfer policy, and teacher preparation. National and regional databases and websites searched were the National Center for Educational Statistics, Education Commission of the States, American Federation of Teachers, National Institute for the Study of Transfer Students, Southern Association of Colleges and Schools, Public Policy Institute of California, and The National Articulation and Transfer Network.

This chapter includes the following main headings: The Community College in Virginia; State Level Transfer Policy; Student Tracking and Transfer Rate; Policy, Legislation, and Budgets; SCHEV and Transfer Policy; Articulation Agreements; VCU/VCCS Articulation Agreements; Studies Related to Student Transfer; The Future of Transfer; and Summary.

The Community College in Virginia

The Commonwealth of Virginia has a rich history of higher education dating back to the 17th century with the founding of the College of William and Mary in 1693. At present, according to the State Council for Higher Education in Virginia, there are 15 public 4-year institutions, 23 community colleges, 1 junior college, 70 private nonprofit schools, 49 private

for-profit schools, and 153 vocational schools operating in Virginia with annualized spending on higher education in excess of \$3 billion (SCHEV, 2010c). The principal parties responsible for higher education in Virginia include the Governor, General Assembly, Attorney General, Secretary of Education, Department of Education, VCCS, respective Board of Visitors, and SCHEV. Additional participants are college and university presidents, administration, and faculty.

With the appearance of the first community college in Joliet, Illinois in 1901, Virginia was a relatively late arrival on the community college scene. According to Bassett (1997), the concept of a community college system was discussed by the legislature as far back as the 1940's. The author further details this activity in the following:

However, the 1948 session of the Virginia General Assembly called for another study of higher education, and even though the study was never conducted, the commission did establish guidelines for it, including consideration of the possibility of establishing a statewide system of community colleges. (Bassett, 1997, p. 3)

In the early 1960s the Virginia General Assembly continued to play an active role in the movement toward creating a statewide community college system. More specifically, in 1962 the Virginia legislature created the Slaughter Commission which focused its attention on "vocational and technical education" in the state (Bassett, 1997, p. 4). The researcher further described in 1964 the Virginia Higher Education Study Commission was created by the legislature and its findings "recommended that every aspect of higher education in the state be expanded and diversified. The highest priority was given to the establishment of community colleges" (Bassett, 1997, p. 4).

With these important commission recommendations coupled with strong support by the recently elected Governor Mills Godwin, Jr., the VCCS was finally established through legislation passed in 1966 by the Virginia General Assembly (Bassett, 1997). Kintzer (1973) reveals that by 1972, Virginia had accomplished the goal of creating a community college in each region of the state (p. 64).

The Virginia Community College System is governed by the State Board for Community Colleges under the Code of Virginia § 23-215 and its members are appointed by the Governor. Responsibilities of Board and System, sets forth the legal authority and is detailed below:

The State Board for Community Colleges heretofore established by law is continued. The Board shall be a corporation under the style of ‘the State Board for Community Colleges.’ The State Board shall be responsible, through the exercise of the powers and performance of the duties set forth in this chapter, for the establishment, control, and administration of a statewide system of publicly supported comprehensive community colleges which shall be known as the Virginia Community College System. (SCHEV, 2010d)

The growth of the VCCS since its inception over 40 years ago has been notable. For example, in 2010 system-wide enrollment rapidly approached 340,000 students (VCCS, 2010). Additionally, as reported earlier, the geographical reach is significant with 23 community colleges spread over 40 campuses across the Commonwealth of Virginia.

State Level Transfer Policy

Since public policy was a key component of this study and numerous definitions of public policy exist in the literature, several versions will be put forth before moving further into state transfer policy. Birkland (2005) details how it is difficult to reach agreement on a clear-cut

definition of public policy; however, regardless the version, the impact of public policy is felt on a great number of people and interests (p. 18). As cited in Birkland (2005), Thomas Dye offers this rather simple account “Whatever governments choose to do or not to do,” and Clarke E. Cochran et al. submit “Public Policy is the outcome of the struggle in government over who gets what” (p. 18).

The policy implications related to higher education transfer policy are certainly abundant. One view of higher education policy analysis is provided by Gill and Saunders (1992) when they suggested, “Policy analysis in higher education requires an understanding of the issues, but, equally important, it requires an understanding of the higher education environment, including interrelationships of forces and structures within the environment” (p.15). The authors continued by detailing that higher education policy analysis is most often carried out by “a university administrator, a governing board member, or a legislator” (p. 19).

In the 1970s, Kintzer (1975) researched policy development at the state level and his thoughts relating to articulation and transfer were certainly prescient. More specifically, he detailed the following:

Policy development in the form of broad and flexible guidelines at the state level is necessary, however, if transfer problems are to be controlled and community needs are to be served. Articulation plans, state or institutional, which lack the breadth and flexibility to accommodate greatly increased numbers of nontraditional students now seeking transfer opportunities, are not likely to respond to individual needs or to the diversified requirements of institutions. (p. 3-4)

Virginia is one of 16 member states in the Southern Regional Education Board (SREB), a nonprofit organization that assists policymakers on issues related to education. Creech and Lord's (2007) report *Clearing Paths to College Degrees: Transfer Policies in SREB States*, examined the transfer policies and their effectiveness in the respective member states. The report points out that in member states there is a great deal of variance regarding both law and regulations pertaining to transfer. Select findings in the 2007 report related to transfer legislation and regulation in Virginia included the following:

- A coordinating board for higher education is responsible for disseminating rules for transfer “based on good practice and encourages institutions to implement policies voluntarily that comply with the guidelines” (Creech & Lord, 2007, p. 12).
- In Virginia, the coordinating board is charged with working with two-and four-year institutions “to establish statewide articulation agreements or to establish transfer procedures and standards for articulation” (Creech & Lord, 2007, p. 12).
- The development of a core transfer program is encouraged in Virginia “(including, but not limited to general education credits) from two-to four-year colleges” (Creech & Lord, 2007, p. 12).

The report also revealed that much progress has been made in the SREB states related to student transfer, but also highlights key areas of improvement. Important recommendations put forth in the report include enhanced monitoring of transfer students statewide and to follow the data in order to look for emerging patterns (Creech & Lord, 2007, p. 11).

Wellman (2002) also reviewed state policy related to community college transfer and described how important the community college transfer function is in the overall scheme of state policy due to its overall impact on state higher education. For example, she states “. . .

because its success (or failure) is central to many dimensions of state higher education performance, including access, equity, affordability, cost effectiveness, degree productivity, and quality” (Wellman, 2002, p. 3). The author further explained in her study that very modest research has been undertaken investigating the relationship between policy at the state level and the effectiveness of the community college and 4-year institution transfer (p. 15).

This was also supported by Anderson, Sun et al. (2006) when the researchers described an absence of research that focuses on state policy as it relates to effective transfer between 2 and 4-year institutions (p. 264). Due to the aforementioned issues, states have been forced to examine and adopt new policies related to transfer and according to Bender (1990) boards and legislatures in states have become more active in developing articulation related policy. Wellman (2002) also examined a 2001 study by Hungar and Lieberman that considered state transfer policy and its effect on baccalaureate attainment. She noted the researchers found little confirmation that state policies were targeted to the various barriers students encounter in baccalaureate attainment (p. 15).

Wellman (2002) illustrated the impact of cut-backs in state funding, together with increased enrollment demand, is driving states to exploit community colleges as an economical substitute to 4-year college growth. She went on to report that the ECS survey illustrated that significant gaps exist in state policy and it further called for states to develop broad policies that support the transfer function. Moreover, she goes on to say that states having a broad and incorporated strategy to policies involving the transfer function “seem to do better than those that focus primarily on transfer as an academic and institutional matter” (p. 45).

Wellman (2002) also described the powerful effect that admissions policies at 4-year institutions can have on community college enrollments. The author pointed out that a number

of states have experienced tightened admissions standards at 4-year institutions due to attempts at aligning their admissions requirements with graduation requirements at the high school level (Wellman, 2002, p. 5).

Student Tracking and Transfer Rate

Townsend (2002) identified areas in need of improvement regarding transfer and specifically cited the ability to track community college transfer students. Cohen and Brawer (1987) also exposed the difficulty in tracking community college transfer students, and discussed how gaps and reliability of transfer data at the national, state, and individual institution level exist. The proposed study will hopefully also provide additional insight into the tracking process and difficulties incurred—and perhaps shed light on possible solutions to enhance transfer tracking at the single institution level and specific academic program of interest.

Townsend (2002) also detailed an important need for state systems of higher education and private institutions to better track graduates according to type of associate degree conferred (p .20). Jacobs (2004) weighed in on the difficulty related to technology and databases in tracking students:

With the expanded use of technology, a great deal of progress has been made by colleges and universities in the use of computers for the collection, storage, and analysis of transfer student data and related course and program information. However, most databases at the state and system levels are not established in a way that facilitates student tracking from institution to institution or through programs that culminate in a baccalaureate degree. (p. 105)

In the area of tracking students enrolled in teacher preparation, Virginia implemented a data system called the Teacher Education and Licensure (TEAL) in 2003. The system was designed

to enable institutions to track students enrolled in teacher preparation programs through beginning, continuing, and exiting records (Vital, 2007, para. 4). The development of the TEAL system was grant funded and support for the program unfortunately ended upon conclusion of the grant.

Wellman (2002) provided recommendations regarding collecting transfer data and suggested that in order to improve policy related to transfer and its effectiveness data related to transfer performance is a requirement (p. 45). Welsh (2002) investigated the transfer function as related to best practices by state education information systems and their ability to monitor transfer students academic performance. His findings suggested that most states are not utilizing academic performance data collected on transfer students (p. 261).

Townsend (2002) commented on the procedures for counting transfer students and described “disagreements over who should be counted as transfer students and potential transfer students render it almost impossible to determine a commonly agreed national rate of students transferring from community colleges to the four-year sector” (p. 21). The author further illustrated the dilemma faced when calculating transfer rates by exhorting the various parties such as policymakers and administrators to make very obvious the rationale behind determining transfer rates (p. 21).

Helm and Cohen (2001) added more insight to the importance of the transfer rate issue in the following:

First, of course, valid data on the institution’s transfer rate should be maintained. These data should be collected consistently according to readily understandable definitions, and they should be presented straightforwardly so that the public is not confused by all sorts of permutations. (p. 102)

Wellman (2002) identified the Transfer Assembly Project lead by Arthur Cohen at the University of California at Los Angeles as one long running attempt to measure the transfer rate between community college and senior institutions. Cohen's project has accumulated data since 1989 using the following definition:

The transfer rate is the percentage of all first-time community college students who complete at least 12 units at that college and who take at least one class from a public in-state university within four years of leaving the community college. (Wellman, 2002, p. 11)

The author was careful to highlight the definition for transfer rate has remained constant for the Transfer Assembly Project over time, but the data collection and number of institutions involved in the project has changed, creating difficulty with making yearly comparisons (Wellman, 2002, p. 12). Another significant project related to transfer rates noted by Wellman was a study conducted in 2001 by Bradburn and Hurst where the researchers developed the following definition of transfer rate:

Transfer was defined as initial enrollment in a community college followed by subsequent enrollment at any four-year institution (public or private, in any state) within the five-year period. The initial pool of 'potential transfer' students included all students eligible for transfer, and the alternative definitions were increasingly restrictive. (Wellman, 2002, p. 13)

SCHEV has adopted the same transfer student definition used by the Integrated Postsecondary Education Data System as detailed in the SCHEV (2009) working paper entitled *Two-year to Four-year Transfer: Macro Trends*:

A student who transferred from one institution to another institution within the same student level group (undergraduate, graduate, and first professional), and reported as such in only the first term of enrollment. (p. 3)

As evidenced in the literature, transfer rate is certainly a much discussed and important concept in the community college yet there appears to be no universally accepted convention for defining transfer rate.

Policy, Legislation, and Budgets

Transfer policy has been an education policy item in Virginia since the 1960s. SCHEV was established in 1956 and is Virginia's coordinating entity for higher education and its purpose as detailed in § 23-9.3. of the Code of Virginia is "to promote the development of an educationally and economically sound, vigorous, progressive, and coordinated system of higher education" in the state (Virginia General Assembly Legislative Information System, 2010, para. a). One of the primary responsibilities of SCHEV is to make policy recommendations related to education to the Governor and state legislature.

SCHEV (2004) reported that Virginia supports policy that "seeks to improve collaboration among Virginia's institutions of higher education while promoting efficiency in the transfer process" (pp. 1-2). The hopeful intent of higher education policy in Virginia is to enhance cooperation among state institutions of higher learning and create a smooth educational process while increasing equal opportunities and access in higher education.

An example of earlier efforts to coordinate transfer policy and articulation, and change the way of thinking about this type of policy in Virginia, occurred in the 1970s. According to Allan (1974), Virginia experienced significant changes in 2-year to 4-year institution transfer, specifically in the recognition of the associate degree as a qualification for admission to senior

institutions. Moreover, the author points out this was not a guarantee of admission at a senior institution, but it did increase the dialogue and more importantly “it establishes the groundwork for changing attitudes” (Allan, 1974, p. 6).

Further legislative involvement with articulation occurred in 1976 when the General Assembly of Virginia passed *House Joint Resolution 17* which directed the Council of Higher Education for Virginia and the State Board for Community Colleges to collaborate and create articulation agreements with public and private colleges in Virginia (Sartori, 1977).

Over the last decade the state budgetary environment has been at the nexus of legislation and policy related to transfer and articulation in higher education. According to a report by Couturier (2006), Virginia was mired in a significant budget crisis in 2002, and notwithstanding the budgetary problems facing the state, the newly elected Governor Mark Warner kept higher education a major focal point of his agenda. The author shares one example of Warner’s influence and support of higher education occurred in fall 2002 when a \$900 million bond issue was passed to benefit higher education (p. 14).

Couturier (2006) also described how Virginia became a member of the National Collaborative for Postsecondary Education Policy in 2003, which supported member states in their study of performance and policies related to higher education. Among the many important findings related to the study included “a lack of collaboration and seamless transfer between higher education sectors” (p. 14).

SCHEV (2003) released *The Condition of Transfer in the Commonwealth* examining the status of student transfer in Virginia. The findings of the report made it very clear that transfer in Virginia is on the rise and becoming more complex. The report revealed, “The sheer numbers and varieties of the transfer ‘phenomena,’ compounded by nationwide deficiencies in tracking

data at the student and credit levels, are contributing to an increasingly unclear understanding—if not definition—of transfer” (p. x).

A key policy issue that emerged from the report highlighting budgetary problems follows:

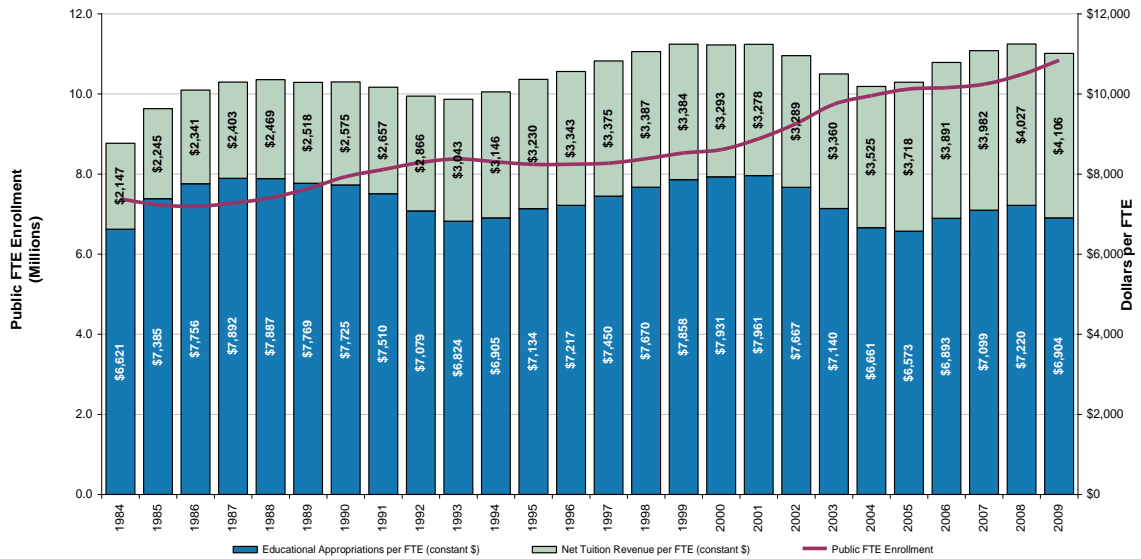
. . .the strengthening of transfer and articulation policies emerged as a key strategy in dealing with budget shortfalls, demands for greater efficiency in higher education, and pressure to provide access to at least 38,000 additional students by the end of the decade.

