Home Schooling in Virginia: An Analysis of the Fiscal Relationship between Home Schooling and Virginia Public School Finances

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Home Schooling in Virginia: An Analysis of the Fiscal Relationship between Home Schooling and Virginia Public School Finances

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

by

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ABSTRACT

HOME SCHOOLING IN VIRGINIA:
AN ANALYSIS OF THE RELATIONSHIP BETWEEN HOME SCHOOL ENROLLMENT AND VIRGINIA PUBLIC SCHOOL FINANCES

Evelina McIntire Davis, 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, 2013

Major Director: Charol Shakeshaft

Educational Leadership
School of Education

The purpose of this study was to examine the relationship between Home School Enrollment and Virginia Public School Finances. Enrollment trends were examined from Fall 2001 through Fall 2010 to determine if there was an increase in Home School Enrollment over the ten year examination period. Also, two sets of Virginia Standards of Quality Variables (SOQs), Expenditures (Instructional Salaries, Administrative Salaries, Per Pupil Expenditures) and Revenues (State Portion of Basic Aid, State Portion of ADM funds and Enumerated Funds) were examined in relation with Home School Enrollment to determine if Home School Enrollment influenced Virginia Public School Finances at all. Superintendents’ Region I, one of Virginia’s eight superintendents’ regions, served as the sample population. The study revealed that Instructional and Administrative Salaries were correlated to an increase in Home School Enrollment while Per Pupil Expenditures correlations revealed no relationship. Strong correlations were revealed between an increase in Home School Enrollment and State Portion of Basic Aid while correlations
between State Portion of ADM funds and Enumerated revealed no relationship. The study results revealed that Home School Enrollment does not cost or save Virginia Public Schools. Significant relationships were found but whether Home School Enrollment presents a savings or an expense to Virginia Public School Finances was not concluded. The relationships, results, implications and recommendations are presented and discus
Chapter 1

Introduction

Background

In 2012, there is an assortment of school options available to children and parents. School choices such as charter schools, private schools, and home schools continue to expand and challenge public schools. Of these three alternatives to public school education, home schooling is the most rapidly growing educational alternative in the nation today (Green & Hoover-Dempsey, 2007; Kunzman, 2005; Ray, 2010; Ray, 2011).

There are some writers who believe that the expansion of the home school movement has placed public schools at risk of losing valuable funding (Bohte, 2004; Christy, 2000; Reich, 2002). There are others who contend that public schools fiscally benefit from the increase in home school enrollment (Ray, 2010; Sutton & Bogan, 2007; Wenders & Clements, 2008).

Statement of the Problem

The home school debate is represented by two groups of thought. Some educators and educational policy makers contend that an increase in home school enrollment will reduce public school funding (Apple, 2000; Bohte, 2004; Christy, 2000; Cooper & Sureau, 2007; Lubienski, 2000; Reich, 2002). Others counter this belief with the premise that home schooling increases the amount of funds to be awarded to public schools as home schooling parents continue to pay taxes despite the non-enrollment of their children in public schools (Ray, 2010; Ray & Weller, 2003; Sutton & Bogan, 2005; Wender & Clements, 2008). There is little published that sheds light on how public schools are influenced by home schools in Virginia. The only source that addressed home schooling
in Virginia is the Weldon Cooper Center for Public Service (WCCPS). In 2007 and 2008, WCCPS acknowledged the increase in home schools and forecasted that Virginia’s home school enrollment would continue to rise. WCCPS (2008) projected that the increase in home schools would not have a significant impact on public school finance or enrollment. They calculated that the increase in home school enrollment was not a large enough number to render a significant effect on public schools (WCCPS, 2007; 2008). I have found no studies that address the relationship between Home School Enrollment and Virginia public school finances.

**Rationale for the Study**

Lubienski (2000) wrote that home schools decrease public school funding and threaten the foundation of public schools. Reich (2002) emphasized that homeschooling has the potential to decrease public school enrollment and funding more than any other type of alternative schooling. Ray (2010) contends that home schools provide parents with an educational alternative that is economically feasible for both home school parents and public schools as well as socially and academically feasible for home school children. Wenders and Clements (2008) wrote that home school offers a safe, comfortable and educationally conducive environment that is cost effective for parents and a cost savings to public schools.

It is common to find articles, papers and some research on the relationship between private and charter schools with public schools but there is limited empirical data on the relationship between Home School Enrollment and public school finances (Bohte, 2004; Christy, 2000; Markley, 2002; McGuire, 2000; Sutton & Bogan, 2005).
Do home schools cost public schools or are public schools fiscally enhanced by home schools? More specifically, what is the fiscal relationship between Virginia public schools and home schools as measured by selected public school revenues and costs?

**Purpose of the Study**

The purpose of this study was to examine the relationship between Home School Enrollment and Virginia public school revenues and expenditures by developing a model that would measure if there was a relationship between Home School Enrollment and Virginia public schools revenues and expenditures from Fall 2001 through Fall 2010. The development of the model enabled the analysis of the fiscal relationship between Home School Enrollment and Virginia public school finances using the same SOQ measurable variables. The model was also created to analyze any appropriate variables that could possibly influence public school finances. The model could also provide a way for researchers from other states to compare and apply applicable measureable variables relevant to Home School Enrollment and public school finances.

**Summary of the Literature Review**

The consistent growth in home schools has resulted in the home schooling of approximately 2.04 million of our nation’s school aged children (Ray, 2011). Ray (2011) reported that since 10% of home school families do not report during surveys, the real number may be found in the range of 1.7 million to 2.3 million. Other studies estimated that approximately 4 percent of all school aged children are homeschooled which is almost three times the amount of children currently enrolled in charter schools (NCES, 2009).
Some studies showed that home schooling was on a steady increase in enrollment. Looking at research trends, Princiotta & Bielick (2008) reported that 2.9% of the school aged population was home schooled in the spring of 2007. In 2009 the United States Department of Education reported that public school enrollment grew by .59% from 2007 to 2010. The United States Census Bureau (2010) disclosed that the number of home school children from the ages of 5 years to 17 years grew by approximately 2.11% from 2007 to 2010. Ray (2011) suggested that the percentage growth in the number of children homeschooled exceeded the percentage growth in the number of children enrolled in public schools. Even with this empirical data, the relationship between Home School Enrollment and public school finances in many states has yet to be determined as there was little information found on the subject (NCES, 2009; Ray, 2011).