(p. iii)

Levin (2001) discussed government financial support and its linkage to student enrollments and the reality that any decrease in student enrollment levels will result in less government funding. Moreover, he observed how state appropriations have fallen behind enrollment growth. To further illustrate, the State Higher Education Executive Officers (SHEEO, 2009) published *State Higher Education Finance FY 2009* which described the commitment to higher education funding by the states. The data show state and local government investment in higher education had increased from \$25.7 billion in 1984 to \$88.7 billion in 2008 (SHEEO, 2009, p. 7). Importantly, it revealed appropriations per FTE dropped to “\$6,573 in 2005 (2009 dollars), a 25-year low in inflation-adjusted terms” (p. 8). The findings also highlighted revenues derived from tuition have normally increased when state and local appropriations lag growth in enrollments and inflation (p. 8). Tuition has also increased as a share of total revenues supporting education by “approximately 24.5 percent in 1984 to a high of 37.3 percent in 2009” (p. 8).

Figures 1 and 2 illustrate United States and Virginia appropriations from 1984-2009 for FTE enrollments, appropriations, and total revenues per FTE. The increase in FTE enrollments at public institutions is illustrated in both figures and reveals growth from 7.4 million in 1984 to

Public FTE Enrollment, Educational Appropriations and Total Educational Revenue per FTE, United States -- Fiscal 1984-2009

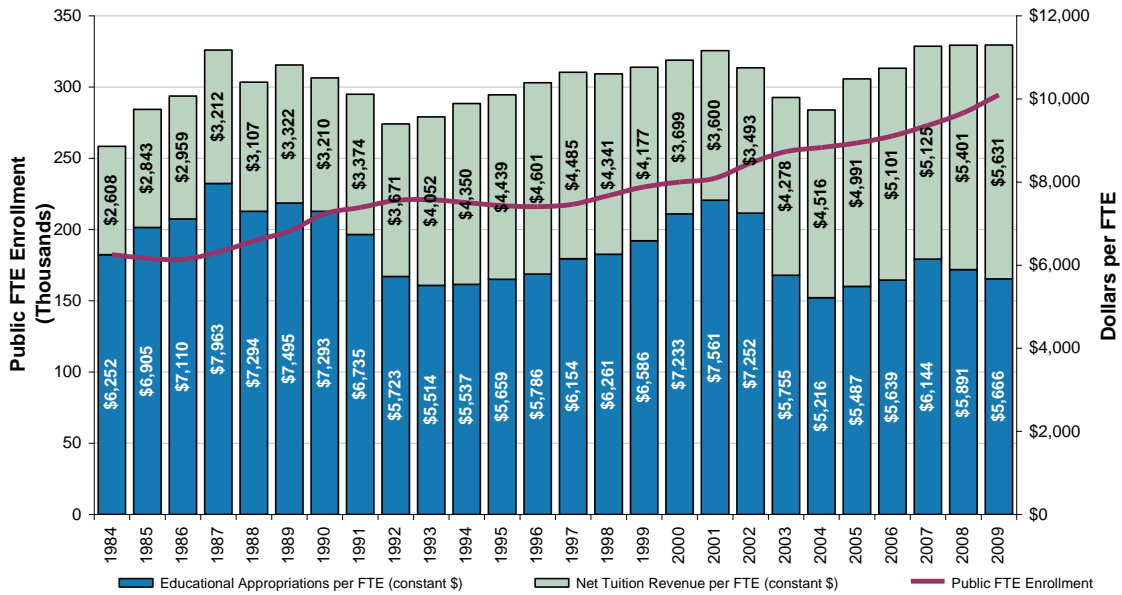


Note: Constant 2009 dollars adjusted by SHEEO Higher Education Cost Adjustment. 2009 Educational Appropriations include ARRA funds. (HECA) Source: SSDB

Figure 1. Public FTE enrollment, educational appropriations and total educational revenue per FTE, United States—Fiscal 1984-2009.

Source: State Higher Education Executive Officers (2009). *Supplemental SHEF Data Tables and Figures*, p. 1.

**Public FTE Enrollment, Educational Appropriations and Total Educational Revenue per FTE,
Virginia -- Fiscal 1984-2009**



Note: Constant 2009 dollars adjusted by SHEEO Higher Education Cost Adjustment. 2009 Educational Appropriations include ARRA funds. (HECA) **Source:** SSDB

Figure 2. Public FTE enrollment, educational appropriations and total educational revenue per FTE, Virginia—Fiscal 1984-2009.

Source: State Higher Education Executive Officers (2009). *Supplemental SHEF Data Tables and Figures*, p. 1.

10.8 million in 2009 (SHEEO, 2009, p. 8). Looking to the future, the report indicates ongoing enrollment demand in the United States while in turn state revenue streams have dropped dramatically with no full revenue recovery expected for years (p. 11).

Appropriations to higher education nationwide and at the state level in Virginia have certainly come under pressure over the course of the last decade. With an economic recession in 2001 and the most recent recession commencing in 2008, the U.S. economy has faced significant headwinds. As a consequence, higher education has experienced major declines in state funding.

A potential contributor to the increased pressure on higher education resources is evidenced in the VCCS *Dateline 2009* plan. One of seven identified strategic goals in the plan called for tripling the number of VCCS's graduates who transfer into 4-year institutions in Virginia (VCCS, 2010). As indicated in Figure 3, in accord with the aforementioned transfer goal, there has been a significant growth in graduate transfers from the VCCS. Along with this exceptional growth in transfers comes potentially more resource strain on 4-year institutions that must now accommodate the VCCS graduates.

Further evidence of the fiscal policy considerations related to transfer and articulation is included in a presentation entitled *Transfer in the Commonwealth: Initiatives to Enhance the Efficiency of Virginia's System of Higher Education* (Herndon, 2006). The author imparts important guidance for policymakers when he suggests, "In the absence of effective policy for transferring credits, taxpayers pay twice for courses that must be repeated" (p. 3).

SCHEV and Transfer Policy

The SCHEV (2004) *State Policy on College Transfer* policy paper discusses the critical role of the transfer function. The report explains transfer transcends the state level and asserts

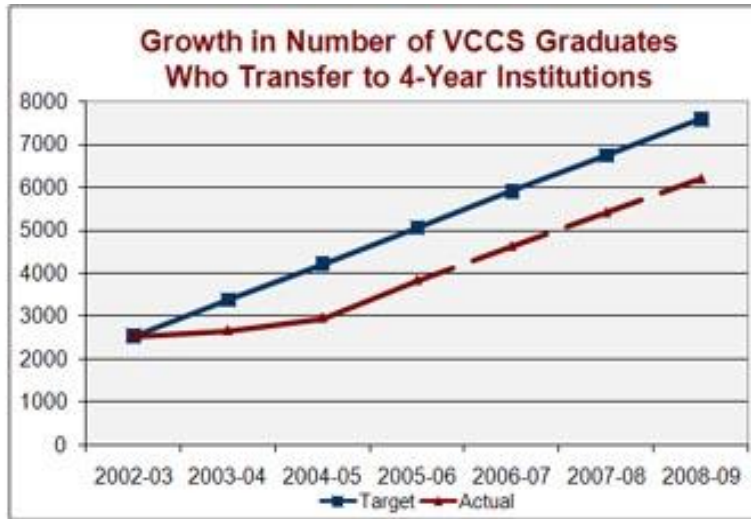


Figure 3. Growth in number of VCCS graduates who transfer to 4-year institutions.

Source: Virginia Community College System, *Dateline 2009*, p. 1.

“transfer is also a matter of national interest” (SCHEV, 2004, p. 1). Nationwide, every state has certainly been impacted by the recent economic downturn and subsequent state budgetary shortages. The Virginia policy on transfer is designed to improve the transfer process for students in the state. However, the report also reveals that despite the cooperation of many community colleges and universities in the state, the objective for a smooth and organized transfer process has not yet been totally realized (SCHEV, 2004, p. 1).

Additionally, the SCHEV (2004) *State Policy on College Transfer* paper detailed in a perfect scenario, “students should be able to move through Virginia’s public education system as if it were a continuum, rather than a system of distinct levels and separate stages” (p. 2). The policy paper further details the following topics pertinent to Virginia transfer policy (SCHEV, 2004, pp. 2-10):

- Admissions:

Addressing admissions, the paper discusses who possesses authority on admissions decisions, and other admissions related policies. Specifically, it requests that admissions policies should be “based upon sound information about performance of transfer students at the institution and should be consistent from year to year” (p. 2).

In addition, students who successfully complete degree transfer programs at a Virginia community college should be guaranteed the chance to transfer to a 4-year baccalaureate granting institution. The admission to a 4-year institution does not, however, “guarantee admission to particular degree-granting programs, majors, minors, or fields of concentration” (p. 3).

- Acceptance and Application of Credits:

The acceptance and application of credits section details the aim of state policy with regard to the recognition of coursework undertaken at the community colleges. Furthermore, the section details that articulation among community colleges and 4-year institutions is a “reciprocal process” (p. 3). The section also discusses the associate degree standards at the community college level and the ability for these students to be granted junior status after meeting the general education requirements of 4-year institutions.

- Communication and Information:

This section describes the importance of communication among community colleges and 4-year institutions and reinforces how important communication is to the transfer function in Virginia. Articulation agreements are also covered and strongly encourage programs to develop them. Lastly, this section encourages 4-year institutions to provide information regarding transfer in convenient and easily accessible format.

- Administrative Responsibility for Transfer:

Every institution should have a designated “chief transfer officer.” In addition, the report calls for the 4-year institutions to maintain a central database regarding transfer preferably located in the office of admissions. The report also suggests one designee representing each school at the 4-year institution be charged with the authority to approve course transferability.

- Services for Transfer Students:

The provision of various services by 4-year institutions to transfer students such as housing, course registration, and financial aid are detailed, and efforts to ensure transfer students have the same aforementioned opportunities as native students is also discussed.

- Transfer Student Responsibilities:

This section details how students planning to transfer are expected to ensure they are following the requirements of the 4-year institution. The main thrust of this section is the onus on transfer students to be informed and to not delay their intended academic plans.

- Minority Students and Transfer:

To be address underserved populations community colleges are encouraged to ensure minority students are being properly advised in order to better facilitate their pursuit of the baccalaureate degree.

- Tracking Transfer Students:

The final section in the policy paper asks that 4-year institutions be able to track the progress of community college transfers as they move through programs and use the data for improving the transfer process. Community colleges are requested to pay attention to academic performance by race. Lastly, 4-year institutions are also asked to track transfer student progress through the attainment of the baccalaureate by race.

Further transfer measures undertaken by Virginia in 2004 as cited by Herndon (2006) include the Commonwealth College Course Collaborative (CCCC) and House Bill 989 which both addressed the issue of course transferability and tools to facilitate the process. More specifically, the CCCC provides guidance to high school students with earning up to a semester's worth of college credit in advance. Among the directives contained in the 2004 House Bill 989 include § 23-9.14:2. State Transfer Module, which was instituted to identify the general education coursework taken at public 2-year institutions that would be transferrable to senior institutions.

In 2005, the Restructured Higher Education Financial and Administrative Operations Act passed in Virginia, which included mandated benchmarks related to transfer for 4-year institutions and the creation of standard articulation agreements (SCHEV, 2009). Moreover, according to the articulation related section of the Act, the restructuring's objective was to raise the quantity of students transitioning from enrollment through graduation and advance the number of conferred degrees (SCHEV, 2009, p. 3). The paper cited a 2007 report by the National Articulation and Transfer Network entitled *State Articulation and Transfer Policy* detailing there are now 40 states that have passed legislation or have instituted policies directed at improving the transfer function (SCHEV, 2009, p. 6).

Further legislative actions regarding transfer-related policy in Virginia are detailed in a SCHEV (n/d) document entitled *SCHEV Guidelines for Transfer, Articulation, and Dual and Guaranteed Admission in the Commonwealth*. The article identifies House Bill 57 and Senate Bill 538, which were passed in 2006 directing SCHEV to initiate work on the creation of agreements among 2-year and senior institutions related to articulation agreements and transfer (p. 1). An overview of select state policy and legislation with links to various reports and websites is provided by the National Articulation and Transfer Network (2007, p. 1) (see Appendix A).

In January 2009, *House Joint Resolution No. 678* was passed requesting SCHEV and the VCCS to commence a study on the shortage of classroom teachers in Virginia. Moreover, the aforementioned agencies have been directed to evaluate methods to attract more teacher candidates to the community college system in order to complete the first 2 years of teacher preparation. This new legislation should come as no surprise since community colleges have impacted the preparation of future teachers for many years. For example, in the state of Arizona,

Northern Arizona University has arrangements with community colleges known as 2+2 where students are concurrently enrolled at both institutions but undertake the first 2 years at the community college and the final 2 years at the senior institution (Lee-Bayha & Villegas, 2003).

The following excerpt is from a policy brief of the National Association of Community College Teacher Education Programs (2007):

In addition to offering the first two years of requirements for a baccalaureate degree, community colleges have added coordinated programs for transfer, new certificate and associate degree programs, and augmented support services, all of which have increased student access to, and completion of, teacher preparation programs. (para. 2)

Select findings of the SCHEV/VCCS (2010a) *HJR 678: Report on Teacher Shortages in the Commonwealth, with Focus on Enhancing the Transfer Pipeline from Virginia's Community Colleges* included the following key points (pp. 22-24):

- A call for increasing the number of new articulation agreements between VCCS institutions and teacher education programs at senior institutions.
- Increasing the recruitment of VCCS students by teacher education programs.
- The development of articulation agreements for teacher education programs should have data reporting requirements to assist in the tracking of VCCS transfer students success after their move to the senior institution.
- A recommendation for the development of a system-wide approach to recruiting under-represented students into teacher education programs.

To underscore the increased attention to transfer and articulation at the senior institution level, in fall 2008 a newly created transfer center opened at VCU. In an email correspondence regarding the center the provost detailed the following:

The Transfer Center is a vital component in our efforts to address the issues related to the proper transfer of outside credits into a new student's transcript. In the long run, however, the Transfer Center will play an integral role in soliciting and creating articulation agreements with numerous institutions, increasing the enrollment of transfer students by ensuring a positive experience, and providing needed relief in the area of transfer credit articulation for each of VCU's schools and colleges. (S. Gottfredson, personal communication, November, 2008)

Articulation Agreements

Articulation agreements in American higher education have been a topic of discussion in addition to experiencing a transformation for over 100 years. Articulation agreements were originally developed out of discussions between 2 and 4-year institutions and were generally narrowly focused (Anderson, Sun et al., 2006). In addition, the discussions, policies, and procedures related to articulation were typically controlled by the senior institution (Kintzer, 1973). Roksa and Keith (2008) offered that articulation has historically been undertaken voluntarily between community colleges and senior institutions.

The State of California has a long history of articulation related activity. Kintzer (1973) described how in 1907 the Caminetti Act established junior colleges in California with a requirement that curriculum-based courses be parallel to "lower-division programs of the University of California" (p. 12). The process of reviewing courses and credits for transfer on an individual basis continued in California until 1923 when a new policy commenced an official association between junior colleges and the university (Kintzer, 1973). California continued to chart an early course regarding articulation, holding a conference in the 1930s dealing with articulation issues (Allan, 1974).

Articulation agreements and transfer also spurred new research in the early 20th century. Anderson, Sun et al. (2006, p. 267) referred to early studies on articulation and transfer and pointed out research by Koos (1924) and the impact his work had on other transfer studies. An important development offered by Kintzer (1973) was, “By 1955, the principle of strict course parallelism had given way in most sections of the country to equivalency as the base for course acceptability” (p. 13). In the late 1950s, further gains were made with articulation in higher education. Bogart and Murphey (1985) detailed how the Joint Commission on Junior and Senior Colleges was created when the American Association of Collegiate Registrars and Admissions Officers joined an original group comprised of the Association of American Colleges and American Association of Junior Colleges (p. 18). Citing the work of (Kintzer, 1973), they further noted the group was involved with creating guidelines for transfer between junior and senior institutions (p. 18).

Knoell and Medsker (1965) undertook the first large study on articulation and transfer of junior college students who transferred to various senior institutions in 10 states in 1960. An important finding of their study indicated improved collaboration and articulation between institutions. The authors also noted that following the conclusion of their study in 1964, the interest level intensified in both informal articulation among colleges and legal directives for increased articulation in some states (p. 73).

However, according to Allan (1974), efforts to increase the discussion and activity related to articulation at the federal level in the 1960s and 1970s were not very robust, and “By the end of 1972, only twenty states had specific articulation plans, either formal, mandated, or voluntary” (p. 16). The State of Florida, through legislation, developed the first articulation policy on a statewide basis in 1971, thinking it would be a catalyst to increase the rate of transfer between 2-

year and 4-year institutions, and it was hoped, surpass other states student transfer rates (Anderson, Sun et al., 2006).

Ignash and Townsend (2001) detailed that since most states did not even have governing entities covering articulation agreements until the 1960s—individual institutions were the primary drivers of these agreements. However, the authors highlighted that in the 1980s, the process changed dramatically with involvement by state legislatures and education boards in crafting articulation agreements in a more structured and broad manner.

In Virginia, articulation has captured attention since the 1960s as revealed by Kintzer (1973) when he points out that in 1967, guidelines were published by an advisory committee addressing the transfer of college credits between 2-year and 4-year institutions (p. 64). Cohen and Brawer (1987) describe that during an approximate 15-year period from the mid-1960s until the early 1980s, the emphasis on transfer had lessened, and therefore, articulation agreements also became much less important. The researchers do go on to say that by the later half of the 1980s, a turnabout did occur and transfer and articulation once again became a priority (Cohen & Brawer, 1987, p. 156).

Ignash and Townsend (2001) also confirmed the increased state involvement in articulation and transfer in the 1980s and describe how it was a result of observation by the public and national leadership “that a better educated populace is a necessity for everyone” (p. 175). The literature provides abundant studies investigating articulation policies and transfer, however, they have generally been focused on policy and practices rather than effectiveness on transfer (Anderson, Sun et al., 2006, p. 268).

In light of the aforementioned, Anderson, Sun et al. (2006) examined the effectiveness of articulation agreements and the probability of student transfer. The authors posed the question of

whether statewide articulation agreements actually increase the probability of 2 to 4-year transfer (Anderson, Sun et al., 2006, p. 264). Using the Beginning Postsecondary Student Longitudinal Study of 1989-1994 (BPS89) as the data source, the researchers estimated the probability of transfer based on the impact of statewide articulation agreements. The study examined the probability of transfer for all community college students in addition to community college students intending to pursue a baccalaureate degree (p. 264). The researcher's findings revealed no increased probability of transfer for students enrolled in states with mandatory articulation agreements. Roksa and Keith (2008) put forth a different perspective on state articulation policies and suggested that articulation as detailed by the states are not really created to "facilitate transfer per se" (p. 239). The authors asserted articulation is really intended to protect credits during the transition from the 2-year to senior institution (p. 239).

Roksa (2006) examined the effects of statewide articulation on transfer and after employing logistic regression in the analysis, found a negative relationship between the implementation of statewide articulation agreements and the number of enrollments in senior institutions. The author's findings also suggest that in a high demand environment for semiprofessional jobs there is a connection "with lower relative enrollments in four-year institutions and greater enactment of state-wide articulation agreements" (p. 512). Earlier findings on a negative relationship between articulation and higher transfer rates in opposition to studies supporting a link between articulation policies and increased transfer rates are found in the literature (e.g., Banks 1994, Higgins and Katsinas, 1999). Roksa and Keith (2008) concluded there is insufficient proof linking articulation policies with student transition from community colleges to senior institutions (p. 239).

VCU/VCCS Articulation Agreements

VCU and the VCCS entered into a Guaranteed Admissions Agreement (GAA) in 1992 to address general transfer from the VCCS into the university. Over time subsequent revisions were made replacing the original version (see Appendix B). The GAA applies to the university as a whole rather than a specific program of study. The agreement provides guaranteed admission for students who graduate from a transfer oriented associate degree program in the VCCS if they meet designated criteria (e.g., minimum GPA).

There are also program specific articulation agreements between the VCCS and individual schools and colleges at VCU. In 2003, VCU entered into a guaranteed admission agreement with teacher education provisional admission (VCUGAA-TEPA) with the VCCS (see Appendix C). This agreement was designed to help facilitate the entry of students interested in teacher education in early elementary NK-6, middle education (6-8), and areas of special education. Additionally, an articulation agreement for students interested in early elementary education and secondary level teacher preparation was executed in fall 2007 between Virginia Commonwealth University and J. Sargeant Reynolds Community College. The original 2004 VCUGAA-TEPA was amended in 2007-2008 to reflect entry into a PK-6 teacher preparation program only. It was further updated in 2010 to reflect a name change to Pre-Teacher Education Curriculum and entry into early/elementary education, NK-6 (see Appendix D). However, for the purposes of this study, only the 2004-2005 VCUGAA-TEPA agreement was examined.

Studies Related to Student Transfer

A significant body of research is available related to transfer students from 2 and 4-year schools; however, research on the needs and requirements of teacher preparation students' lacks depth (Farbman, 2001). Kozeracki (2001) offered insight and suggestions for studying transfer

students from a research vantage. The author illustrated through the use of ERIC to retrieve documents and other pertinent academic journals, how research on transfer students is being undertaken—particularly from a methodological standpoint. Bers and Calhoun (2002) undertook an overview of literature on community colleges that revealed important observations and more specifically point out:

If those who research and write about community colleges and those who research and write within community colleges are to benefit from each other's work, both sides must take purposive steps to bridge the gap between their interests and concerns. (p. 10)

One early study on transfer students is cited by Townsend and Wilson when they detailed how Leonard Koos studied the academic performance of native and transfer students in 1920s:

Koos (1925) compared the academic performance of ninety-five two year college graduates who transferred to one of nineteen four-year institutions with seventy-five 'native' students, who began postsecondary study at the University of Minnesota, where Koos was a faculty member. (Townsend & Wilson, 2006b, p. 35)

Grubb (1991) examined national data to glean better insight into community college transfer patterns over two decades in the 1970s and 1980s. His findings revealed a decline in transfer rates that he suggested was created by numerous factors or, "death by a thousand cuts," as opposed to one major cause (p. 214). Select items cited included the growth of vocational programs, weakening of the associate degree as a pathway to 4-year transfer, and what the author refers to as "experimenters" or students who merely tried out the college experience and ultimately left (p. 214).

Adelman (1999) also utilized national databases in addition to various test scores and student transcripts in efforts to observe trends in achievement of the baccalaureate degree. Another report from the Office of Institutional Research and Academic Planning at Rutgers University entitled *Comparing the Academic Progress of Native and Transfer Students for the Fall 2002 Cohort* examined the academic performance of transfer students compared to native students and found that transfer students typically performed satisfactorily at the university. The report revealed transfer students' GPA performance was slightly below native students during their first semester at Rutgers but quickly recovered and equaled native GPA performance (Rutgers University, 2002, para. 1-2).

Anglin, Davis, and Mooradian (1993) conducted a study comparing the attrition and graduation rates of community college transfer and native students attending Cuyahoga Community College and Kent State University. An interesting point is made on the transfer issue by the authors when they describe, "Yet, what is known about transfer students—who they are, where they come from, their academic success and, most importantly, their success in attaining the baccalaureate degree—is still ambiguous" (p. 5).

Research undertaken by Ditchkoff, Laband, and Hanby (2003) examined the academic success of transfer and native students in a wildlife science undergraduate program at Auburn University. The study focused specifically on the academic performance of both transfer and native students enrolled exclusively in wildlife science courses. The study used GPA as the measure of academic performance of the 113 students undertaking the program.

The findings were in disagreement with the researchers beginning hypothesis because the GPA performance of the native students did not exceed the transfer students in the wildlife management coursework (Ditchkoff et al., 2003, p. 1024). The results also revealed that the

models utilized in the study “suggested that traditional measures of a student’s potential (e.g., GPA and standardized test scores) seemed to be the best predictors of how a student would perform in wildlife sciences at a 4-year institution” (p. 1025). The authors also noted their findings are closely aligned to other studies where prior academic achievement was used as a predictor of GPA at 4-year institutions. Moreover, they revealed that, “Among the most useful predictors of academic performance of transfer students has been GPA at their community college (Holahan and Kelly, 1978) and other studies (Nickels 1970, Wray and Leischuck, 1971) have reported similar results” (p.1025).

Townsend, Carr, and Scholes (2003) compared the academic performance of students in an undergraduate teacher education program at the University of Missouri-Columbia. Specifically, three groups of students (native students, community college transfers, and 4-year college transfers) were involved in the study. The findings revealed that in the two cohorts examined, the community college transfer students achieved similar academic success as the native students (p. 6). The researchers used ANOVA when examining the cumulative GPA of both populations and their findings on students’ GPA upon graduating from the program, did not reveal significant statistical differences (p .6).

Glass and Harrington (2002) conducted a study on the academic performance of community college transfer and native students at a large university in the North Carolina state system. The study focused primarily on GPA as a proxy of academic performance and the retention and graduation rates of community college and native students in the College of Arts and Science at the university. Their findings revealed that although community college transfers did appear to experience transfer shock during their first semester at the university, they appear to recover and performed equal to or even better than native students by the conclusion of their

second semester (Glass & Harrington, 2002, p. 427). Additionally, the study also found most transfers and natives did eventually graduate from the institution, although most graduated one or two semesters after the conclusion of their senior year (p.427).

A qualitative study performed by Kisker (2005) focused on transfer partnerships between a large research university and nine community colleges in its local area. The study consisted of semistructure interviews, employing a snowball technique, with various participants in the overall partnership. One point describing the scholarly work in the university and community college partnership area was, “The majority of the literature on transfer partnerships however, has focused on the most basic form of inter-institutional collaboration—articulation agreements—rather than active, collaborative partnerships between institutions” (p. 3). The paper did point out, however, that articulation agreements are important and the necessary foundation for transfer students obtaining the baccalaureate degree (p. 3).

Kisker (2005) also cited additional research that asserts to increase both transfer and the realization of the baccalaureate degree “educators must move beyond articulation agreements, and actively collaborate with complementary institutions (Case, 1999; Chatman, 2001; DiMaria, 1998)” (p. 3). His findings also identified areas of concern with these community college and 4-year university partnerships related to difficulties with the administration of goals and daily operations (Kisker, 2005, p. 22).

Flaga (2006) examined community college transfer students during their first year at a 4-year university. Thirty-five students were interviewed by the researcher during their second semester at the university with several notable findings involving communication related issues. More specifically, enhanced communication between the community college and senior institution was an area in need of improvement according to students (p. 10). Communication

between advisors from the community college and the 4-year university was also identified as being an important function in the transfer process (p. 10). Flaga (2006) suggested comparative studies examining native freshmen and community college transfer students and looking for relationships among the two would be beneficial to more fully understanding both populations (p. 17).

Wilson (2001) examined the teacher education collaboration between Piedmont Virginia Community College (PVCC) and the Curry School of Education at the University of Virginia. The author described the background and process of a 3-year cohort program designed to prepare PVCC students and facilitate their transfer into the Curry School of Education's 5-year teacher education program (para. 3).

In addition, the author recommended three key elements for the future success of community college transfer students moving into teacher preparation programs. First, advising should be a central focus of the university and teacher education program students are transferring into and it should begin the summer of transfer. Second, the cohort should be closely followed and monitored for support. And lastly, the Wilson (2001) recommends monitoring the progress of each student should be observed carefully during their entire program enrollment (para. 3).

Helm and Cohen (2001) provided insight to the area of leadership relating to the preparation of transfer students. Their study examined how community college presidents provide leadership in the transitioning of students to 4-year institutions and suggest, "The idea of transfer begins in the president's office. If a president is determined to modify the community's view of the college as an environment favorable to transfer, many things can be done" (p. 101).

In addition, the authors propose that since individual college agendas are set by the president of a community college, “. . .they can raise expectations for transfer” (Helm & Cohen, 2001, p. 99).

Another study examined the growing area of dual enrollment coursework between high schools, community colleges, and senior institutions. According to Andrews (2001):

Many high school students take dual enrollment courses, either at a community college or at their high schools. Dual enrollment courses are becoming increasingly popular because they provide an early and eased entry into college coursework, strengthen the high school curriculum, increase postsecondary access for students traditionally underrepresented in higher education, act as a recruitment tool for colleges, and accelerate students’ time to degree. (p. 38)

In Virginia the VCCS Teacher Preparation Task Force was involved in meetings and other discussions related to community college students and teacher preparation coursework in the community college system (Smith, 2000). Like most states, teacher preparation and licensure in Virginia is a focus area due to the need for highly qualified teachers and existing teacher shortages in high need subject areas (e.g., math, science, foreign languages).

To underscore the critical need for qualified teachers in Virginia the recently published SCHEV/VCCS (2010a) *HJR 687: Report on Teacher Shortages in the Commonwealth, with Focus on Enhancing the Transfer Pipeline from Virginia’s Community Colleges* provided glaring evidence. The report described how the lack of teacher education program completers in the state is exacerbating the teacher shortage problem and according to the VDOE “in 2006-2007 approximately 3,240 students completed teacher education programs in the state—an insufficient quantity to fulfill the statewide need” (SCHEV, 2010a, p.7).

The following was taken from the National Council for Accreditation of Teacher Education (2006) professional standards paper:

Throughout the 1980s and 1990s, the nation reached consensus that American education must be transformed to meet the needs of an emerging information society. Policymakers and the public have called for high standards for what children should know and be able to do. Attaining this goal will require teachers who meet professional standards. Policy analysts have noted that schools still operate on a 'factory' model geared to the industrial society. Today's society needs a workforce that can apply knowledge, reason analytically, and solve problems. At the same time, American society is becoming more diverse, with students in classrooms drawn from many cultures and ethnic groups. Preparing teachers to teach all students to meet society's demands for high performance has created a new agenda for educators and policymakers. (p. 2-3)

The national accrediting body for teacher education clearly articulates the standards and training of future teachers is not only a school education delivery issue, but also an essential public policy issue.

The Future of Transfer

The future direction and evolution of the transfer function will certainly play an important role in crafting the higher education landscape. Townsend and Wilson (2006b) looked into the future of the community college transfer mission and examined developments that affect both transfer rates and transfer mission. The researchers categorized developments as community college actions, institutional capacity actions, and national activities (p. 37). Many factors influence transfer and the authors highlight one current community college issue is the

incidence of students staying at the community college to complete a baccalaureate in teacher education instead of transferring to a 4-year university (Townsend & Wilson, 2006, p. 37).

For illustration, according to Lee-Bayha and Villegas (2003), two Florida community colleges, St. Petersburg College and Miami-Dade College, initiated new bachelor's degree teacher education programs in order to address teacher shortages. This could certainly have a significant impact on 4-year university teacher preparation programs should this trend take hold.

Furlong (2003) also weighed in on the possibilities related to community colleges offering the baccalaureate degree in teacher education and states, "Programs can be structured to take full advantage of existing A.A. and A.S. degree programs at community colleges, and fees can be held below the levels at state universities" (p. 65).

In early 2010, legislation was introduced in the Virginia General Assembly that proposed offering the baccalaureate degree at the community college level. HB1011 as proposed, "authorizes the Virginia Community College System to establish programs and grant baccalaureate degrees in nursing, education, applied technology, and other high needs areas to be determined by the Virginia Community College System" (Virginia General Assembly Legislative System, 2010). Although the bill was eventually tabled, it does provide insight for potential future legislation exploring baccalaureate activity at the community college level in Virginia.

Expanding further on Furlong's (2003) previous statement addressing lower costs at community colleges as compared to senior institutions, one example will be presented in this section. There are a number of academic areas where the University College at VCU mirrors the community college model, particularly the first year experience. The University College was created under the VCU 2020 Vision for Excellence in order to enhance the freshman experience

and strengthen freshmen student retention rates. Theme II, Initiative 1 of the plan outlines the founding of a “University College” that would serve the incoming undergraduate population first-year academic needs (VCU, 2010, pp. 13-16). Additionally, Initiative 2 called for a VCU Compact that was designed to strengthen student and faculty engagement, and build a strong foundation of learning for undergraduates (p. 16). The plan also called for assistance beyond an undergraduate’s first year by directing “and, as resources permit, through the sophomore year” (p. 15). The VCCS also emphasizes strong student support through offerings such as counseling, online tutoring, student success centers, and stress management.

Assistance with the completion of general education requirements, academic major exploration, extensive advising, tutoring, and writing resources are support provided by both the University College and VCCS. However, when examining the cost structure of the two entities, the average cost of tuition and fees in the VCCS are much lower than a 4-year public institution.

More recently, the tuition levels in Virginia have been adjusted based on the current budget deficits. Table 1 includes in-state tuition and fee levels for 4-year public universities for 2010-2011 compared to the community college system. The cost of attending a community college in Virginia is approximately one-third that of a public 4-year institution.

Table 1

Comparison of 2011 Tuition and Fees for Virginia Public Universities vs. Virginia Community Colleges

	4-year public universities (2010-2011)	Virginia Community College System (2010-2011)
Average in-state tuition and fees	\$8,816	\$3,225

Source: Virginia Community College System, (2010); SCHEV, (2010c).

Under the current grim state budgetary environment, the tuition disparity could certainly have future transfer implications and current legislation previously highlighted appears to be targeting this cost gap (e.g., HJR No. 678).

Townsend and Wilson (2006b) also detailed institutional issues such as the ability for 4-year universities to absorb community college transfers and points out that a number of states are being affected by capacity problems which impact the transfer process. The authors also refer to nationwide efforts by entities to bring about articulation agreements and transfer credits in order to increase baccalaureate achievement (p. 38).

Student behavior is another area of interest detailed by Townsend and Wilson (2006b) on how student behavior is influencing and causing course credit transferability to receive more attention. They offered the example of A.A.S. degree holders pursuing the baccalaureate degree at an increasing rate (p. 38). The authors also detailed positive and negative influences on the transfer mission going forward. For example, they suggested the area of community college course transfer is a positive indicator of the transfer mission, while alternatively, a potentially negative impact on the transfer mission is the increasing movement from community colleges to grant the baccalaureate degree themselves (p. 39). The authors stressed it is too early to know if all states will adopt this strategy and allow community colleges to award the baccalaureate, but added that at least 12 states had already moved in that direction or were considering the alternative (p. 39).