Despite the rise in home schooling, traditional public schools continue to dominate educational choice for grades K-12. Approximately 50 million children in grades K-12 are enrolled in public schools and about 5.9 million children are enrolled in private schools yet many public school officials view home schools as a threat to their existence (NCES, 2009; Wenders & Clements, 2008). For many years, some educators and educational policy makers believed that funds are extracted from public school divisions as a result of home schools (Apple, 2000; Christy, 2000; Cooper & Sureau, 2007; Lubienski, 2000). There are others who argue that home schools save tax monies by reducing public school enrollment thus reducing the amount of tax monies needed to educate public school children (Ray, 2003; Sutton & Bogan, 2005; Wenders & Clements, 2008).
Lips & Feinberg (2008) reported that parents who home school saves tax payers between 4.4 billion and 9.9 billion dollars per year in instructional cost. Similar results were found in an Oregon study; this study concluded that home schools make available additional funds for public school to utilize for daily operations to include instructional costs and non-personal costs (Ray & Weller, 2003). Nevada reported that public schools saved approximately $30 million in 2003 as a result of home schools (Wenders & Clements, 2008). In Virginia, the Weldon Cooper Center for Public Service (2008) reported that the increase in homeschooling in Virginia had no significant impact on average daily membership funding for public school divisions (Cai, 2007).

In Virginia, home school are similar to private and parochial schools, as they influence public school enrollment, which is said to directly affect two main sources of funding, enumerated funds and average daily membership funds (ADM) (Virginia Education Code § 22.1-254).

Using Virginia’s methods of calculating ADM and enumerated funds, it can be presumed that a reduction in public school enrollment can influence and possibly reduce public school funds as ADM and enumerated funds are directly affected by school enrollment (VDOE, 2011b). However, only ADM funds are awarded based on the number of students enrolled, enumerated funds are based on the number of school aged children residing in the locale of the school division. Simply put, enumerated funds are awarded to the locale based on the students living in the division, whether or not they are enrolled in public school.
The fiscal relationship between home schools and Virginia public schools is unknown; what is known is that Virginia’s home school enrollment has increased and has received little attention from the Virginia Department of Education (VDOE). Assuming, VDOE is correct in its analysis of funds affected by public school enrollment, the consistent and continuous increase in Virginia’s home schooling alone would justify examining the fiscal relationship between home schooling and public schools.

**Literature Terms and Definitions**

The following terms were defined for clarification as they will be utilized throughout the study:

Table 1 Definition of Terms

<table>
<thead>
<tr>
<th>Term:</th>
<th>Definition:</th>
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<tr>
<td>Private Schools:</td>
<td>Non-publically funded schools. These usually include independent schools that are religious or non-religious in affiliation and are either profit or nonprofit self-governing schools (WCCPS, 2006).</td>
</tr>
<tr>
<td>Charter Schools:</td>
<td>Publically funded schools of choice established to offer programs of academic excellence that operate according to a contract with a state, locality or educational agency. The contract or charter determines the educational goals under which they will operate (Center of Education Reform, 2009; Krop &amp; Zimmer, 2005).</td>
</tr>
<tr>
<td>Home Schools:</td>
<td>“The instruction of a student or students by a parent or parents, guardian or other person having control or charge of such student or students as an alternative to attendance in a public or private school in accordance with the provisions of the Code of Virginia provisions (§22.1-254.1).</td>
</tr>
<tr>
<td>Public Schools</td>
<td>A publicly funded institution, that meets the minimum requirements adopted by the Virginia Board of Education, where students are enrolled for all or a majority of the instructional day and are counted in the fall membership at the institution.</td>
</tr>
<tr>
<td>Average Daily Membership</td>
<td>The enrollment figure for the kindergarten through twelfth grade student population in Virginia public schools.</td>
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6
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<tr>
<th>(ADM)</th>
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<tr>
<td><strong>Composite Index</strong> -</td>
<td>A formula derived to determine the state and local government program costs for K-12 education. The Composite index is expressed as a ratio indicating the local percentage share of the cost of education programs.</td>
</tr>
<tr>
<td><strong>Appropriations Act</strong></td>
<td>A state authority given to the General Assembly of Virginia that allows distribution of funds out of treasury funds for specified purposes</td>
</tr>
<tr>
<td><strong>Fall Membership</strong></td>
<td>The number of public school students enrolled in K-12 on September 30 of each school year.</td>
</tr>
<tr>
<td><strong>Per Pupil expenditures (PPE)</strong></td>
<td>The cost assessed for each student in public education</td>
</tr>
<tr>
<td><strong>Triennial Census</strong></td>
<td>Local census conducted every three years within localities to determine the number of school age children residing in the locality</td>
</tr>
<tr>
<td><strong>Enumerated Funds</strong></td>
<td>Funds distributed to localities based on Virginia's triennial census numbers;</td>
</tr>
<tr>
<td><strong>Public School Revenues</strong></td>
<td>“The funds available to the school board of a school division for the establishment, support and maintenance of the public schools in the school division shall consist of state funds appropriated for public school purposes and apportioned to the school board, federal funds appropriated for educational purposes and apportioned to the school board, local funds appropriated to the school board by a local governing body of such funds as shall be raised by local levy as authorized by law, donations or the income arising therefrom, and any other funds that may be set apart for public school purposes” (Code 190, § 22-1161 ; 1971, Ex. Sess., c. 162; 1980, c. 559; 1988, c. 576.)</td>
</tr>
<tr>
<td><strong>Public School Costs</strong></td>
<td>The salaries and benefits of instructional and support positions as well as “non-personal” support costs such as supplies, transportation and utilities.</td>
</tr>
<tr>
<td><strong>Direct Aid to public education</strong></td>
<td>The funding appropriated for the operation of public schools to include funding for employee benefits, Standards of Quality, incentive-based programs, allotment of sales tax and lottery revenues.</td>
</tr>
<tr>
<td><strong>Impact Aid Program</strong></td>
<td>Impact Aid or Federal Count Funds are monies, distributed through the Impact Aid Law that provides assistance to local school divisions with at least three percent of its school population belonging to active military personnel or civilian government employees.</td>
</tr>
<tr>
<td><strong>Instructional Positions</strong></td>
<td>Teachers and other instructional positions such as school counselors.</td>
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Support Positions
Assistant Superintendents, Instructional Technical/Clerical, School Psychologists, Transportation, School Nurses, etc.

Non-Personal Support Costs
School supplies, utilities, etc.

Superintendents Report
“The Superintendent's Annual Report contains educational statistics reported annually by school divisions to the Department of Education. The report includes tables on enrollment, pupil-teacher ratios, promotion, retention, graduation, dropouts, and attendance, as well as financial data and data on school division personnel” (VDOE, 2011)

Taken directly from: Glossary of terms. www.doe.virginia.gov/glossaries/glossary.pdf

Research Questions
The research questions that guide this study are:

Research Question 1: What are the enrollment trends of Home Schools and Public Schools in Superintendent Region I of Virginia Public Schools from Fall membership 2001 through Fall membership 2010?