Community colleges offering the baccalaureate is an issue that should be of interest to 4-year institutions as any interruption in the pipeline of community college transfers could have a significant impact on university enrollments. In addition, under this scenario, the demand for

qualified faculty at both the community college and senior institution level could potentially create human capital competition between the two institutions.

Wellman (2002) made a number of recommendations regarding state policy and transfer and suggested that, “States that have a comprehensive, integrated approach to transfer policy seem to do better than those that focus primarily on transfer as an academic and institutional matter” (p. 45). Townsend (2002) revealed important future considerations regarding transfer which included transfer students holding associates of arts degrees (A.A) generally having lower grade point averages than students who transfer with associates in science (A.S.) or associate of applied science (A.A.S) degrees. However, the author identified A.A. degree holders as having a higher rate of graduation than the other degree holders, which could have significant policy ramifications regarding a link between the type of associate degree earned and graduation rates.

Locklear et al. (2009) noted the development of two-plus-two programs in efforts to enhance baccalaureate attainment. One option under the two-plus-two model is known as the “university center model” (p. 240). Under this structure, community college and senior institutions partner to offer teacher education programs with the entire 4-year program spent on the campus of the community college. Faculties from both institutions participate in delivering coursework and all expectations and requirements demanded of on-campus students are fulfilled by the community college students (p. 240). It was noted that research is fairly limited on the effectiveness of these arrangements but it certainly signals innovation for future consideration.

Summary

This chapter provided an overview of the literature regarding community colleges, state transfer policy, and articulation agreements in Virginia. The fast rise of the American community college during the 20th century necessitated a close examination and development of

policies and legislation by states to address a myriad of higher education issues. Policy issues such as student access to higher education and its affordability has certainly undergone much discussion and debate. As the first decade of the 21st century rapidly drew to a close, state transfer policy and articulation agreements continued to be central to discussions in higher education—more than ever now that severe budgetary pressures have become the centerpiece of state legislative considerations. With a new higher education agenda being put forth in Virginia by Governor Robert McDonnell in 2010, the strategy of increasing degree holders will certainly have some linkage to state transfer policy and articulation agreements. Critical teacher shortages are also a significant higher education policy item. This study examined the impact of state transfer policy and an articulation agreement between VCU and the VCCS in the area of teacher preparation using multiple variables. The following chapter outlines the methodology that was used in the proposed study.

CHAPTER 3. METHODOLOGY

This chapter will detail the research methods employed to conduct this study. The study engaged a quantitative, nonexperimental, cross-sectional research methodology using existing data related to a 5-year teacher preparation program at VCU. The data were compared and analyzed to gain insights into transfer policy and articulation in Virginia as related to the 2004-2005 Teacher Education Provision Agreement (TEPA) between VCU and the 23 community colleges in the state. Enrollments into the teacher preparation program by community college associate degree holders and community college nondegree holders were observed. Additionally, community college transfer (degree holders and nondegree holders) and native student outcomes were also examined.

The use of secondary data provided a number of advantages to the study including the savings of time and money. Time was saved because the data were readily available to the researcher and there was no cost associated with the collection of data unlike, for example, the creation and mailing of a survey instrument. Since the data were not collected by the researcher, and was therefore independent of the hypotheses, the chance of “observer bias” was significantly lessened (Mann, 2003, p. 58). Alternatively, since the secondary data collected was incomplete, sampling bias could occur (Mann, 2003, p. 58).

The study was nonexperimental because it contained variables that were not manipulated but examined “as they exist” (Belli, 2009, p. 60). More specifically, the independent

variable could not be manipulated because the change in the variable has already taken place (Hoy, 2010).

Central Research Questions

1. What is the impact of the 2004-2005 VCU/VCCS TEPA articulation agreement as measured by associate degree transfer enrollments into the teacher preparation program?
2. How do VCCS associate degree holders and nonassociate degree transfer students compare to native students as measured by select academic outcomes in the teacher preparation program including time spent in the program, cumulative GPA, Praxis I scores, GRE scores, cumulative hours earned, and licensure

Research Hypotheses

In order to speak to the research questions the following hypotheses were informed by the conceptual framework, previous relevant research, and state transfer policy as a basis. The Anderson, Alfonso et al. (2006) study viewed the increased usage of articulation agreements by states through the lens of Dougherty's (1994) state relative autonomy theory. Similarly, this study was also informed by the framework of state relative autonomy theory.

Glass and Harrington (2002) conducted a study on the academic performance of native and community college transfer students enrolled in the College of Arts and Sciences at North Carolina State University. Academic outcomes were examined for differences in GPAs, transfer shock, retention rates, and graduation rates between native students and community college transfers (p. 418). Roksa and Keith (2008) studied articulation agreements and their impact after students transferred to the senior institution. The study focused on post-transfer outcomes because the researchers suggest the efficacy of articulation is evaluated more appropriately by examining post-transfer outcomes versus a study focusing on the likelihood of articulation

increasing transfer rates (Roksa & Keith, 2008, p. 240). This study also attempted to address post-transfer student outcomes.

Additionally, the SCHEV (2004) *State Policy on College Transfer* paper identified key areas related to the role of the transfer function and improving the transfer process. Hypotheses were also informed by the paper. SCHEV (2010b) published the *Report on Transfers from Community Colleges at Virginia Public Institutions*, which provided data on the number of VCCS transfers who enrolled and graduated from all 4-year institutions during the period from 2002-03 to 2006-07 (p. 2). VCCS transfers who earned, and did not earn, the associate degree are included in the data tables of the report and cover the fall terms from 2002-06. Observations regarding enrollment and time to earning the baccalaureate also informed construction of the following hypotheses. Dependent and independent variables are italicized in each hypothesis.

H₀1. Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is UNAFFECTED by the *2004 VCU/VCCS TEPA articulation agreement*.

H_a. Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is AFFECTED by the *2004 VCU/VCCS TEPA articulation agreement*.

H₀2a. *Elapsed time spent* in the program after admission is UNAFFECTED by *total credits earned* at the community college.

H_a. *Elapsed time spent* in the program after admission is AFFECTED by *total credits earned* at the community college.

H₀2b. *Elapsed time spent* in the program is UNEFFECTED by race.

H_a. *Elapsed time spent* in the program is AFFECTED by race.

H₀3a. *Cumulative GPA* at graduation is UNAFFECTED by *credits earned* in the community college or earning an *associate degree*.

H_a. *Cumulative GPA* at graduation is AFFECTED by *credits earned* in the community college or earning an associate degree.

H₀3b. *Licensing* is UNAFFECTED by *credits earned* in the community college.

H_a. *Licensing* is AFFECTED by *credits earned* in the community college.

H₀4a. At the time of admission into teacher preparation, *graduation* likelihood is UNAFFECTED by *credits earned* at the community college, *GPA*, and *PRAXIS I* performance.

H_a. At the time of admission into teacher preparation, *graduation* likelihood is AFFECTED by *credits earned* at the community college, *GPA*, and *PRAXIS I* performance.

H₀4b. *Graduation* likelihood is UNAFFECTED by *earning a degree* from the community college.

H_a. *Graduation* likelihood is AFFECTED by *earning a degree* from the community college.

H₀4c. *Graduation* likelihood is UNAFFECTED by both *credits earned* and *earning a degree* at the community college.

H_a. *Graduation* likelihood is AFFECTED by both *credits earned* and *earning a degree* at the community college.

H₀4d. *Graduation* likelihood is UNAFFECTED by *GRE* performance.

H_a. *Graduation* likelihood is AFFECTED by *GRE* performance.

H₀5. *Cumulative hours earned* in the graduate portion of the degree program ARE LOWER for *associate degree* holders.

H_a. *Cumulative hours earned* in the graduate portion of the degree program ARE EITHER UNCHANGED or HIGHER for *associate degree* holders.

Procedures

The School of Education Student Services Center database contains 2,349 records of candidates who were admitted to the teacher preparation program from fall 1994 through fall 2009. The records containing a candidate's admission to the teacher preparation program, application to graduate study, graduation, and teacher licensure were compiled, cleaned, and merged to create one master data file. In order to identify previous community college coursework the data were further filtered according to courses taken at previous institutions. The data were carefully coded (e.g., community college associate degree holder versus native students) for use in the study and data analysis. The data was also checked and cleaned for errors or inconsistencies with coding the data.

The database also contains information related to a teacher preparation candidate's transition through the initial licensure program. Various criteria related to student outcomes such as GPA and standardized test scores are captured at different points over time. The data at these transition points also were compiled from the database using queries for admission to teacher preparation, admission to graduate study, graduation, and licensure. These records were augmented by graduation records retrieved from the university Banner record-keeping system, including the Banner legacy system for accessing historical student records.

The data of interest collected in this study originated from the initial teacher licensure Master of Teaching programs which include early/elementary, and secondary (6-12) programs in English, foreign languages, history/social studies, mathematics, sciences, and special education (programs in middle-education, foreign languages, and special education have been subsequently phased out). Students in the initial licensure programs must meet certain criteria to be admitted to the teacher preparation program including acceptable passing scores on either the Praxis I,

SAT, or ACT test. In addition, the candidate must have held a minimum 2.5 GPA, completed and passed an education foundations course, and signed an acknowledgement of expected dispositions. Applicants to the graduate component of the program must have earned a minimum 3.0 GPA on their last 60 credits, and a minimum combined 800 GRE score or minimum 386 MAT score. Candidates must have completed all required coursework for graduation from the program and passed the applicable state mandated tests (e.g., Praxis II content test) in order to be eligible for state teacher licensure.

A master dataset was constructed from queries in the student services center Access database, physical file records, and university data sources. Queries for admission to teacher preparation, admission to graduate school, graduation, and licensure were executed. Additionally, data from the university legacy reporting center containing historical student records and the university Banner reporting system containing graduation and transcript information were queried. Once the queries were executed, the various data files were examined for data uniformity, missing data, cleaned, and coded. The files were then merged to create one master file from which subsets of data were analyzed. Once the master file was created, all identifiers (e.g., name, social security number, v-number) was removed and no private, identifiable data will published.

Population and Sample

The population for the study are all initial licensure program candidates admitted into the teacher preparation program from fall 1994 through fall 2009. A cross-sectional sample was drawn using the specific criteria of community college credit exposure or no community college credit exposure in order to identify and create the appropriate master file and subsets of data to draw from for further testing.

Study Design

This study used a cross-sectional design which is one of the more common designs deployed in social science research and was selected because it is the most appropriate design for a number of reasons. A cross-sectional design allows a temporal element to be examined in the study. The data for this study were collected at one point in time, which allows for comparisons to be made between two groups of students—community college transfers (degree holders and nondegree holders) and native students.

The use of a cross-sectional study presented the best means to establish prevalence and potentially detect relationships (Mann, 2003, p. 57). Nachmias and Nachmias (2000) noted that statistical analysis is used to overcome “methodological limitations” inherent in cross-sectional designs that would not be experienced in experimental designs (p. 317)

Analysis of Data

After the raw data were gathered and master file created from the Access database, hard copy files, and the university Banner record-keeping system, the data analysis was run using STATA/IC 11 statistical software package. This statistical package allows various statistical tests to be run in order to produce the desired information based on the research questions and related hypotheses. It was expected that regression analysis (linear, multivariate, logit, and logistic) would primarily be employed for testing the stated hypotheses. The use of regression allows for an analysis of the nature of relationships between variables to be determined (Kahane, 2008; Nachmias and Nachmias, 2000).

The impact of the articulation agreements on enrollment in the teacher preparation program was analyzed by examining enrollments of associate degree holders in the teacher preparation program pre-and-post 2004-2005 VCU/VCCS Teacher Education Provision

Admission (TEPA) agreement. Student outcomes were examined in efforts to assess and compare the academic achievement of both VCCS transfers (degree holders and nondegree holders) and native students. It is important to note in nonexperimental studies the ability to determine causation does not exist. Since manipulation of the independent variable is not possible and this study was therefore nonexperimental, it was not appropriate to draw any cause and effect conclusions (Belli, 2009, p. 75).

Institutional Review Board

The required Institutional Review Board documentation was submitted under expedited review and the study was approved on July 1, 2011.

CHAPTER 4. ANALYSIS OF DATA

Introduction

The following chapter will present the analysis of data and related testing of 10 hypotheses for this study. The primary objective of the study and related research questions and hypotheses was to examine the impact of one articulation agreement on VCCS associate degree holder enrollments into a teacher preparation program—and to compare select academic outcomes of associate degree holders and native students. The research questions and related hypotheses were developed using Dougherty's (1994) state relative autonomy theory as a framework, relevant research related to transfer and articulation, and state transfer policy as articulated by SCHEV.

As detailed in the prior chapter, the data originates from a master file containing 2,349 records of students who were enrolled in the teacher preparation program from fall 1994 through fall 2009. In addition, select hard copies of student program applications and transcript information were reviewed and additional data were inputted to the master file. The master file records containing candidates' admission to the teacher preparation program; application to graduate study; graduation; and teacher licensure were compiled, cleaned, and merged to create one master data file from which appropriate samples were drawn for hypothesis testing. Once completed the master file contained 45 total variables. Descriptive statistics for the master file were also generated (see Appendix E). Master file variables are listed in Table 2.

Table 2

Master File Variables

Variable abbreviation	Variable definition
stu id	Student record ID
mat_score	Miller analogy test score
gre_verbal~e	Graduate record exam verbal score
gre_quanti~e	Graduate record exam quantitative score
gre_total_~e	Graduate record exam total score
transfer_c~_	Transfer credit y/n?
transfer_c~s	Transfer credit hours
graduation~e	Graduation
tpadmityn	Admitted to teacher preparation y/n?
admit_eme~r	Admission semester
tpadmitdt	Admit date to teacher preparation
month	Admit month to teacher preparation
day	Admit day to teacher preparation
year	Admit year to teacher preparation
tpsosc~1uni	Social science credit earned university-first course
tpsosc~2uni	Social science credit earned university-second course
tpeng1uni	English credit earned university-first course
tpeng2uni	English credit earned university-second course
tpmathuni	Math credit earned university
tpsciencec~i	Science lab credit earned university

Table 2 - continued

Variable abbreviation	Variable definition
tpedu300uni	Foundations course earned university
satscores	Sat score
tppraxisic~e	PRAXIS score
reading710~1	Reading 710 score
reading711~1	Reading 711 score
reading710~2	Reading 710 score-second attempt
reading 711~2	Reading 711 score-second attempt
writing720~1	Writing 720 score
writing721~1	Writing 721 score
writing720~2	Writing 720 score-second attempt
writing721~2	Writing 721 score-second attempt
math730sco~1	Math 730 score
math731sco~1	Math 731 score
math730sco~2	Math 730 score-second attempt
math731sco~2	Math 731 score-second attempt
merge 1	First data merge
term	Graduation term
concentrat~n	Concentration of study
cum_gpa	Cumulative grade point average
earned_hours	Total earned hours at graduation

Table 2 - continued

Variable abbreviation	Variable definition
entry_term	Entry term into university
merge2	Second data merge
year_licen~d	Year of teacher licensure
merge3	Third data merge

Research Questions and Related Hypotheses

There are two research questions and 10 related hypotheses presented in this study. Tests of all 10 hypotheses tests were conducted using a probability of Type I error of 5% ($p = .05$).

Research Question 1

What is the impact of the 2004-2005 VCU/VCCS TEPA articulation agreement as measured by associate degree transfer enrollments into the teacher preparation program?

Research studies previously discussed in the literature review examining the effectiveness of articulation agreements on student transfer present either a mixed (e.g., impact on number of community college credits transferred, but none on academic outcomes) or a negative relationship between the presence of the agreement and probability of transfer. The findings of Koenigbauer (2006) is an example suggesting the former and studies undertaken by Anderson, Sun et al. (2006), Roksa (2006), Banks (1994), Higgins and Katsinas (1999), and Roksa and Keith (2008) suggested either transfer likelihood is not increased by articulation agreements or insufficient evidence exists connecting articulation and student transfer. Goldhaber et al. (2008) did suggest some connection with strong state transfer policy and student transfer.

Research Question 1 is addressed in Hypothesis 1 by utilizing cross tabulation for frequency counts and then logistic regression in order to determine if there was any impact on the enrollment numbers of VCCS associate degree holders into the teacher preparation program post-2004 VCU/VCCS TEPA agreement. Cross tabulation, also referred to as contingency tables, are useful when examining relationships between two or more categorical variables (Torres-Reyna, 2007). The use of binomial logistic regression allows for the prediction "from a set of independent variables, the log odds that individuals will be in each of two categories of a dichotomous dependent variable" (Treiman, 2009, p. 302).

There were 417 observations in the sample and the results of the cross tabulation analysis indicate 97 out of 126 VCCS associate degrees holders were enrolled into the teacher preparation program post-2004 articulation agreement. This represents 31.4% of the sample as opposed to 26.85% prior to 2004. Binomial logistic regression using associate degree holder (deg) and event date (eventdt) was then run indicating the event date (eventdt) has no effect ($z = 0.88$, $p = .377$) on enrollment likelihood. Although the number of associate degree holders tripled post-2004 agreement, the underlying population essentially tripled as well. The probability of making a Type I error (falsely rejecting the null hypothesis) is 37.7%, a level much higher than the stipulated maximum of 5%.

H₀1: Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is UNAFFECTED by the 2004 VCU/VCCS TEPA articulation agreement.

H_a: Enrollment likelihood of VCCS *associate degree holders* into the teacher preparation program is AFFECTED by the 2004 VCU/VCCS TEPA articulation agreement.

Hypothesis 1 is not supported, with the articulation agreement event date (eventdt) not statistically significant ($p = .377$). The null hypothesis (H_0) is therefore, not rejected. Cross tabulation and logistic regression statistics are depicted in Tables 3 and 4.

Research Question 2

How do VCCS associate degree holders and nonassociate degree transfer students compare to native students as measured by select academic outcomes in the teacher preparation program including time spent in the program, cumulative GPA, Praxis I scores, GRE scores, cumulative hours earned, and licensure?

Table 3

Cross Tabulation - Hypothesis 1

deg	eventdt		Total
	0	1	
0	79	212	291
1	29	97	126
Total	108	309	417

Table 4

*Logistic Regression - Hypothesis 1**

deg	Odds ratio	Std. error	z	P > z
eventdt	1.246	0.311	0.88	0.377

*Observations (n = 417).

The literature reviewed in Chapter 2 specific to post-transfer academic outcomes revealed most empirical studies primarily using GPA as a proxy for performance. The research of Ditchkoff et al. (2003), Townsend et al. (2003), Glass and Harrington (2002), for example, all utilized GPA performance in their studies. Roksa and Keith (2008) put forth that post-transfer outcomes should be the focus on studies examining articulation effectiveness rather than the likelihood of transfer. A study by Berger and Malaney (2003) focused on the effects of gender and race on transfer success.

The forthcoming hypotheses (2a, b, 3a, 3b, 4a, 4b, 4c, 4d, and 5) will address this research question and the related academic outcomes. Ordinary least squares regression (OLS), logit, and logistic regression were used to test the hypotheses. OLS regression allows for the estimation of coefficients that are selected in which the sum of squared residuals are minimized (Kahane, 2008, p. 217).

Hypothesis 2a tested for time community college transfers spend in the program and if total credits earned at the community college have any effect on elapsed time spent. There were 324 observations in the model and OLS regression was run with the dependent variable created for elapsed time spent (elapsed) and independent variable total community college credits earned (total_cc). The results of the model indicate a positive coefficient predicting elapsed time spent (elapsed) to increase by 5.312 days when total community college credits (total_cc_credits_earned) increase by one credit.

H₀2a: *Elapsed time spent* in the program after admission is UNAFFECTED by *total credits* earned at the community college.

H_a: *Elapsed time spent* in the program after admission is AFFECTED by *total credits* earned at the community college.

Table 5 depicts the Ordinary Least Squares Regression for Hypothesis 2a.

Table 5

*Ordinary Least Squares Regression - Hypothesis 2a**

Elapsed	Coef.	Std. error	t	P > t
total_cc_credits_earned	5.312	1.992	2.67	0.01

*Observations (n = 324).

Hypothesis 2a is supported with the independent variable total community college credits (total_cc_credits_earned) being statistically significant ($p = 0.01$). The null hypothesis (H_0) is therefore rejected in favor of the alternative hypothesis (H_a).

Hypothesis 2b tested for elapsed time (elapsed) community college transfers spend in the program and if total community college credits earned (total_cc_credits_earned) or race (white/nonwhite) has any effect on elapsed time spent in the program. There were 217 observations in the model and the dependent time variable for elapsed time (elapsed) was regressed on the continuous independent variable total community college credits earned (total_cc_credits_earned) and independent variables created for race (white) and not white (nonwhite). The results of the model indicated there is no relationship with race ($p = 0.39$). Only total community college credits earned (total_cc_credits_earned) has an impact (5.994, $p = 0.01$) on elapsed time spent.

H_0 2b: *Elapsed time spent* in the program is UNAFFECTED by race.

H_a : *Elapsed time spent* in the program is AFFECTED by race.

Tables 6 and 7 illustrate the Ordinary Least Square Regressions for Hypothesis 2b.

Table 6

*Ordinary Least Squares Regression-Hypothesis 2b. (White)**

Elapsed	Coef.	Std. error	t	P > t
total_cc_credits_earned	5.994	2.249	2.66	0.01
White	-147.233	171.994	-0.86	0.39

Note. Observations (n = 217).

Table 7

*Ordinary Least Squares Regression-Hypothesis 2b. (Nonwhite)**

Elapsed	Coef.	Std. error	t	P > t
total_cc_credits_earned	5.994	2.249	2.66	0.01
White	147.233	103.758	0.86	0.39

*Observations (n = 217).

Hypothesis 2b is not supported with the independent variable for total community college credits earned (total_cc_credits_earned) statistically significant ($p = 0.01$) and independent variables created for race (white) not statistically significant ($p = .39$) and (nonwhite) not statistically significant ($p = .39$). The null hypothesis (H_0) is therefore not rejected.

Hypothesis 3a tested whether total credits earned in the community college (total_cc_credits_earned) or earning an associate degree (deg) affected cumulative GPA at graduation (cum_gpa). There were 186 observations in the model and the dependent variable cumulative GPA (cum_gpa) was regressed on the independent variables total community college

credits earned (total_cc_credits_earned) and associate degree (deg). The model results indicated cumulative GPA was no different under either treatment.

H₀3a: *Cumulative GPA at graduation is UNAFFECTED by credits earned in the community college or earning an associate degree.*

H_a: *Cumulative GPA at graduation is AFFECTED by credits earned in the community college or earning an associate degree.*

Table 8 depicts the Ordinary Least Squares Regression for Hypothesis 3a.

Table 8

*Ordinary Least Squares Regression-Hypothesis 3a**

cum_gpa	Coef.	Std. error	t	P > t
total_cc_credits_earned	-0.001	0.002	-0.38	0.705
deg	-0.042	0.078	0.54	0.59

*Observations (n = 186).

Hypothesis 3a is not supported with the independent variable total community college credits earned (total_cc_credits_earned) not statistically significant (p = .705) and the independent variable deg (associate degree holder) not statistically significant (p = .59). The null hypothesis (H₀) is therefore not rejected.

Hypothesis 3b tested for the likelihood of teacher licensing (y) being affected by total community college credits earned (total_cc_credits_earned). There were 423 observations in the model and logistic regression was run with the dichotomous dependent variable licensed (y) and the continuous independent variable total community college credits earned (total_cc_credits_earned). The results of the model indicate licensing likelihood is positively

affected by the total community college credits earned. In the model for every 1-unit increase in total community college credits earned (total_cc_credits_earned), the log odds of licensing increases by 1.010. This result suggests that the likelihood of licensing increases 1% for each additional community college credit earned.

H₀3b: *Licensing* is UNAFFECTED by *credits earned* in the community college.

H_a: *Licensing* is AFFECTED by *credits earned* in the community college.

Table 9 represents the Logistic Regression for Hypothesis 3b.

Table 9

*Logistic Regression - Hypothesis 3b**

y	Odds ratio	Std. error	z	P > z
total_cc_credits_earned	1.010	0.005	2.12	0.03

*Observations (n = 423)

Hypothesis 3b is supported with the independent variable total community college credits earned (total_cc_credits_earned) statistically significant (p = .03). The null hypothesis (H₀) is therefore rejected in favor of the alternative hypothesis (H_a).

Hypothesis 4a tested for graduation (graduated) likelihood being affected by total credits earned at the community college (total_cc_credits_earned), GPA (tpgpa), and Praxis I performance (tppraxiscompositescore). There were 278 observations in the model and logistic regression was run using the dichotomous dependent variable graduation (graduated) and independent variables total credits earned at the community college (total_cc_credits_earned), GPA (tpgpa), and Praxis I performance (tppraxiscompositescore). The results of the model

indicate the graduation likelihood is unaffected by total community college credits earned, GPA, and Praxis I performance.

H₀4a: At the time of admission into teacher preparation *graduation* likelihood is UNAFFECTED by *credits earned* at the community college, *GPA*, and *Praxis I* performance.

H_a: At the time of admission into teacher preparation *graduation* likelihood is AFFECTED by *credits earned* at the community college, *GPA*, and *Praxis I* performance.

The logistic regression of Hypothesis 4a is shown in Table 10.

Table 10

*Logistic Regression - Hypothesis 4a**

graduated	Odds ratio	Std. error	z	P > z
total_cc_credits_earned	1.004	0.005	0.76	0.45
tpgpa	1.328	0.366	1.03	0.30
tppraxiscompositescore	0.995	0.006	-0.78	0.44

*Observations (n = 278).

Hypothesis 4a is not supported with the independent variable total community college credits earned (total_cc_credits_earned) not significant (p = .45), the independent variable teacher preparation gpa (tpgpa) not significant (p = .30), and the independent variable teacher preparation praxis composite score (tppraxiscompositescore) not significant (p = .44). The null hypothesis (H₀) is therefore not rejected.

Hypothesis 4b tested for graduation (graduated) likelihood being affected by earning a degree from the community college (deg). There were 417 observations in the model and logistic regression was run using the dichotomous dependent variable for graduation (graduated)

and the dichotomous independent variable earning an associate degree (deg). The results of the model indicate graduation likelihood is positively affected by earning the associate degree (1.89, $p = 0.00$). Earning an associate degree almost doubles the odds of graduating from the teacher preparation program.

H₀4b: Graduation likelihood is UNAFFECTED by *earning a degree* from the community college.

H_a: Graduation likelihood is AFFECTED by *earning a degree* from the community college.

Table 11 shows the logistic regression of Hypothesis 4b.

Table 11

*Logistic Regression - Hypothesis 4b**

graduated	Odds ratio	Std. error	z	P > z
deg	1.893	0.411	2.94	0.00

*Observations (n = 417)

Hypothesis 4b is supported with the independent variable for associate degree holders (deg) statistically significant ($p = 0.00$). The null hypothesis (H_0) is therefore rejected in favor of the alternative hypothesis (H_a).

Hypothesis 4c tested for graduation (graduated) likelihood being affected by both total credits earned at the community college (total_cc_credits_earned) and earning an associate degree (deg). There were 417 observations in the model and logistic regression was run using the dichotomous dependent variable for graduation from the program (graduated) and the continuous independent variable total community college credits earned (total_cc_credits_earned) and dichotomous independent variable earning an associate degree

(deg). The results of the model indicate that earning only an associate degree (deg) effects graduation likelihood. Earning the associate degree (deg) almost doubles the odds of graduating from the program.

H₀4c: *Graduation* likelihood is UNAFFECTED by both *credits earned* and *earning a degree* at the community college.

H_a: *Graduation* likelihood is AFFECTED by both *credits earned* and *earning a degree* at the community college.

The results of logistic regression of Hypothesis 4c are shown in Table 12.

Table 12

*Logistic Regression - Hypothesis 4c**

graduated	Odds ratio	Std. error	z	P > z
total_cc_credits earned	1.001	0.006	0.11	0.91
deg	1.857	0.519	2.22	0.03

*Observations (n = 417).

Hypothesis 4c is not supported with the independent variable total community college credits earned (total_cc_credits_earned) not statistically significant (p = .91) and the dichotomous independent variable associate degree holder (deg) statistically significant (p = .03). The null hypothesis (H₀) is therefore not rejected.

Hypothesis 4d tested for graduation likelihood (graduated) being affected by GRE performance (stuprggre). There were 403 observations in the model and logistic regression was run using the dichotomous dependent variable for graduation from the program (graduated) and

the independent variable for GRE score (stuprggre). The results of the model indicate GRE performance has no effect on graduation likelihood.

H₀4d: *Graduation* likelihood is UNAFFECTED by *GRE* performance.

H_a: *Graduation* likelihood is AFFECTED by *GRE* performance.

Table 13 depicts the logistic regression of Hypothesis 4d.

Table 13

*Logistic Regression - Hypothesis 4d**

graduated	Odds ratio	Std. error	z	P > z
stuprggre	1.011	0.015	0.73	0.47

*Observations (n = 403)

Hypothesis 4d is not supported with the independent variable student program graduate record examination score (stuprggre) not statistically significant ($p = .47$). The null hypothesis (H_0) is therefore not rejected.

Hypothesis 5 tested if cumulative earned hours (cum_ern) decline for students who hold an associate degree (deg). There were 223 observations in the model and OLS regression was run with the continuous dependent variable for cumulative earned hours (cum_ern) and dichotomous independent variable for holding an associate degree (deg). The results of the model indicate cumulative earned hours are lower for associate degree holders. Thus, an associate degree holder could expect to earn 1.56 less cumulative hours in the program.

H₀5: *Cumulative hours earned* in the graduate portion of the degree program ARE LOWER for *associate degree* holders.

H_a: *Cumulative hours earned* in the graduate portion of the degree program ARE EITHER UNCHANGED or HIGHER for *associate degree* holders.

The results of ordinary least square regression on Hypothesis 5 can be seen in Table 14.

Table 14

*Ordinary Least Squares Regression - Hypothesis 5**

cum-ern	Coef.	Std. error	t	P > t
deg	-1.556	0.634	-2.46	0.02

*Observations (n = 223).

Hypothesis 5 is not supported with the dichotomous independent variable associate degree holder (deg) statistically significant ($p = .02$) in a negative direction. The null hypothesis (H_0) is therefore not rejected.

Summary

Chapter 4 presented the results of the data analysis including tests on 10 hypotheses. The research questions and hypotheses as previously outlined in Chapters 1 and 3 were informed by Dougherty's (1994) state relative autonomy theory as a conceptual framework, relevant research related to transfer and articulation, and state transfer policy as articulated by SCHEV. Results of the hypotheses show three of 10 hypotheses were supported (Hypotheses 2a, 3b, and 4b) and 7 were not (Hypotheses 1, 2b, 3a, 4a, 4c, 4d, 5).

Chapter 5 will present the findings of the data analysis conducted in Chapter 4, conclusions related to the findings, and lastly, recommendations for further research based upon the study

CHAPTER 5. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The purpose of this study was to examine the impact of one articulation agreement and its relationship to enrollments and select academic outcomes of VCCS transfer and native VCU students in the 5-year teacher preparation program. This chapter will provide a summary of the study, findings of the data analysis, conclusions and recommendations, future research, and conclusion.

Summary of the Study

Transfer articulation is an important policy issue in Virginia and with economic strains on federal and state budgets coupled with constant pressure on governors, legislative bodies, and other actors to provide access and affordability in higher education, an opportunity presented itself to investigate state transfer policy and articulation agreements designed to facilitate student transfer. Increased articulation activity has occurred in Virginia over the last decade and robust activity at VCU related to teacher preparation has resulted in the creation of four distinct articulation agreements between 2004 and 2010. One articulation agreement created for the 5-year teacher preparation program (2004 VCU/VCCS TEPA) is the specific agreement examined in this study. Data for the study were compiled from existing databases related to student admission and academic progress during the teacher preparation program through graduation and licensure

A comprehensive review of literature was undertaken providing a history of the community college in Virginia, state level transfer policy, student tracking and transfer rate, policy, legislation and budgets, VCU/VCCS articulation agreements, studies related to student transfer, and the future of transfer. As the literature revealed, state transfer policy and articulation agreements continue to be central to discussions in higher education—more now than ever since severe budgetary pressures have become the centerpiece of state legislative considerations. With Governor Robert McDonnell putting forth a new higher education agenda in 2010, the strategy of increasing degree holders will certainly have some linkage to state transfer policy and articulation agreements. Teacher shortages in several disciplines are also a major issue facing Virginia and the nation and increased articulation activity at the school level related to the teacher preparation program was also a focal point in this study.

The population from which the samples were drawn consisted of all initial licensure program candidates admitted into the teacher preparation program from fall 1994 through fall 2009. A cross-sectional sample was then drawn using the criteria of community college credit exposure or no community college credit exposure in order to further filter the data and facilitate the creation of a comprehensive master file from which relevant subsets of data were drawn for hypotheses testing. The following two central research questions and 10 related hypotheses were explored:

Research Question 1: What is the impact of the 2004-2005 VCU/VCCS TEPA articulation agreement as measured by associate degree transfer enrollments into the teacher preparation program?

Research Question 2: How do VCCS associate degree holders and nonassociate degree transfer students compare to native students as measured by select academic outcomes in the

teacher preparation program including time spent in the program, cumulative GPA, Praxis I scores, GRE scores, cumulative hours earned, and licensure?

Findings

A review of the findings of the hypotheses testing will be presented in this section. The results of hypotheses supported are found in Table 15 and not supported, in Table 16.