Research Question 2: Is there a relationship between Home School Enrollment and Public School Enrollment in Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Expenditures?

   a. Is there a relationship between Home School Enrollment Instructional Salaries?

   b. Is there a relationship between Home School Enrollment and Administrative Salaries?

   c. Is there a relationship between Home School Enrollment and Per Pupil Expenditure (PPE)?
Research Question 3: Is there a relationship between Home School Enrollment and Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Revenues;

a) Is there a relationship between Home School Enrollment and Virginia’s portion of Virginia’s portion of Basic Aid Funds?

b) Is there a relationship between Home School Enrollment and ADM funding?

c) Is there a relationship between Home School Enrollment and State Retail Sales and Use tax (Enumerated funds)?

**Methodology**

The variables identified, based on the Standards of Quality Expenditures and Revenues, were used to construct a model appropriate for Virginia to compare across the state and school divisions, the fiscal influence of home schools. The model enabled the evaluation and comparison of applicable variables to determine the fiscal relationship between Home School Enrollment and Virginia public school revenues and expenditures. The model was created so that it could be generalized to enable other states to use their appropriate variables to determine if Home School Enrollment will ultimately costs public schools money or save public schools money?

**Summary**

The findings of the variable comparisons will be documented and the results will be discussed.
Chapter 2

Literature Review

Background

Home schooling appears to be the most rapidly growing educational alternative in the United States today (Green & Hoover-Dempsey, 2007; Kunzman, 2005; Ray, 2010). Virginia is one of many states experiencing a number of parents and children electing to home school (WCCPS, 2008). For two hundred years, public schools were the main source of education for America’s school age children; today public schools are competing with the popularity and credibility of the school choice movement (Ray, 2010; Reindl, 2005). The movement has generated a national contention between public school supporters and home school advocates and has also generated an opportunity for investigation and research (Ray, 2010).

Prompted over which type of schooling provides a better education for America’s children (Ray, 2010; Romanowski, 2001), public school supporters and alternative school advocates appear to be at odds over which form of education is superior. Home school parents scrutinize public school divisions as demonstrated by their claim that public schools are unable to provide a quality education for their children. Public school officials assess that home schooling is a threat to public school education as parents take advantage of their right to choose an educational environment they believe appropriate and best suited for their children (Green & Hoover-Dempsey, 2007; Kunzman, 2005; Lubienski, 2000; Ray, 2004).
Literature Overview

In an effort to present an organized literature assessment and a foundation for this study, a historical overview of alternative schooling, to include private schools, charter schools and, of course, home schools were presented. These other forms of alternative schooling were presented to show that the enrollment trends of each have not increased as steadily as home schooling and did not warrant any further research as an influence on public school finances. Specific trends of each of these educational alternatives to include their enrollments and funding sources were presented as well. Because this study will be focused on homeschooling, a more detailed description of Home School enrollment in America and in Virginia will be presented using graphical presentations. A general synopsis of how public schools’ revenues and specific costs were also included for review. To conclude this literature review, relevant studies conducted in other states, on the influence of Home School Enrollment on public school finances, will be examined in an effort to rationalize the purpose for this study: does home schooling cost or save money for Virginia public schools?

Literature Search

A computerized database search of ERIC began the process of searching for appropriate studies and articles to include in this literature review. The initial task was to expand the search to include other databases to ensure a wider range of information was examined. The databases utilized were Academic Search Complete, Education Research Complete, Regional Business News, Federal Research Complete, Teacher Reference Center, Women Studies, and Business Source Complete. In addition, GOOGLE’s search
The primary keywords used were home school and home schooling. The other terms used were in combination with home schooling such as, public school finance; public school funding; public schools and alternative schooling; public schools and fiscal impact; home schools and public schools and impact of home schools and public schools.

**Alternative Schooling**

VDOE (2011b) defines alternative education as “a school or center organized for alternative programs of instruction”. Alternative schooling is a form of education for school age children that is utilized in place of public education. This literature review will partly focus on alternative schooling and not alternative education.

Some research indicates that alternative schooling has experienced a steady increase in enrollment over the past several years thus leading some authors to believe that public school divisions are no longer the ultimate choice for a kindergarten through twelfth grade education (Apple, 2005; Bauman, 2002; Cooper & Sureau, 2007; Kunzman, 2005). There are other writers who believe that the rise in alternative school enrollment may lead to educational privatization and a possible replacement of public school education as the primary institution to educate America’s school age children (Lubienski, 2000; Reich, 2002).

This literature review highlights three types of alternative schooling; private schools, charter schools and home schools.
Private Schools Defined

The Weldon Cooper Center for Public Service define Virginia private schools as independent, self-supporting entities that provide education to students who can pay tuition and can meet specific admissions’ requirements (WCCPS, 2008). In the past, private schools were the primary alternative form of education before the onset of charter schooling and home schooling. WCCPS (2008) reported that private schools are non-publically funded schools which generally include independent schools that can be either profit and non-profit self-governing schools (WCCPS, 2006).

Charter Schools Defined

VDOE (2011e) defines charter schools as public schools, controlled by local school boards that provide an elementary or secondary education to eligible students under a specific charter granted by the state legislature. The specific purpose of charter schools in Virginia is to provide opportunities for innovative instruction, inventive assessment, school choice and performance based educational programs. They are funded through a special public charter school fund comprised of gifts, grants and donations from public or private sources along with allocated funds from the same sources as the public schools. As defined, Virginia treats charter schools as public schools with an addition of discretionary funds to assist in their pursuit of offering specialized educational programs (VDOE, 2011c).
Private School Enrollment and Funding

The National Center for Education Statistics (NCES) reports that funding for private schools comes from a pool of independent and private donations as well as student tuition and fees. It was reported in a Private School Survey (PSS), conducted every two years, that between 1993 and 2006, enrollment in private elementary and secondary schools decreased by one percent and NCES (2010) projects that enrollment will decrease by an additional two percent between 2006 and 2018 (NCES, 2009; NCES, 2010).

According to Virginia’s Weldon Cooper Center for Public Service (WCCPS), student enrollment in private elementary and secondary schools will experience fluctuations but the changes in enrollment will not fiscally impact Virginia public schools (Cai, 2007; WCCPS, 2008). Additionally, the 2009 Private School Universe Survey (PSUS) revealed that Virginia experienced a decline in private school enrollment beginning in 2005 and predicted that the decline may continue the same trend through 2018. After reviewing the national trends and comparing them to the reported Virginia trends, it appears that the private school enrollment trends in Virginia follow the same pattern as the national trend for private schools. (NCES, 2011)

Whatever the reason for the decline in private school enrollment, the literature implies that the current state of private schools nationally does not pose a fiscal threat to public school revenues or costs. It can be assumed that the same applies to Virginia as the enrollment has consistently declined from 2001 through 2010 (NCES, 2011). However,
the literature does reveal that there are limitations to this claim that must be considered when examining the supposed decline in private schools.

WCCPS (2006) reported that private school enrollment in Virginia has always been a rough estimate as Virginia does not require private schools to report enrollments. The data are collected from inconclusive private school surveys with low participation rates and low response rates with questionable reliability and validity (WCCPS, 2006; NCES, 2009). Figure 1 illustrates the decrease and projected decline in the Virginia’s private school enrollment as it highlights the enrollment trends from 2001 through 2010 (NCES, 2009).

*Figure 1. The enrollment trends of private and public schools in Virginia from 1993 through 2018 projection*

Charter Schools Enrollment and Funding

As mentioned earlier in this review, charter schools are funded through the same channel of funds as public schools but the way the funds are distributed varies from state to state (Christy & McNeal, 1999; Christy, 2000). Charter schools also receive additional funds from grants provided by the federal government that supplement local funds.
Nationally, charter schools receive an average of forty percent less public funding than public schools (NCES, 2008). For example, in 2006, Arkansas charter schools received 64% of their funds from state and local revenues which was equal to the minimum per average daily membership. In 2010, Arkansas’ charter school funding was equaled with public school funds and channeled through the same funding source, their annual state appropriations (Center for Education Reform, 2010). In 2006, Colorado charter schools received seventy percent of their operating funds from their public schools but now, Colorado receives at least ninety-five percent of the average per pupil revenues for each of their charter school students (Center for Education Reform, 2010).

Unlike Colorado and Arkansas, Virginia’s public charter schools are funded through a special public charter school fund comprised of gifts, grants and donations from public or private sources along with allocated funds from the same sources as the public schools. As defined, Virginia treats charter schools as public schools with an addition of discretionary funds to assist in their pursuit of offering specialized educational programs (VDOE, 2011c).

Virginia’s charter school students are also included in public school ADM counts. Neither an increase nor a decrease in enrollment can impact Virginia public school funding as ADM funds are disbursed for each charter school student enrolled (VDOE, 2011c). Table 2 and Figure 2 shows the enrollment trends in student population for Virginia public charter schools from Fall 2001 to Fall 2010. It also displays that student enrollment for Virginia public charter schools experienced a decline in 2004 and has not recovered to the height of 2003 to present (VDOE, 2011c)
Table 2 Number of Virginia Public Charter Schools and Enrollment Trends

<table>
<thead>
<tr>
<th>School year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charter Schools Numbers</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total Student Enrollment</td>
<td>41</td>
<td>40</td>
<td>440</td>
<td>685</td>
<td>745</td>
<td>555</td>
<td>231</td>
<td>237</td>
<td>248</td>
<td>256</td>
<td>190</td>
</tr>
</tbody>
</table>

Enrollment counts are from Virginia Department of Education, 2010

*Figure 2. Virginia Public Charter Schools and Enrollment Trends*

Private and Charter School Summary

Private schools are funded separately from public schools and students who attend these schools cause a reduction in public school enrollment but is there a relationship between private school enrollment trends and public school revenues and costs? Although private school enrollment is not accurately accounted for, the literature revealed a decline in private school attendance both in the nation and in Virginia (NCES, 2009; WCCPS, 2006; &WCCPS, 2008)
The three charter schools in Virginia do not influence ADM funds as local school divisions receive ADM monies for their charter school enrollees; Virginia Public Charter Schools are public schools (Center for Education Reform, 2010; VDOE, 2011c). Additionally, while public charter schools may reduce student enrollment, the literature suggests that the small number of students enrolled in charter schools are not enough to influence public school revenues or costs. This was revealed as WCCPS reported the enrollment of public charter schools students represented .000017 percent of Virginia’s fall 2007 student enrollment as this was the most recent time these statistics were evaluated (Cai, 2007).

Both private and charter schools influence student enrollment. In most cases only private schools can reduce public school enrollment as charter school are public schools. In Virginia too, charter schools are public schools therefore the impact of charter schools on public schools is not a basis for further research as the research questions focus on a decrease in public school enrollment as a variable in determining if public school revenues and costs are affected. The literature suggests that Private schools in Virginia are on a steady decline and according to Cai (2007) the numbers will continue to drop through 2018. Home schooling is the only one of the three that has increased its enrollment on a consistent basis which lends the researcher reason for using home schooling as the alternative school choice for evaluation (Cai, 2007; NCES, 2008).

The literature thus far has revealed that alternative schooling is being selected more so now than ever before (NCES, 2009; Ray, 2006; Ray, 2010). Although there are a number of reasons why some parents have elected to forfeit public schooling, several
authors believe that the common rationale is simple; parents want the best education for their children (Ray, 2010; Sutton & Bogan, 2005; Wenders & Clements, 2007). Home schooling is the only one of the three that has increased its enrollment on a consistent basis (Cai, 2007; NCES, 2008). The next section will examine the third form of alternative schooling, home schooling.

**Home Schooling Defined**

Lines (2001) defined home schools as an educational environment that encourages a greater variety of learning situations with flexible schedules for daily lessons. Homeschooling consist of instructional methods that are pretty much the same as conventional education, just provided at home by the parent or guardian (Ray, 2010). The Virginia Education Code § 22.1-254.1.B (2011) defines home schooling as the instruction of children by their parents in lieu of school attendance. In Virginia religious exempt falls under the realm of home schooling. Religious exempt children are home schooled on the grounds of religious exemption, as an alternative to compulsory school attendance. The parents that claim religious exemption use their religious beliefs and convictions as a reason to home school their children.

**Motivating Factors for Home Schooling**

From the onset of the home schooling movement in the mid to late 1970s, the essential motives for home schooling were religious values and beliefs and academic concerns (Green et al., 2007). Lines (2001) indicated that parents opted to home school their children because local public and private schools failed to teach a curriculum that supported their fundamental religious beliefs. Isenberg (2007) indicated that home school
parents believed it is important for their children to experience religious teachings and values in an academic learning environment. Because public schools do not and cannot incorporate these religious teachings in their systems, parents remove their children to be home schooled (Isenberg, 2007; Ray, 2010).