The findings of the model developed for the hypotheses test related to Research Question 1 indicate the presence of the 2004 VCU/VCCS TEPA agreement is not statistically significant and has no effect on enrollment likelihood. This suggests the 2004 VCU/VCCS TEPA articulation agreement examined in this study had no impact on increasing enrollments of associate degree holders into the teacher preparation program.

The findings of the models developed for the hypotheses tests addressing Research Question 2 revealed some consistency related to the variable associate degree holder statistically significant in 3 out of 4 models (4b, 4c, 5) and total community college credits earned statistically significant in 3 out of 6 models (2a, 2b, 3b).

Notwithstanding the results of Hypothesis 1 suggesting the articulation agreement examined has no impact on associate degree holder enrollments into the teacher preparation program, earning the associate degree does have significant impact on student outcomes. Earning the associate degree almost doubles the odds of graduating from the teacher preparation program. When regressed with total community college credits earned only earning the associate degree affects graduation likelihood, again, almost doubling the odds. Lastly, an associate degree holder could expect to earn 1.56 less cumulative hours in the teacher preparation program suggesting time to degree for associate degree holders is not a negative factor in their pathway to degree.

Table 15

Hypotheses Supported

Hypothesis	Findings
Hypothesis 2a	<i>Elapsed time spent</i> in the program after admission is affected <i>total credits earned</i> at the community college.
Hypothesis 3b	<i>Licensing</i> is affected by <i>credits earned</i> in the community college.
Hypothesis 4b	<i>Graduation likelihood</i> is affected by <i>earning a degree</i> from the community college.

Table 16

Hypothesis Not Supported

Hypothesis	Findings
Hypothesis 1	Enrollment likelihood of VCCS <i>associate degree holders</i> into the teacher preparation program is affected by the 2004 VCU/VCCS TEPA articulation agreement.
Hypothesis 2b	<i>Elapsed time spent</i> in the program is affected by <i>race</i> .
Hypothesis 3a	<i>Cumulative GPA</i> at graduation is affected by <i>credits earned</i> in the in the community college or earning an <i>associate degree</i> .
Hypothesis 4a	At the time of admission into teacher preparation, <i>graduation likelihood</i> is affected by <i>credits earned</i> at the community college, <i>GPA</i> , and <i>Praxis I</i> performance.
Hypothesis 4c	<i>Graduation likelihood</i> is affected by both <i>credits earned</i> and <i>earning a degree</i> at the community college.
Hypothesis 4d	<i>Graduation likelihood</i> is affected by <i>GRE</i> performance.
Hypothesis 5	<i>Cumulative hours earned</i> in the graduate portion of the degree program are either unchanged or higher for <i>associate degree holders</i> .

Another interesting finding is that race has no relationship with elapsed time spent in the program when both were individually regressed with total community college credits earned which was significant in the model. Neither predictors for race were significant in the model suggesting that total community college credits earned, not race, has an impact on elapsed time spent in the program. Another notable result related to standard measures of student outcomes revealed that GPA, Praxis I performance, and GRE were not significant in any tests of graduation likelihood.

Conclusions and Recommendations

Research Question 1

What is the impact of the 2004-2005 VCU/VCCS TEPA articulation agreement as measured by associate degree transfer enrollments into the teacher preparation program?

Based on the findings of this study, a number of important conclusions can be made regarding this question and related hypothesis. First, as supported by the results of Hypothesis 1, the presence of an articulation agreement does not necessarily result in increased enrollments into an academic program. Merely creating and implementing an articulation agreement does not guarantee a positive effect on increased enrollments. Secondly, as evidenced in the findings of the hypothesis test, researcher must be aware that a frequency count may indicate an increase in a variable(s) count, in this case enrollments, however, the underlying population must be examined carefully since this test revealed the population essentially tripled as well. Although not generalizable to the general population, the findings of this study could help inform a myriad of actors involved with the 5-year teacher preparation program at VCU and the VCCS. State policy makers, faculty, advisors, administrators, and students from both VCU and the VCCS

member colleges can potentially benefit from information related to the impact of articulation agreements.

The findings related to Research Question 1 show no relationship between the 2004 VCU/VCCS TEPA articulation agreement and enrollment likelihood into the teacher preparation program. Recommendations based on these results are as follows:

1. Policy makers at the state level should be made continually aware of the results of studies related to the impact of articulation agreements. Since these actors include the governor, legislators, and coordinating bodies such as SCHEV and are integral to policymaking regarding the utilization of articulation agreements, they should be apprised of the relevant research and should continually ask, "Are they working as intended?" As described in Chapter 1, legislation addressing transfer issues has been present since the 1960's but there has been a marked increase in transfer and policy related legislation over the last decade due to the stark budgetary environment in higher education. Dougherty (1994) provided a lens for this study to view articulation agreements and the actions of state officials related to transfer policy and increased articulation activity, so including these state actors in relevant research findings could potentially be beneficial for more informed policymaking.

2. More frequent interaction with community college counterparts to jointly assess these agreements. Typically an agreement is created and implemented through a collaborative effort with the school and chief transfer officer at the university and counterparts in the VCCS. Unfortunately, once these agreements are enacted there is very little, if any, feedback process related to the impact of the specific agreement. Frequent discussions related to the effectiveness of these agreements among the parties involved in the original discussions and drafting should take place. This is also consistent with SCHEV transfer policy recommendations previously

described in Chapter 2 related to frequent communication and sharing of information among junior and senior institutions. SCHEV (2010a) also recommended that community college and senior institution partners work together to improve programs based on data pertinent to student success.

3. Since the agreement examined for this study is no longer in effect, another recommendation is to conduct similar examinations of the current articulation agreements in place related to the teacher preparation program. The necessary data to conduct further studies of this nature are available, but would need to be accessed, compiled, cleaned, coded, and filtered similar to the data compiled for the master file in this study. Additional studies would perhaps allow for further refinement of articulation agreements focusing on what elements appear to aid the pathway to degree attainment and those that do not. It is important to note that articulation agreements are thoughtfully developed through a collaborative process, yet any assessment of impact on associate degree holder enrollments will be unknown unless some empirical analysis is conducted. Unfortunately, to the best knowledge of this researcher, there is no extant process to conduct this type of assessment.

Research Question 2

How do VCCS associate degree holders and non-associate degree transfer students compare to native students as measured by select academic outcomes in the teacher preparation program including time spent in the program, cumulative GPA, Praxis I scores, GRE scores, cumulative hours earned, and licensure?

Findings related to Research Question 2 show mixed results related to select student outcomes. Earning the associate degree and total community college credits earned showed

consistent significance in the models, however, common measures of student outcomes cumulative GPA, Praxis I performance, and GRE scores indicated no significance in the models. Additionally, race was not a factor in the model tested. Recommendations based on the results are as follows:

1. State policy makers should continue to focus on the importance of associate degree attainment in policy decisions. The significance of earning an associate degree prior to transfer identified in Hypothesis 4b should be strongly and frequently reinforced to policy makers. In addition, faculty, advisors, and students at both community colleges and senior institutions should focus on completion of the associate degree. The importance of earning the associate degree cannot be stressed enough since it was consistently the most significant variable in the models in this study, and although total community college credits earned was also a significant variable, when regressed together on likelihood of graduating from the program, only earning the associate degree affected graduation likelihood. In the program of interest for this study, associate degree completion is the strongest predictor of graduation likelihood from the program. In addition, the findings show associate degree holders can expect to earn less cumulative hours in the program, which in addition to potentially spending less time in the program, a student has the potential to save money.

2. It is critical, particularly from the community college side, to ensure credits earned are the "right" credits for a student's intended transfer to a senior institution and desired program of major. Faculty and advisors specifically, should regularly counsel students and share information about coursework. Students should also take ownership of their academic pursuits and ensure they meet regularly with an advisor and understand all program requirements.

Findings in Hypothesis 2a for example, suggest that a community college student transferring in

16 credits could expect to spend an extra semester at VCU, thus spending more elapsed time and money in the program. It appears counterintuitive that earning more credits at the community college would result in spending more time in the teacher preparation program; however, one possible explanation for the additional elapsed time could be attributed to "wrong" credits being taken at the community college or even taking the same credit again unnecessarily upon transfer to VCU. This could potentially lead to additional elapsed time spent. This is an important policy issue since the unnecessary duplication of credits is a poor use of tax dollars. Herndon (2006) cautioned that ineffective transfer policy can result in unnecessary and costly repeated courses. *Executive Order Number Nine* signed by Governor McDonnell in 2010 spoke to this point with one key priority of increased collaboration between the community college and senior institution in efforts to reduce both time to degree and cost. It should be noted that great progress has been made at the state level with guaranteed admission agreements, advising efforts at the community college and senior institution level, and ensuring the first two year's coursework is constructed to ensure junior standing in the senior institution upon transfer. Still, more communication and collaboration is needed.

3. It was encouraging to see the findings in Hypothesis 2b related to race in the teacher preparation program. The results suggest a student's elapsed time spent in the program is not affected by their race. SCHEV should continue to promote minority recruitment in their state transfer policy paper. Senior institutions should also continue to enhance efforts to recruit minority students into their institutions. Although the results from the models related to race indicated no impact on time spent in the program, minority recruitment efforts should still be a priority. More research on minority students transferring from the community college should be

undertaken to have a more detailed understanding of any hurdles or impediments not identified in this study.

4. A number of community colleges have pre-teacher education programs (e.g., John Tyler Community College's Teacher Education Specialization Program) and close collaboration with these specialty programs could be very beneficial. Sharing results of this study for example to help reinforce with faculty and preteacher education students that the total community college credits they earn has a significant positive impact on licensing likelihood. Hypothesis 3b findings suggest a community college transfer could expect his/her licensing likelihood to increase; for example, 10% for every 10 community college credits earned. Moreover, a collaborative research project between community college faculty and university faculty would be an excellent start

5. Share findings with program heads in teacher preparation that graduation likelihood is unaffected by total community college credits earned, cumulative GPA, Praxis I performance, or GRE. Any information related to the program could be helpful as the department chair and program director evaluate the programs they administer. There are some limitations as to a course of action school level officials have regarding changes since teacher preparation programs are approved and monitored by the VDOE. However, any new and significant findings could be useful to a program for future evaluation and potential changes.

Suggestions for Further Research

There are several areas for future research related to articulation agreements and the 5-year teacher preparation program.

- The first suggestion is a call for more studies on 5-year teacher preparation programs related to articulation agreements and effectiveness related to enrollments and post

transfer student outcomes. As described in Chapter 1, few studies were found focusing specifically on the impact of articulation agreements and transfer related to teacher preparation programs, and as of this writing, none identified by this researcher focusing specifically on a 5-year teacher preparation program. The 2003 ECS Teaching Quality report, *Eight Questions on Teacher Preparation: What does the Research Say?* reinforces this suggestion as it called for more studies beginning at the undergraduate level and continuing through teacher preparation programs.

- A study focusing on students in one of the identified preteacher programs at the community college and continuing through his/her enrollment and graduation from the 5-year program (e.g., a longitudinal study). One of the key areas identified in the SCHEV (2004) *State Policy on College Transfer* is tracking transfer students as they transition through programs. The policy paper also asks for tracking progress through the baccalaureate and for academic outcomes by race. The inability to track students from the community college through his/her transition to a senior institution is a major hurdle to researchers. Townsend (2002) and Jacobs (2004) also called on states to enhance student tracking capabilities and pointed out difficulties related to tracking students using technology and databases. There were many hurdles compiling the data for this study that could have been avoided if tracking were available as identified above. Identifying community college transfer students at the university level is not a simple process for many reasons such as the ability to gain authorized access to admissions records. There should be a system that allows for tracking students through a continuum from the community college into the senior institution all the way through graduation.

- A mixed method design of this study with some modifications. For example, interviews with key policymakers and legislators would provide valuable insight to the legislative process related to articulation agreements. In addition, the process and guidelines that are followed when creating and implementing articulation agreements by key actors at the school and community college level would be very beneficial. Interviews with key policymakers, faculty, advisors, administrators, and students could shed additional light on what works and what does not. Interviews with students could provide insight into the factors that influenced his/her decision to transfer and more specifically, if there was an awareness of the presence of an articulation agreement for his/her program or school of interest.

Conclusion

This quantitative cross-sectional study explored the impact of one articulation agreement on VCCS associate degree holder enrollments into a 5-year teacher preparation program at VCU and select student outcomes of VCCS transfers and native students. The study was informed by the state relative autonomy theory put forth by Dougherty (1994) and studies examining articulation agreements, transfer, and student outcomes authored by Anderson, Alfonso et al. (2006), Anderson, Sun et al. (2006), Roksa and Keith (2008), Glass and Harrington (2002), and SCHEV (2010b). The conceptual framework proposed that state officials respond to their own autonomous interests, but they are only relatively autonomous due to strong outside influence from various interest groups. Moreover, increased articulation activity connected to teacher preparation may have been spurred by state officials responding to increasing higher education costs and critical teacher shortages. The literature reviewed indicated a long history in Virginia of legislation related to transfer policy and articulation agreements with a marked increase in

teacher preparation agreements at VCU over the last decade in concert with declining funding for higher education and critical teacher shortages in Virginia.

The findings in this study of the 2004 VCU/VCCS TEPA agreement related to teacher preparation indicated the presence of the articulation agreement had no impact on enrollment likelihood by VCCS associate degree holders. Important findings related to student outcomes revealed earning the associate degree prior to transfer has a significant positive effect on the likelihood of graduating from the program and a student earning an associate degree could expect to earn fewer cumulative hours in the program, potentially saving time and money. Licensure likelihood is also positively affected by the total community college credits a student earns. Test results related to race indicated race had no impact on elapsed time spent in the program.

Chapter 5 concludes this research study and the findings produced useful insight into the impact of the 2004 VCU/VCCS TEPA articulation agreement and select student academic outcomes. Recommendations are as follows: (a) continued focus by state policymakers on associate degree attainment, (b) ensuring at both the community college and senior institution that credits are not unnecessarily duplicated which can possibly result in more time and money spent by students, (c) continue recruitment of minority students by senior institutions, (d) closer collaboration between community college preteacher programs and senior institution teacher preparation programs, and (e) share the results of study findings with the teacher preparation program leadership for any new insights the results may provide for future program evaluation and enhancement.

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APPENDIX A

Overview of State Policy and Legislation

State Policy/Legislation	Highlights	State Articulation/ Transfer Sites	Recent Transfer-Related Action/Reports
<p>Senate Bill 538 (2006). Requires all public four-year institutions to develop articulation, transfer and dual enrollment and admissions programs. The latter will provide for the simultaneous enrollment in, and eventual transfer to, the four year public institution by qualified community college students.</p> <p>House Bill 57 (2006). Permits a community college student to declare in writing her intention to transfer to a public 4-yr institution where an articulation agreement is in place between the community college and the university, and upon transfer, the conditions of that articulation agreement will determine the credits to be transferred.</p> <p>VA Title 23, §23-9.6:1. Requires the State Council of Higher Education (SCHEV) to develop and submit articulation, transfer, dual enrollment and admissions agreements between VA 2- and 4-yr institutions.</p> <p>Education Restructuring Act of 2005. Includes the provision that public four-year institutions develop articulation agreements that have "uniform application" to all community colleges, and meet lower-division general education and program requirements.</p> <p>HB 989 (2004). Requires SCHEV in cooperation with 2- and 4-yr institutions, to develop a general education core of courses to be offered at public 2-yr institutions that are accepted for course credit upon transfer.</p> <p>VA Title 23, §23-0.14:2. Requires SCHEV, in cooperation with governing boards of public 2- and 4-yr institutions, to develop a State Transfer Module that designates transferability of general education credit offered within associate degree programs at the community colleges. Also requires the development and implementation of articulation, transfer, and dual enrollment and admissions agreements between 2- and 4-yr colleges and universities.</p> <p>SB 338 (2004). Provides for the development of dual admissions and articulation agreements between 2-and 4-yr public colleges and universities</p>	<p>New Guidelines (2007) developed in response to SB 538 and HB 57 by the SCHEV, state that students completing transfer associate degrees will be deemed to have met lower division general education requirements for transfer to public, 4-yr institutions, and will be admitted with junior status.</p> <p>Guidelines also state that universities should develop articulation agreements with "uniform application" to all community colleges.</p>	<p>Transfer Program Tool. On-line course equivalency system. http://www.schev.edu/students/xfr.asp</p> <p>VA State Committee on Transfer. Interprets and implements state transfer policy. http://www.schev.edu/AdminFaculty/SCTHome.asp</p> <p>Guaranteed admission agreements, between Virginia community colleges and participating 4-yr institutions, posted at the Virginia Community College System website. http://www.vccs.edu/Students/Transfer/tabid/106/Default.aspx</p>	<p>SCHEV Guidelines for Transfer, Articulation and Dual and Guaranteed Admission in the Commonwealth. Adopted by the State Council of Higher Education for Virginia (SCHEV) in Jan. 2007. http://www.schev.edu/students/SCHEVTransferGuidelines.pdf</p> <p><i>State Policy on College Transfer</i>. State Council of Higher Education for Virginia (2004). http://www.schev.edu/students/StatePolicyOnTransfer.pdf</p> <p><i>The Condition of Transfer in the Commonwealth</i>. State Council of Higher Education for Virginia (2003). http://www.schev.edu/Reportstats/ConditionOfTransferInTheCommonwealthReport2003.pdf?from=</p>

APPENDIX B

2009 VCU/VCCS Guaranteed Admission Agreement

GUARANTEED ADMISSION AGREEMENT VIRGINIA COMMUNITY COLLEGE SYSTEM AND VIRGINIA COMMONWEALTH UNIVERSITY

Virginia Commonwealth University (VCU) and the Virginia Community College System (VCCS) recognize the need to facilitate the admission of transfer students from Virginia's community colleges to VCU as they pursue their educational goals. In an effort to ease the transfer process and to promote the closer coordination of academic courses, programs and degrees offered by our institutions, we do hereby enter into the following Guaranteed Admission Agreement (GAA). This agreement supercedes the Articulation Agreement between Virginia Commonwealth University and the Virginia community colleges, signed on March 8, 2006.