The NCES surveyed home schooling parents in 2003 and concluded that approximately thirty-one percent of these parents expressed concerns about public schools; the safety of the schools was a concern as well as negative peer pressure. Kunzman (2005) and Princiotta and Bielick (2006) both revealed that almost thirty percent of the parents surveyed pointed out their need to have religious or moral instruction included in their children’s curriculum. Nearly seventeen percent of surveyed parents reported concerns for general academic instruction, seven percent expressed concerns for the quality of special needs instruction and almost seven percent reported issues with instruction for children who had physical or mental disabilities (Kunzman, 2005; Princiotta & Bielick, 2006).

Many parents cited their negative childhood school experiences as a reason choosing to home school; they mentioned scrutiny at the hands of schoolmates and the determination to keep their children free from the same type of experiences. They also mentioned the lack of control over the other negative school environment issues with an emphasis on negative peer pressure and negative influences (Pannapacker, 2005). Family lifestyles were also a motivating factor for home schooling. Parents reported that they treasure the idea of family bonding that included spending time together on a daily basis free from outside interruptions. They also mentioned the freedom to experience field trips
as a family, the flexibility of scheduling and family periods of relative autonomy (Green, et.al., 2007). Home schooling affords parents the pleasure of cross-generational experiences for their children instead of relating only with a peer group. Older children of large families experience tutoring their younger siblings and younger siblings experience learning from their older siblings. Parents believe that the home school experience with family bonding prepares their children for the future in a more positive way than public schools (Pannapacker, 2005).

Some other reasons for Home Schooling were the inability to afford private schooling, the value of unstructured instruction and the benefit of identification with family. Parents also stated that the development of values and the avoidance of disciplinary consequences were factors contemplated to decide to home school (Isenberg, 2007). Ed Collom (2005) reported findings from several surveys researching parental motivations for home schooling. He concluded that the overall reason was the growing dissatisfaction with public schools. Collom (2005) summarized parental motivations for home schooling into four overlapping areas: the lack of general satisfaction with other schools, family lifestyles, religious beliefs/values and academic concerns. Collom (2005) also cautioned that these studies did not have a high participation rate because many home school parents refuse to participate in surveys but the results of all the studies conclude that these four categories are consistent across the board.

**Virginia Home School Enrollment Trends**

In Virginia, the Weldon Cooper Center for Public Service (WCCPS) (2008) reported that the number of children home schooled in Virginia increased at a rapid pace.
From 18,799 students in December, 2000 to 31,978 in December, 2010 this represents nearly a 70 percent increase in ten years and a more immediate growth than either public or private schools (VDOE, 2011e). WCCPS (2008) forecasted that Virginia’s home school enrollment will continue to increase through at least 2012.

With the exception of some research conducted by WCCPS, home schooling in Virginia has received little attention from educational finance specialists, educational policy makers and economists. The growth in home schooling has been consistent in the nation and in Virginia (NCES, 2009, VDOE, 2011e, Ray, 2011). Again, some authors write that if there is an increase in Virginia’s home schooling then it may contribute to a reduction in public school enrollment. WCCPS (2007) indicates that the enrollment numbers only account for a small percentage of Virginia’s school aged children but a consistent increase in home school enrollments is a reason to contemplate a solution before it possibly becomes a dilemma (WCCPS, 2007). The literature also revealed that public school systems in other states have considered and studied home schooling as a factor of financial concern. This literature review will highlight some of the relevant out of state studies for the express purpose of viewing how other states have conducted similar research on the relationship between home schooling and public school revenues and costs (Sutton & Bogan, 2005; Christy, 2000; Ray & Weller, 2003; Wenders & Clements, 2008).

**Relevant Out of State Studies**

Wenders and Clements (2008) conducted a study examining the practices, policies and funding implications of home schooling in Nevada. This study was done in
two parts; part one focused on parental reasons for home schooling their children and part-two on the fiscal impact of home schooling on Nevada’s public school funding. For the purpose of this study, the second part will be the primary focus of examination.

Like Virginia, Nevada experienced a consistent increase in home schooling for example, from 2003 - 2004 to 2004 – 2005 growth rates of 2.17 percent and 5.81 percent respectively were reported. In 2008 home school students accounted for 1.07 percent of public school students. Nevada uses state funds to supplement local funds in an effort to support and make up per pupil expenditures. There is a basic fund that is distributed based on per pupil expenditure for student enrollment, staff licensing, transportation expenses, special education services, operating costs and local tax bases. Nevada’s home schooled children are not enrolled in public schools yet their parent’s tax monies are counted among the basic fund for public education. The tax revenues are considered a savings to Nevada’s taxpayers and additional money to educate public school students. Nevada’s reported savings can be calculated by considering the additional cost Nevada’s public schools would acquire if home school students were to enroll in public schools. Student enrollment is the basis for Nevada’s public school funding and expenditures. This claim to saving is based on the number of home schooled students multiplied by the average costs per student. For example, in 2008 Carson City, Nevada had home school enrollment of 114 and the average cost per student (PPE) was $6,425; Nevada’s method is to multiply 114 X $6,425 which yielded a savings of $732,450 for the school district and an annual savings of $83.22 per student. The annual savings per student is calculated by dividing the annual cost savings of $732,450 by the public school enrollment, 8801.
($732,450 / 8801 = $88.22). The results of Nevada’s study reports that home schooling provides taxpayers with a significant savings due to a reduction in student enrollment which yields increased funds for public schools. Table 7 provides an example of the method Nevada uses to analyze the fiscal impact of home schooling on public school funding.

Table 3 Example of Annual Total Cost Savings From Home Schooling

<table>
<thead>
<tr>
<th>Public School District</th>
<th>Public School Enrollment</th>
<th>Home School Enrollment</th>
<th>Avg. Cost Per Student (PPE)</th>
<th>Annual Cost Saving From Home Schooling</th>
<th>Annual Savings Per Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carson City</td>
<td>8801</td>
<td>114</td>
<td>$6,425</td>
<td>$732,450</td>
<td>$83.22</td>
</tr>
<tr>
<td>Eureka</td>
<td>220</td>
<td>24</td>
<td>15,547</td>
<td>$373,130</td>
<td>$1,696</td>
</tr>
<tr>
<td>Lincoln</td>
<td>1012</td>
<td>9</td>
<td>9,465</td>
<td>$85,186</td>
<td>$84.17</td>
</tr>
<tr>
<td>Pershing</td>
<td>841</td>
<td>16</td>
<td>7,383</td>
<td>$1,181,271</td>
<td>$1,404</td>
</tr>
<tr>
<td>White Pine</td>
<td>1380</td>
<td>19</td>
<td>8,292</td>
<td>$157,548</td>
<td>$114</td>
</tr>
</tbody>
</table>

Nevada’s statistics on home school savings taken directly from Wenders and Clements (2008)

Wenders and Clements (2008) concluded that home schools serve as an asset to Nevada public schools based on a decrease in student enrollment which they claim leads to a decrease in expenses. If Virginia were to use Nevada’s method to determine home schoolings influence on public schools, would it produce a different outcome? And is Nevada’s method an appropriate way to calculate home schooling’s fiscal influence on Virginia public schools?

During the fall membership counts of 2004, Florida discovered that its student enrollment had decreased as a large number of parents decided to educate their children at home. From 1993 to 2003 Florida’s home school enrollment increased by 300 percent.
As a result, the Florida Education Finance Program (FEFP) conducted a case study to determine the fiscal impact of home schooling on Florida public schools. The researchers, Sutton & Bogan (2005) discovered that out of 2.5 million students enrolled in the public schools during the 2002–2003 school year, 45,333 were home schooled. As in Nevada, Florida’s primary source for public school funding is based upon per pupil expenditures (PPE). Also, home school parents were also required to pay property tax without any adjustment due to their choice to home school. The same is true for Nevada; home school parents pay the same taxes for public education as do public education parents. For the 2002–2003 school year, Florida’s per pupil expenditure was $6,187; in Florida, the per-pupil expenditure is equal to Florida’s basic fund divided by the number of students enrolled in Florida’s public schools. If the 45,333 home schooled students were to enroll in public schools an additional $280,475,281.00 would be needed from state funds simply to maintain revenues and to support the increase in student enrollment (Sutton & Bogan, 2005). The method used to determine this amount was to multiply the per-pupil expenditure by the number of students home schooled.

Sutton and Bogan (2005) concluded that home schooling in Florida is a fiscal benefit to public schools. The extra revenues are generated from tax monies paid by home schooling parents and the non-enrollment of home school students in Florida’s public schools. Table 4 gives an example of the mathematical method used in Florida that led to this conclusion.
Table 4 Example of Florida’s Method of determining Home School’s Impact on Public School Finance

<table>
<thead>
<tr>
<th>Number of Public School Students</th>
<th>Number of Home Schooled Students</th>
<th>Per Pupil Expenditures</th>
<th>Amount of funds needed to support additional Home Schooled Students</th>
<th>Reported savings due to home schooled students</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,500,000</td>
<td>45,333</td>
<td>$6,187.00</td>
<td>$6,187 x 45,333</td>
<td>$280,475,271.00</td>
</tr>
</tbody>
</table>

Taken directly from Bogan and Sutton (2004) FEFP

Brian Ray, Director of the National Home Education Research Institute (NHERI) and Nick Weller of the Cascade Policy Institute (CPI) inferred that public school systems can experience financial savings simply by multiplying the amount of per pupil expenditures by the number of home school students. Ray and Weller (2004) concluded that if 20,000 home school students returned to public school it would be a significant expense to the state as it could cost the state in excess of 100 million to maintain per pupil revenues given per pupil expenditures were approximately $5,000.00. Otherwise per pupil allocations would decrease and school funding would be reduced. Per pupil expenditures across Oregon differed according to locality, population and tax base so the study was based on an average per pupil expenditure.

In North Carolina, the contents of House Bill 355 of North Carolina estimated that an annual increase in home school enrollment produces savings for the state and local governments. This estimate was based on a reduced number of public school students resulting in a reduction in state expenditures for public schools based on per pupil costs (NC HB 355, 2008). In other words, the funds that would have sustained home schooled children would be re-allocated for other uses in North Carolina public schools (NC HB 355, 2008).
Christy (2000) conducted a study evaluating the financial impact of alternative schooling on public schools across Arizona, Arkansas and Colorado but his conclusion differed from Sutton and Bogan (2004) and Wenders and Clements (2008). Christy found that school districts lost funding from an increase in alternative schools’ enrollment as each of these states experienced a reduction in public school enrollment, but did not experience a reduction in the financial need of each of their public school systems. These school districts outlined how a reduction in student enrollment reduces the funding awarded based on per pupil expenditures. Arizona, Arkansas and Colorado all used a method similar to Florida and Nevada; they multiplied the number of alternative students by the amount allocated for per pupil expenditures and compared it to operating expenses rather than taxes and state funding as did Nevada and Florida. For instance, when a school system loses twenty students to alternative schooling, their funding is reduced by multiplying per pupil expenditures by the number of students lost. This loss of funding is then applied to operating expenses such as personnel’s salaries, transportation costs and educational and general supplies. Christy (2000) concluded that a loss of students could lead to a loss in per pupil expenditures, net operating funds and basic operating funds to operate public schools efficiently. More than that, Christy reported that student /teacher ratios may increase as a result in loss of funding for teacher hire and re-hire. Table 9 displays an example of the method used by Christy (2000) that yields a loss in funding for public schools due to a decrease in student enrollment. The example supposes a loss of twenty students in a four hundred student elementary school and a 2.5% cost of living increase for the elementary schools’ employees and a 2.5% increase for per pupil
expenditures. It shows how Christy concluded a loss in funding, its impact on personnel funding and decrease in funds for expenses after personnel allocations.

Table 5 An Example of Christy’s Method of Calculating Costs for losing 20 students to Alternative Schooling

<table>
<thead>
<tr>
<th>School Year 1</th>
<th>Number</th>
<th>Expenditure</th>
<th>School Year 2 (plus 2.5 percent increase)</th>
<th>Expenditure</th>
<th>Gains/Losses (+) (-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>400</td>
<td>380</td>
<td></td>
<td>-20</td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>20@$40,000</td>
<td>$800,000</td>
<td>20@$41,000</td>
<td>$820,000</td>
<td>+$20,000</td>
</tr>
<tr>
<td>Principal</td>
<td>1@$70,000</td>
<td>$70,000</td>
<td>$71,750</td>
<td>+$1,750</td>
<td></td>
</tr>
<tr>
<td>Secretary</td>
<td>1@$22,000</td>
<td>$22,000</td>
<td>$22,550</td>
<td>+$550</td>
<td></td>
</tr>
<tr>
<td>Librarian</td>
<td>1@$30,000</td>
<td>$30,000</td>
<td>$30,750</td>
<td>+$750</td>
<td></td>
</tr>
<tr>
<td>Custodians</td>
<td>2@$18,750</td>
<td>$37,500</td>
<td>$38,437.50</td>
<td>+$937.50</td>
<td></td>
</tr>
<tr>
<td>Cafeteria Workers</td>
<td>4@$12,000</td>
<td>$48,000</td>
<td>$49,200</td>
<td>+$1,200</td>
<td></td>
</tr>
<tr>
<td>Total Personnel Expenditures</td>
<td>$1,007,500</td>
<td>$1,032,687.50</td>
<td>+$25,187.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPE</td>
<td>$4300 per student</td>
<td>$4,400 per student</td>
<td>-$88,000 (20@$4,400)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic Fund</td>
<td>400@$4300 per student</td>
<td>$1,720,000</td>
<td>380@$4,400 per student</td>
<td>$1,672,000</td>
<td>-$48,000</td>
</tr>
<tr>
<td>Net Operating Funds</td>
<td>$712,500</td>
<td>$639,312.50</td>
<td>-73,187.50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample budget worksheet and statistics taken directly from Christy (2000)