Students who graduate from a transfer-oriented associate degree program at a Virginia community college with a 2.5 cumulative GPA and who meet the eligibility requirements described below are guaranteed admission to and may enroll in VCU. These students are referred to as "GAA students." VCCS Associate of Arts, Associate of Science, and Associate of Arts and Sciences degrees are considered "transfer-oriented associate degrees," including the VCCS General Studies associate degrees that have been approved by the State Council of Higher Education for Virginia (SCHEV) as transfer degrees according to the State Committee on Transfer (see website at <http://www.schev.edu/Students/SCHome.asp>). GAA students may expect the following:

1. Courses that are accepted by VCU will be applied to the attainment of the baccalaureate degree. Only credits applied toward the receipt of the transfer-oriented associate degree will be accepted, not to exceed 63 credits. GAA students will not be required to repeat course content that has been evaluated as equivalent to an upper-level course at VCU; however, students may be required to complete additional upper-level credits to meet VCU or program requirements.
2. VCU will guarantee the acceptance of all transferable credits earned from the transfer-oriented associate degree program from the Virginia community college and will accept the student with junior standing. However, VCU cannot guarantee that students will be able to complete all requirements for graduation within the 120-credit minimum required for graduation at VCU.
3. Acceptance in some degree programs at VCU is competitive; thus guaranteed admission into VCU does not imply admission to these programs without further acceptance by the program or department offering the program. Students participating in the GAA should follow all special school, college and/or departmental application procedures and deadlines (<http://www.vcu.edu/ugrad/admissions101/deadlines.html>), as well as grade point requirements listed in the VCU *Bulletin* for native VCU students.
4. GAA students will be given the same consideration as native students for admission to competitive programs, as well as for registration, financial aid, student housing, and any other opportunities open to native students with junior standing.
5. Completion of a transfer-oriented associate degree at a Virginia community college, with a minimum grade of C in transferable course, will satisfy all VCU lower-level general

education requirements except requirements that apply to all students or prerequisites for the student's intended degree program at VCU.

Eligibility:

To be eligible for participation in this GAA, students must graduate with a minimum of a 2.5 cumulative GPA from a transfer-oriented associate degree program at a Virginia community college. Students who were previously enrolled at VCU and transferred back to a VCCS college to complete the transfer-oriented associate degree are not eligible for participation in the GAA. VCCS students who do not meet the GAA eligibility requirements listed above are eligible to apply for admission to VCU but will not be guaranteed admission under this agreement.

Benefits of the GAA for VCCS Students:

1. VCCS students may select the VCU *Bulletin* in effect at the time of enrollment in the GAA. Students in the GAA program also have the option of selecting the *Bulletin* in effect when they enroll in VCU.
2. VCCS students may apply for need-based, in-state tuition and fees scholarships that VCU will provide annually for VCCS GAA students as long as the agreement remains in effect. Students who successfully compete for a scholarship may hold that scholarship for a maximum of two years. The second year of the scholarship is contingent upon the student's maintaining at least a 2.5 cumulative GPA at VCU during the first year. However, a student shall not receive a scholarship that, when added to other financial aid received by that student, will enable the student to receive total assistance in excess of VCU's in-state tuition and fees. Students applying for financial aid have an earlier application deadline (<http://www.vcu.edu/ugrad/admissions101/deadlines.html>).

Responsibilities of the VCCS:

1. Disseminate accurate information to VCCS transfer program students regarding the general conditions of this agreement. Those provisions include the conditions for guaranteed admission to VCU, and notification that admission to VCU does not guarantee acceptance to any particular major field of study.
2. Provide academic advising services to assist VCCS students in choosing courses that will best prepare them for their intended major at VCU. The VCCS will prepare faculty advisors and counselors to provide appropriate and accurate advising services related to students' plans to apply to VCU.
3. Annually update VCCS course equivalency information.
4. Notify the Chief Transfer Officer (<http://www.schev.edu/AdminFaculty/VCTOcontact.asp>) at VCU when situations arise warranting VCCS faculty and VCU faculty interaction to address advising or curricular issues.
5. Collaborate with VCU to promote the GAA among prospective and current VCCS students.
6. Provide VCU with a summary of research findings and actions taken based on data supplied by VCU on transfer student performance.

Responsibilities of VCU:

1. Provide the VCCS with course equivalent information regarding VCCS courses and VCU equivalent courses. Conduct an annual review of course equivalency information to insure that this information is shared with the VCCS on a timely basis.
(http://www.vcu.edu/ugrad/admissions101/transfers/transfer_guide_course_equivalent.pdf)
2. Disseminate accurate information to prospective transfer students regarding the general conditions of the GAA. Those provisions include the conditions for guaranteed admission to VCU, and notification that admission to the university does not guarantee acceptance to any particular degree program.
3. Provide academic advising services to GAA students during the term prior to transfer to assist these students in making a smooth transition from the community college to VCU.
4. Notify the Chief Transfer Officer (<http://www.schev.edu/AdminFaculty/VCTOcontact.asp>) at the Virginia community college (or the VCCS representative) when situations arise that warrant VCCS faculty and VCU faculty interaction to address advising or curricular issues.
5. Collaborate with the VCCS to promote the GAA among VCCS students.
6. Provide tracking data on performance of GAA students at VCU, including credits presented and accepted in transfer, VCU courses attempted and completed, cumulative GPA, major, graduation date from VCU, and comparisons with native students. The specific data elements and the timing of the report will be determined by Institutional Research staffs from the VCCS and VCU.

Responsibilities of the Student:

1. It is primarily the responsibility of students who choose to pursue the GAA to know and understand the requirements for a transfer-oriented associate degree, as well as degree requirements and the specific requirements for their intended major at VCU.
2. The student must obtain a transfer-oriented associate degree at a Virginia community college with a cumulative grade point average of 2.5 on a four-point scale. A minimum grade of "C" must be obtained in each course the student wishes to transfer. Eligible transfer students must provide transcripts from any other institutions attended and documentation for Advanced Placement, CLEP, or other advanced standing credit applied toward completion of the transfer-oriented associate degree.
3. Follow the VCU application and admission processes (<http://www.vcu.edu/ugrad/>) and timelines (<http://www.vcu.edu/ugrad/admissions101/deadlines.html>). Note that VCU has an earlier application deadline for students seeking financial aid.

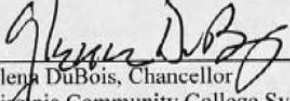
Review of the GAA:

1. The VCCS will designate officials who will be responsible for all aspects of the GAA at the VCCS. VCU will designate individuals responsible for all aspects of the GAA at VCU.
 - a. Representing VCU will be the Vice Provost for Academic Affairs and the Vice Provost for Instruction, or designees.
 - b. Representing the VCCS will be the VCCS Vice Chancellor for Academic Services and Research and the VCCS Assistant Vice Chancellor for Educational Programs and

Instructional Technology, in consultation with the Articulation Subcommittee of the Academic and Student Affairs Council.


2. Both parties are to communicate the conditions of the GAA to their respective clientele (external and internal constituents). VCU and the VCCS will review the GAA at a minimum of every three years and make adjustments or amendments as deemed appropriate to maintain the integrity of each institution as well as for the improvement of the transfer process and student articulation. Such changes will not adversely affect students already enrolled and covered under the provisions of the existing GAA.
3. The GAA will remain in effect until terminated by either party upon written notice to the other party of an intention to terminate. Such notice should be given at least one year in advance of the effective date of termination, and students who entered under the GAA may take advantage of its terms for two years after termination becomes effective.

Approval granted by:



Glenn DuBois, Chancellor
Virginia Community College System
1-30-09

Date



Eugene P. Trani, President
Virginia Commonwealth University
2/12/2009

Date

APPENDIX C

2004 Teacher Education Provisional Admission Agreement

Virginia Commonwealth University Guaranteed Admission Agreement with Teacher Education Provisional Admission

Virginia Community College System
AND
Virginia Commonwealth University

Virginia's classrooms are experiencing a severe shortage of highly qualified teachers. In response to this crisis and to the requirements of President Bush's No Child Left Behind Act, the Virginia Community College System (VCCS) offers this Teacher Education Preparation Curriculum (TEPC) and seeks to create an articulation agreement with VCU, Virginia Commonwealth University Guaranteed Admission Agreement with Teacher Education Provisional Admission (VCUGAA-TEPA), between the VCCS and Virginia Commonwealth University (VCU) in the area of an arts and sciences core leading to a transferable associate degree (AA&S, AA or AS) that will facilitate entry into a teacher education program (PK-6, Middle Education, or selected areas of Special Education) at Virginia Commonwealth University.

The Teacher Education Preparation Curriculum (TEPC) provides a common associate degree curriculum that can be used by any of Virginia's 23 community colleges to prepare students to transfer to four-year colleges and universities in a seamless manner. This is done by having the TEPC course sequence closely mirror the first two years of the teacher education program at Virginia Commonwealth University.

ADMISSION AGREEMENT

I. Academic

The VCUGAA-TEPA is available to the student who successfully completes a transfer degree and stipulated courses in the Teacher Education Preparation Curriculum at a Virginia community college, and who meets all of the requirements stated within for provisional admission to a teacher education program at Virginia Commonwealth University. This student may enroll in a teacher education program at VCU and may expect the following:

- A. that all of the courses and credits successfully completed at the community college, and meeting the grade requirement of VCU will apply to the attainment of the baccalaureate degree in the curriculum area leading to an endorsement in PK-6, Middle School or identified selected areas of Special Education.
- B. that VCU can guarantee the acceptance of all the credits earned from the associate degree program from a Virginia community college and, therefore, can accept the student as a junior at VCU and can guarantee that the student will be able to complete all requirements for the baccalaureate degree with the same number of successfully completed hours and courses as a native student.

Teacher Education Guaranteed Admission Agreement
Virginia Community College System
Virginia Commonwealth University

- C. that acceptance to a teacher education program at VCU is dependent upon available seats. Students participating in this teacher education admission agreement should follow all special college and/or departmental application procedures and deadlines, as well as grade point average requirements listed in the VCU catalog for native students. Transfer students and native VCU students will be treated identically with regard to admission to oversubscribed programs.
- D. that in addition to successful completion of the courses in the TEPC, students must take and pass the PRAXIS I exam as part of their admission to a teacher education program at VCU. As required of native and transfer students, applicants to the teacher preparation program must earn at least a 2.5 GPA at VCU before formal admission to the teacher preparation program.
- E. that successful completion of the Teacher Education Preparation Curriculum with an associate degree from a Virginia community college will satisfy all lower division teacher education requirements at VCU, and will eliminate the need for a course by course analysis. Students will need to complete upper-division general education and all other university, college, and departmental requirements in order to obtain the baccalaureate degree from VCU.

II. Student Services

VCUGAA-TEPA students transferring from the VCCS to VCU will be treated on an equal basis with native students with regard to award and distribution of financial aid and other scholarships, campus housing, selection of courses, and other student services.

PROCEDURAL AGREEMENT

I. Academic Admission

- A. A student who wants to participate in the VCUGAA-TEPA must inform his/her counselor at a Virginia community college.
- B. The student, the appropriate VCU advising center, and the VCU counselor will develop a program of study following guidelines provided by VCU in accordance with the Teacher Education Preparation Curriculum established by the VCCS. The student will have access to electronic information via the VCU website at www.vcu.edu or from the compact disc provided by the Admissions Office.
- C. The VCCS counselor must provide the student with a copy of the TEPC, the VCUGAA—TEPA agreement, and other related information.
- D. The student will review the Virginia Commonwealth University Teacher Education Guaranteed Admission Agreement with Teacher Education Provisional

Admission (VCUGAA-TEPA) and the developed program of study and will sign a VCUGAA-TEPA Letter of Intent to follow the recommended course sequence.

- E. A student may not initiate changes in the program of study.
- F. A student must obtain a minimum GPA of a 2.5 and at least 62 semester hours of transfer coursework with a grade of "C" or higher in each course, and complete all requirements for an associate degree and pass PRAXIS I. As required of native and transfer students, applicants to the teacher preparation program must earn at least a 2.5 GPA as full time students at VCU before formal admission to the teacher preparation program. Students who are provisionally admitted may enroll in such courses as foundations of education, human growth and development or educational psychology, and should work with a professional studies advisor on other courses germane to their educational specialization.

Who is eligible to participate in a Teacher Education Guaranteed Admission Agreement?

- 1. Any VCCS student completing requirements for a transfer degree following the Teacher Education Preparation Curriculum.
- 2. Students whose intended VCU major meets the requirements of the community college TEPC.
- 3. Students having received a VCCS transfer degree within 5 (five) years of applying for transfer to VCU.

What are the major benefits of the VCUGAA-TEPA Admission Agreement for VCCS students?

- 1. VCCS students may select a catalog for degree requirements on the same basis as native students. This means that students may select the catalog in effect at the time of enrollment in the Teacher Education Guaranteed Admission Agreement, and may continue with this catalog for up to five academic years.
- 2. VCCS's course of study is pre-approved as long as the five-year degree completion date is not exceeded. Time of program initiation at a VCCS institution will not be a factor in admission consideration by VCU.
- 3. VCCS students will be considered identical to native students with regard to housing, communications, etc.
- 4. VCCS students may participate in applicable early-registration periods at participating institutions.
- 5. VCCS students and native VCU students will be treated identically regarding

Teacher Education Guaranteed Admission Agreement
Virginia Community College System
Virginia Commonwealth University

admission to teacher education programs at VCU.

6. Results of entrance exams (e.g. SAT, ACT) will not be required of community college transfers.
7. VCCS students are provided an incentive for completing associate degree programs.
8. VCCS students are encouraged to pursue higher level education goals.

Responsibilities of the Student:

1. Contact the community college counselor to select the Teacher Education Preparation Curriculum.
2. Complete and sign the VCUGAA-TEPA form. Eligible transfer students must provide a transcript from other institutions.
3. Meet minimum grade criteria and prerequisites for courses in the intended teacher education program at VCU as documented in the attached Teacher Education Curriculum. Student must earn at least a 2.5 GPA at VCU before formal admission to the teacher preparation program.
4. Communicate any changes in his or her program of study to the community college transfer counselor prior to any change being made.
5. Notify the community college transfer counselor if participation in the VCUGAA-TEPA Agreement is to be terminated.
6. Submit the VCUGAA-TEPA Letter of Intent (to include requirements for eligibility for full admission to teacher preparation) with the VCU application for Admission and request that all previously attended colleges/universities submit an official transcript to the receiving senior institution.
7. Become familiar with information contained in the *VCU Catalog* and meet all academic requirements and application deadlines for the selected teacher education program.

Responsibilities of VCCS institution:

1. Provide computer support
 - a. to identify and track students participating in the Teacher Education Preparation Curriculum.

- b. to develop a mechanism to assign VCUGAA students to the designated transfer counselor.
 - c. to generate letters to students periodically.
2. Guarantee that all courses approved for VCUGAA-TEPA program of study will be applicable to transfer degrees at any and all Virginia community colleges.

Responsibilities of VCCS Transfer Counselor

1. Assist students in developing plans to attain the transfer degree that best satisfies the requirements of the Teacher Education Preparation Curriculum.
2. Send students' Programs of Study and Letters of Intent to receiving Institutions' Office of Admissions. The student must request transcripts from previously attended schools.
3. Distribute Teacher Education Preparation Curriculum information and Letter of Intent forms.

Responsibilities of Virginia Commonwealth University:

1. Determine domicile status of VCUGAA-TEPA Agreement students in accordance with Section 23-7.4 of the Code of Virginia, the law governing eligibility for in-state tuition, upon matriculating on the VCU campus.
2. Provide current information on impending curriculum changes at Virginia Commonwealth University to each Virginia community college chief academic officer.
3. Provide Letter of Intent forms, senior institution application forms, Transfer Guides, and website address of VCU Catalogs, and admission to teacher preparation applications for distribution to students.
4. Students applying for readmission will follow the VCU policy for returning students.
5. Provide current information to VCUGAA-TEPA students with regard to transfer procedures, financial aid, registration, housing procedures, tuition and fee payments, and deadlines.
6. Schedule Admissions staff and, if needed, academic advisors to periodically visit the VCCS college campuses for the purpose of academic advisement.
7. Generate letters upon acceptance to the Teacher Education Guaranteed Admission Agreement and periodically send letters to students who are in line for transfer.

Teacher Education Guaranteed Admission Agreement
Virginia Community College System
Virginia Commonwealth University

APPENDIX D

PRE-TEACHER EDUCATION CURRICULUM AGREEMENT

PRE-TEACHER EDUCATION ADMISSION AGREEMENT

Early/Elementary Education (NK-6)

Virginia Community College System

AND

Virginia Commonwealth University

Virginia's classrooms need for highly qualified teachers. In response to this need and to the requirements of the No Child Left Behind Act, the Virginia Community College System (VCCS) offers this **Pre-Teacher Education Curriculum (PTEC)** and seeks to create a system-wide articulation agreement, known as the **Pre-Teacher Education Curriculum (PTEC) between** the VCCS and Virginia Commonwealth University (VCU) in the area of an arts and sciences core leading to a transferable associate degree (AA&S, AA or AS) that will facilitate entry into a teacher education program in early/elementary education, NK-6.

The PTEC provides a common teacher education associate degree curriculum that can be used by any of Virginia's 23 community colleges to prepare students to transfer to four-year colleges and universities in a seamless manner. The PTEC course sequence will meet General Education requirements and closely parallel the first two years leading to the Bachelor of Interdisciplinary Studies degree with a Liberal Studies for Early/Elementary Education (LSEE) major.

This agreement does not affect any current or future agreements VCU has developed or may develop with individual or regional community college groups.

ADMISSION AGREEMENT

I. Academic

The Pre-Teacher Education Admission Agreement (PTEAA) student who successfully completes a transfer degree, the stipulated PTEC courses at a Virginia community college and all specified requirements below is guaranteed admission to VCU and by meeting all of the requirements for full admission to the teacher education program at VCU, may apply for admission to teacher education. He/she may expect the following:

- A. that all of the PTEC courses and credits successfully completed at the community college, and meeting the grade requirement of 2.0 will apply toward general education courses that satisfy requirements in the liberal studies in the Early/Elementary (NK-6) program or elective credit for the extended five-year teacher preparation programs in Early/Elementary Education (NK-6). **To qualify for admission to the teacher preparation programs, students must have a 2.8 cumulative grade point average.** The program culminates in the awarding of both the Bachelor of Interdisciplinary Studies with a Liberal Studies for Elementary Education major and the Master of Teaching degrees upon completion of the extended five-year teacher preparation program. This program leads to licensure in the Commonwealth of Virginia in Early/Elementary Education (NK-6).
- B. that VCU awards equivalency credits for College Level Examination Placement, Advanced Placement, and International Baccalaureate exams upon receipt of appropriate documentation (see the *VCU Bulletin* for details: <http://www.vcu.edu/>).
- C. that VCU will accept all the credits earned with a "C" or better from the associate degree program from a Virginia community college and, therefore, can accept the student as a junior at VCU.

Pre-Teacher Education Admission Agreement
Virginia Community College System
Virginia Commonwealth University

However, the student may still have to take additional lower-level major and teacher education courses not available at the community college and thus may not be able to complete all requirements for the baccalaureate degree with the same number of successfully completed hours and courses as a native student.

- D. that acceptance to a teacher education program at VCU is dependent upon available seats. Students participating in the PTEAA should follow all special college and/or departmental application procedures and deadlines, as well as meet the 2.8 cumulative grade point average requirement listed in the VCU Bulletin for native students for admission to the teacher preparation portion of the LSEE major. Transfer students and native VCU students will be treated identically with regard to admission to oversubscribed programs.
- E. that in addition to successful completion of the PTEC courses, students must pass the prescribed assessment for entry into a Virginia approved teacher preparation program or have appropriate test scores required for admission to the teacher preparation portion of the LSEE major at VCU. Students have six testing options for admission to teacher preparation as follows:
- 1) Completion of Praxis I with cumulative scores of (Reading, Writing, and Mathematics subtests) with a score of 532 or higher
 - 2) Completion of the SAT Verbal and Math subtests (Before April 1, 1995, a score of 1000 with at least 450 on the Verbal Test and at least 510 on the Mathematics subtest; After April 1, 1995, a score of 1100 with at least a 530 on Verbal and at least 530 on Mathematics;
 - 3) Completion of the ACT (Before April 1, 1995, a composite of 21, with math no less than 21 and English plus reading score no less than 37; After April 1, 1995, a composite score of 24, with math no less than 22 and ACT English plus reading score no less than 46.
 - 4) Completion of Virginia Communication and Literacy Assessment (VCLA) with a score of at least 470 and Praxis I Mathematics subtest with a score of at least 178;
 - 5) Completion of VCLA with a score of at least 470 and SAT Math score (Before April 1, 1995, a score of at least 510; After April 1, 1995, a score of at least 530).
 - 6) Completion of VCLA with a score of at least 470 and ACT Math score (Before April 1, 1995, a score of no less than 21; After April 1, 1995, a score of no less than 22).
- Students are not required to take the Praxis I for admission to VCU but must complete one of the six options above for admission to the teacher preparation portion of the LSEE major.
- F. that successful completion of the PTEC courses with an associate degree from a Virginia community college will satisfy all general education and selected lower division core requirements at VCU. This will not eliminate the need for a course-by-course analysis of the transcript for pre-requisite courses required or elective courses recommended by VCU. Students will need to complete any remaining lower-and upper-division courses and meet all other university, college, and departmental requirements in order to obtain the baccalaureate degree from VCU.
- G. that all provisions of this agreement are subject to change, based on revisions in Commonwealth of Virginia teacher licensure or program approval requirements, national accreditation requirements, or federal regulations.

II. Student Services

PTEAA students transferring from the VCCS to VCU will be treated on an equal basis with native students with regard to award and distribution of financial aid, scholarships, campus housing, selection of courses, and parking.

PROCEDURAL AGREEMENT

I. Academic Admission

- A. A student who wants to participate in the PTEAA must inform his/her counselor at a Virginia community college.
- B. The VCCS counselor must provide the student with a copy of the PTEAA, the PTEC, and other related information.
- C. The student will review the PTEAA and the developed program of study and will sign a *PTEAA Letter of Interest* to follow the recommended course sequence.
- D. A student may not initiate changes in the program of study.
- E. A student must have a minimum 2.5 cumulative GPA for admission to the Early/Elementary program. The student must complete 61-63 semester hours of transfer coursework with a grade of "C" or higher in each course and complete all requirements for an associate degree. For admission to the program, students must meet all admission requirements.

Eligibility to participate in the PTEAA:

1. Any VCCS students are eligible who complete requirements for a transfer degree following the stipulated PTEC courses and applying for transfer to VCU within four years of signing the *PTEAA Letter of Interest* and within 18 months of completing an approved transfer oriented associate degree. However, students must still meet any new university requirements or new approved program requirements developed because of changes in Virginia teacher licensure requirements, or state, national, or federal requirements and standards.
2. Students who have not signed the *PTEAA Letter of Interest* but who began the community college PTEC curriculum within the last five years and meet the requirements of the VCCSNCU agreement.

Major benefits of the PTEAA for VCCS students:

1. VCCS students may select a catalog for degree requirements on the same basis as native students. This means that students may select the catalog in effect at the time of enrollment in the PTEAA and may continue with this catalog for up to five academic years. As with native students, this policy will not apply if there is an enrollment gap of one year or more at any time.
2. VCCS's course of study is pre-approved provided that students complete requirements for the transfer oriented associate degree within four years of signing the *PTEAA Letter of Intent* and matriculate to VCU within 18 months of completing the transfer oriented associate degree.

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3. VCCS students will be considered identical to native students with regard to the award and distribution of financial aid and other scholarships, access to campus housing, selection of courses, and access to parking.
4. VCCS students may participate in applicable early-registration periods at VCU.
5. VCCS students and native VCU students will be treated identically regarding admission to teacher education programs at VCU.
6. VCCS students are provided with a seamless transition to VCU's teacher education program.

Responsibilities of the Student:

1. Contact the community college counselor to select the PTEC option.
2. Complete and sign a *PTEAA Letter of Interest* and submit to community college counselor or faculty advisor. Eligible transfer students must provide a transcript from other institutions.
3. Meet minimum grade criteria and prerequisites for courses in the intended teacher education program at VCU.
4. Discuss any changes, other than in program content, with the community college transfer counselor, who will make changes as appropriate.
5. Notify the community college transfer counselor if participation in the PTEAA is to be terminated.
6. Submit the *VCU/PTEAA Letter of Interest* with the VCU application for admission and request that all previously attended colleges/universities submit an official transcript to VCU.
7. Become familiar with information contained in the *VCU Bulletin*, accessible on the VCU website (www.vcu.edu) and meet all academic requirements and application deadlines for the teacher education program.
8. Become familiar with the School of Education's guidelines for admission to the teacher preparation program (www.soe.vcu.edu/departments/tl).

Responsibilities of the VCCS Institution:

1. Identify and track participating PTEAA students.
2. Develop a mechanism to assign PTEAA students to the designated VCCS transfer counselor or faculty advisor.
3. Periodically generate letters regarding status, program changes, etc. to students.
4. Offer complete curriculum of PTEC courses and guarantee that those courses are applicable to the PTEAA program of study.

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Responsibilities of the VCCS Transfer Counselor:

1. Distribute PTEC information and the PTEAA *Letter of Interest* forms to students.
2. Assist students in attaining the transfer degree by developing plans that best satisfy PTEC requirements.
3. Send students' Programs of Study and *Letters of Interest* to the VCU Admissions Office.
4. Advise students and monitor student progress on a regular basis.

Responsibilities of VCU:

1. Determine domicile status of Teacher Education Guaranteed Admission Agreement students in accordance with Section 23-7.4 of the Code of Virginia, the law governing eligibility for in-state tuition, upon matriculating on the VCU campus.
2. Provide current VCU curriculum information and information on impending and/or approved changes as appropriate to VCCS office for distribution to each Virginia community college chief academic officer.
3. Make application forms, Transfer Guides, and VCU bulletins available on the university website.
4. Provide VCCS with annual reports on the status and progress of PTEAA students accepted into VCU's teacher education program including comparisons with native students, for the purpose of assessing and improving the agreement
5. Provide PTEAA students with current information on transfer procedures, financial aid, registration, housing procedures, tuition and fee payments, and deadlines through the university website.
6. Generate letters to students upon PTEAA acceptance and periodically send them letters regarding status, program changes, etc.
7. If available, designate financial support including scholarships for students entering under the PTEAA.

Responsibilities of Both Participating Institutions -VCU and VCCS:

1. Monitor the enforcement of the agreement. If a transfer credit challenge or appeal is made by a student, he or she must follow the appeals procedure at VCU.
2. Provide current information to PTEAA students with regard to transfer procedures, financial aid, registration, housing procedures, tuition and fee payments, and deadlines.
3. Annually review the PTEC and the PTEAA for currency and accuracy.

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Virginia Commonwealth University

Terms of Agreement:

I. Eligible Curricula/Degree

Pre-Teacher Education Curriculum! Associate Degree

II. Term of Effect

- A. This agreement may be amended with the agreement of both institutions, as needed, for specific program articulation without affecting the currency of the master agreement.
- B. This master agreement will remain in effect until terminated by either party upon written notice to the other party of an intention to terminate. Such notice will be effective only if given 180 days prior to the intended date of termination. In the event that this agreement is terminated, the terms of the agreement contained herein will remain in effect for up to four years for students who have filed a letter of intent to transfer at the date of notice to terminate. Students who have filed a letter of intent to transfer have an additional 18 months to matriculate to VCU upon completing the associate degree.

Approval Granted by:

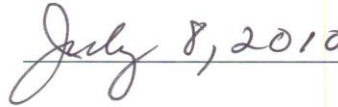


*Glenn DuBois, Chancellor
Virginia Community College System*



*Michael Rao, President,
Virginia Commonwealth University*

Date



Pre-Teacher Education Admission Agreement
Virginia Community College System
Virginia Commonwealth University

SIGNATURES

Transfer Coordinator in the School of Education Siare Simon

Transfer Coordinator in the College LSEE Helin Ruth Spear

Dean of the School of Education Michael D. Dewey

Dean of the College of Humanities and Sciences Paul M. Handbury

Chief Transfer Officer Maëcha L. Green

Vice Provost for Academic and Faculty Affairs Kam Moring

Provost and Vice President for Faculty Affairs Buffy Wan

APPENDIX E

MASTER FILE DESCRIPTIVE STATISTICS

Abbr.	Variables	Obs	Mean	Std. Dev.	Min	Max
stu id	Student records	2349	0	0	0	0
mat_score	Miller analogy test score	859	110.1444	144.3698	0	459
gre_verbal~e	Graduate record exam verbal score	509	357.4067	199.6255	0	770
gre_quanti~e	Graduate record exam quantitative score	508	411.8701	232.0585	0	780
gre_total_~e	Graduate record exam total score	507	770.0789	422.3827	0	1470
transfer_c~_	Transfer credit y/n?	0				
transfer_c~s	Transfer credit hours	44	5.022727	3.053695	1	12
graduation~e	Graduation	1	13635	.	13635	13635
tpadmityn	Admitted to teacher preparation y/n?	0				
admit_eme~r	Admission semester	0				
tpadmitdt	Admit date to teacher preparation	1731	15742.71	3998.299	-19920	18078
month	Admit month to teacher preparation	1731	6.3316	3.72227	1	12
day	Admit day to teacher preparation	1731	16.52629	7.56901	1	31
year	Admit year to teacher preparation	2056	2003.594	3.806377	1993	2009
tpsocsc~1uni	Social science credit earned university-1st course	0				
tpsocsc~2uni	Social science credit earned	0				

	university-2nd course					
tpeng1uni	English credit earned university-1st course	0				
tpeng2uni	English credit earned university-2nd course	0				
tpmathuni	Math credit earned university	0				
tpsciencec~i	Science credit earned university-1st course	0				
tplabscien~i	Science lab credit earned university	0				
tpedu300uni	Foundations course earned university	0				
satscores	SAT score	0				
tppraxisic~e	PRAXIS score	0				
reading710~1	Reading 710 score	1360	181.2904	13.39364	161	655
reading711~1	Reading 711 score	175	331.0629	3.353081	319	335
reading710~2	Reading 710 score-2nd attempt	150	179.1467	3.12682	167	185
reading711~2	Reading 711 score-2nd attempt	22	328.4091	3.500464	323	334
writing720~1	Writing 720 score	1356	177.5715	13.34863	165	652
writing721~1	Writing 721 score	186	326.4409	3.80032	314	335
writing720~2	Writing 720 score-2nd attempt	172	175.5698	2.566271	169	182
writing721~2	Writing 721 score-2nd attempt	29	323.5172	3.8879	315	332
math730sco~1	Math 730 score	1358	180.4381	14.01873	161	659
math731sco~1	Math 731 score	198	326.2778	11.75808	181	335
math730sco~2	Math 730 score-2nd attempt	163	177.5399	3.562918	167	185
math731sco~2	Math 731 score-2nd attempt	10	304.5	46.28475	173	322
merge1	First data merge	2350	2.08	0.775025	1	3
term	Graduation term	0				
concentrat~n	Concentration of	0				

	study					
cum_gpa	Cumulative grade point average	1089	3.752151	0.306873	0	4
earned_hours	Total earned hours at graduation	1089	36.35414	9.687739	0	145
entry_term	Entry term into university	0				
merge2	Second data merge	2675	1.845981	0.924718	1	3
year_licen~d	Year of teacher licensure	1479	2001.41	4.61961	1996	2009
merge3	Third data merge	2994	1.88143	0.937917	1	3

VITA

Michael Conway Huffman was born on January 2, 1964 in Newport News, Virginia. He graduated from Benedictine High School in Richmond, Virginia in 1982. He received a Bachelor of Arts in History from the Virginia Military Institute in Lexington, Virginia in 1986. He received a Masters in Business Administration from the Graziadio School of Business and Management at Pepperdine University in Malibu, California in 1990. He received a Masters of Science with a concentration in Sport Leadership from Virginia Commonwealth University in Richmond, Virginia in 2002.

Mr. Huffman spent the first half of his business career in university development, investment banking and venture capital in Los Angeles, California, New York, New York, Richmond, Virginia and Charlotte, North Carolina. He entered higher education in 2002 and has spent the last 10 years at Virginia Commonwealth University in varied roles including teaching, internship coordination, advising, and administration. He held previous teaching roles in both the Center for Sport Leadership and the Recreation, Parks and Sport Management department, and advising and internship coordination roles in the latter. He spent 4 years as the Director of the Student Services Center in the School of Education and has been the Director of the Center for Professional Growth in the School of Education since July, 2011.