Bohte (2004) drew the same conclusion as Christy (2000) emphasized that a reduction in school enrollment may lead to a reduction in operating and instructional expenses. Bohte (2004) added that the equivalent instruction that is needed for 25
students is necessary for 20 students; this indicates that the operational expenses for public schools are not decreased as readily as student enrollment decreases. Bohte (2004) also implied that an increase home-school enrollment does not diminish the needs of public schools; expenses may change but operating funds for public schools will more than likely decrease because of the anticipated decrease in enrollment. Markley (2002) emphasized that if a school loses students to some form of alternative schooling, it loses state revenues. Markley’s premise was that teaching positions cannot be eliminated as the loss of students per classroom cannot justify the loss of the teacher. For example, if five students are lost per grade level, the number of teachers needed is not altered as a result of the loss of five students but funds are loss as a result of the decrease in student enrollment which impacts the school’s operating budget.

**Virginia Public School Finance**

Virginia public school divisions base their revenues on the Standards of Quality Funding process. The Standards of Quality (SOQ) are the minimum educational program provided by school divisions as mandated by the Virginia Constitution (VDOE, 2011d). The Code of Virginia and the Appropriations Act outlines the specific requirements of the Standards of Quality that must be expressly followed. SOQs dictate all funding and costs for Virginia public schools via the General Assembly who apportions the costs between the state and localities and the Appropriations Committee who determines how much funding is distributed to each division. The SOQs also accounts for over 90% of direct aid to public education to include school employee salaries and benefits, allotment of sales tax and lottery revenues and specific appropriations for specialized individual
programs. Figure 3 displays in summary the approximate SOQ funding for school year 2010. It highlights the vast amount of Virginia direct aid to public education that is devoted to the Standards of Quality (VDOE, 2011).

*Figure 3. Sample of State Direct Aid Funding of SOQs*

Adapted from” Overview of Standards of Quality Funding Process” (VDOE, 2011)

In summary, the SOQ funding process is distributed through ten accounts primarily based on a per pupil basis; the ten accounts are listed in Table 6:

Table 6 SOQ Funding Accounts

<table>
<thead>
<tr>
<th>Basic Aid</th>
<th>Fringe Benefits for funded instructional positions</th>
<th>7. Remedial Summer School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career and Technical Education</td>
<td>Gifted Education</td>
<td>Sales Tax (or enumerated funds; 1.125 for public education)</td>
</tr>
<tr>
<td>English as a Second language</td>
<td>Prevention, Intervention and Remediation</td>
<td>9. Special Education</td>
</tr>
<tr>
<td></td>
<td>10. Textbooks</td>
<td></td>
</tr>
</tbody>
</table>
Of the ten accounts, Virginia public school divisions base their revenues on five main sources of financial support; average daily membership (ADM) funds, local, state and federal funds under the heading of Basic Aid and state retail sales and use tax also referred to as Enumerated Funds under the sales tax for public education account (VDOE, 2011d). The additional source of revenue is the fringe benefits for funded instructional positions.

For Virginia public schools there are three measures that determine SOQ costs; instructional and support positions along with their benefits and “non-personal” support costs such as supplies, transportation and utilities (VDOE, 2011d). Figure 4 illustrates what percentage of SOQ funding is used up on instructional salaries and benefits as well as support positions and benefits; approximately 84% of costs were expended on salaries and fringe benefit.

*Figure 4. Sample of approximate SOQ costs for Virginia Public Schools used for instructional and support positions and benefits for School year 2010*

Projected Total Standards of Quality Costs, FY 2010

<table>
<thead>
<tr>
<th>Percentage of Total Instructional and Support Costs</th>
<th>Instructional Salaries</th>
<th>Support Salaries</th>
<th>Non-personal Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>57%</td>
<td>$5,152,689,043</td>
<td>$2,444,329,217</td>
<td>$1,490,056,914</td>
</tr>
</tbody>
</table>

**Support Salaries / Non-Personal Services = $1,490,056,914**

**TOTAL = $9,086,429,820**

Taken directly from “Overview of Standards of Quality Funding Process” (VDOE, 2009)
According to VDOE’s School Finance division, the Standards of Quality (SOQ) is the determining factor for the amount of funds disbursed and expended (Kent Dickey, Director of Finance, VDOE personal communication, March, 2012). There are ten SOQ funding accounts but only eight SOQ expenditure categories; instruction, administration and health, transportation, maintenance, technology, operation, food service and per pupil expenditure (VDOE, 2012).

According to some former assistant superintendents assigned to finance, the two forms of financial support that were influenced by home school enrollment were average daily membership funds and enumerated funds (B. Browder, personal communication, 2012). ADM funds are monies distributed to school divisions based on the number of students enrolled on September 30 of each school year (VDOE, 2011d). Every September 30, Virginia school divisions submitted enrollment counts to the Virginia Department of Education for a determination of funds based on the number of students enrolled. Also in September, division superintendents submit enrollment forecasts for the same school year, then in March division forecasts are evaluated and ADM funds are either adjusted as needed or funding remains the same as distributed from September 30 counts. If the forecast is higher than the actual enrollment number when the state evaluates funding in March, then the division must return the overflow of funds to the state. If the forecast was lower, then the division will receive the appropriate additional monies for operating expenses for the remainder of the school year to match enrollment numbers. If the forecast was equivalent to the March enrollment numbers then there will be no change in the ADM funding (B. Browder, personal communication, 2012).
The triennial census count was used to distribute the estimated one percent of state sales and use tax proceeds to school divisions as a part of the basic aid funding formula, these are enumerated funds. Until 2010, the triennial census was conducted every three years to determine the count of all school aged children, between the ages of 5 years and 19 years, residing in Virginia’s school division localities. As of July 2010, the Virginia General Assembly passed House Bill 669 that abolishes the requirement to conduct a census every three years of school age children from five years to nineteen years (VDOE, 2011a). The amendment requires the allocation of sales and use taxes to localities to be distributed according to fall membership counts. Additionally, the WCCPS will conduct future census every ten years beginning 2012. In the interim, WCCPS will be compensated by Virginia’s school divisions and will report projected population estimates to the Virginia Department of Education by June 30 of each year beginning July, 2012 (VDOE, 2011a).

For the purpose of this study, the only expenditure categories analyzed were the instructional and administrative position salaries and per pupil expenditure as these three categories have the most potential to have a relationship with student enrollment or average daily membership. This is because these variables represent personnel expenses, the largest public education expense of Virginia’s SOQs (Kent Dickey, VDOE personal communication, March 12, 2012).

Table 15 the Annual Superintendents’ Report itemizes the sources of financial support for each school division in the Commonwealth of Virginia. It provides the reader with the amounts of local, state, State Retail Sales & Use tax (Enumerated Funds) and
federal funds disbursed to each school division for one year. Each of these amounts represents a source of revenue. Table 15 also details the amount of funds allocated per student thus providing the amount of ADM funding per student from each source. For the purpose of this study, the funds analyzed were, Virginia’s contribution to ADM allocations, State Retail Sales and use tax and Virginia’s portion of the Basic Aid Fund. These sources of funding were chosen because Virginia’s funding for public schools varies by student enrollment which is a primary focus of this study. The state ADM allocations represent Virginia’s contribution to students’ total ADM funding; it is the amount the state sends to each locality for each student (Kent Dickey VDOE, personal communication, March 2012). Finally, the state retail sales & use tax source was selected because it represents the enumerated funds disbursed from the triennial census.

**Virginia Public School’s Fiscal Relationship with Home Schools**

Virginia’s home-schooled students are not counted in the average daily membership but they are counted in the enumerated funds generated by the triennial census. Virginia school divisions do not lose the monies collected from the sales tax which is based on the triennial census count as children are counted whether they attend public schools or not. However, school divisions do lose state funds from home schooled children because they are not accounted for in the fall membership counts on September 30 nor are they considered when end of the year enrollment forecasts are submitted in March for the end of the school year.
Figure 5 displays the methods currently used by Virginia public school divisions to calculate per pupil expenditures, to determine the amount of ADM monies allocated and to compute triennial census funds are calculated before distribution to localities.

**Figure 5. Method for calculating Enumerated Funds, ADM Funds and Per Pupil Expenditures**

<table>
<thead>
<tr>
<th>Method for calculating enumerated funds per student</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Percent of Retails Sales Tax and Use Awarded from basic aid formula (divided by) Triennial Census Counts = Enumerated funds per student</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method for calculating per pupil expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Funds + State Funds + State Retail Sales and Use Tax + Federal funds (divided by) fall membership counts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method for calculating ADM Funds per student</th>
</tr>
</thead>
</table>

Fall membership counts (times) Per Pupil Expenditures = Average Daily Membership Per Student

Table 10 displays an example of how Virginia school divisions calculate the financial impact of home schooling on the only types of financial support that are affected, ADM and enumerated funds. This table uses actual 2005 data from a Virginia school division. Specifically, the table shows that there were 7,220 school aged children in this locality, both public school students and home school or religious exempt students. Of the 7,220 students accounted for, this locality received $72,753.12 in enumerated funds \( \{7,220 \times 1\% \text{ (State sales tax and use)} = \$72,753.12\} \) which was equivalent to $748.00 per student (B. Browder, 2007). The basic aid allocated for this division was $5,305,814 from the state basic aid fund and $31,708,538 of ADM monies were based on 6,052 students enrolled on September 30. The Per Pupil Expenditure was calculated by dividing the basic aid amount by the fall membership count of 6,052 students. The ADM
amount was derived by multiplying the per pupil expenditure amount of $5,239.93 by the number of students accounted for on September 30 (6052 x $5,239.93 = $31,708,538). Finally, the table shows that the division lost a total of $518,694.66 of ADM funds due to ninety-nine home schooled students {$99 \times \$5,239.93 = \$518,694.66}.

As a result, this school division suffered a net loss of $445,841.54; this was determined by subtracting the triennial census monies ($72,753.12) from the lost ADM funds ($518,694.66) {\$518,694.66 - \$72,753.12 = \$445,841.54}. Fortunately, the triennial census monies helped to offset the lost ADM monies as school divisions are awarded these funds according the number of school age children in the locality. If it were not for the triennial census monies, this division would have lost $518,694.66. (B. Browder, Personal Communication, 2007).

Summary for Example Virginia School Division Funding, Census Counts and Enrollment Numbers

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Membership</td>
<td>6,052</td>
</tr>
<tr>
<td>Triennial Census Count</td>
<td>7,220</td>
</tr>
<tr>
<td>Home School Enrollment</td>
<td>99</td>
</tr>
<tr>
<td>PPE</td>
<td>$5,239.34</td>
</tr>
<tr>
<td>ADM</td>
<td>$31,708,538</td>
</tr>
<tr>
<td>Triennial Census Funds</td>
<td>$72,753.12</td>
</tr>
<tr>
<td>Basic Aid</td>
<td>$5,305,814</td>
</tr>
</tbody>
</table>
Table 7 Example of Loss of ADM Funds due to Home Schooled Students

<table>
<thead>
<tr>
<th>Numbers</th>
<th>Method</th>
<th>Amount</th>
<th>Net Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall Membership</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PPE</strong></td>
<td>$31,708,538/6,052</td>
<td>$5,239.34</td>
<td></td>
</tr>
<tr>
<td><strong>ADM Funds</strong></td>
<td>6,052 x ($5,239.34)</td>
<td>$31,708,538</td>
<td></td>
</tr>
<tr>
<td><strong>Triennial Census Counts</strong></td>
<td>7,220 x One percent of Sales and Use tax</td>
<td>$5,305,814</td>
<td></td>
</tr>
<tr>
<td><strong>Triennial Census Award Amounts per student</strong></td>
<td>$5,305,814/7,220</td>
<td>$734.88/per student</td>
<td></td>
</tr>
<tr>
<td><strong>Home School Enrollment</strong></td>
<td>99 x $5,239.34</td>
<td>-$518,694.66</td>
<td>-$445,941.54 Divisional loss</td>
</tr>
<tr>
<td><strong>Estimated loss Per Home School Student</strong></td>
<td>$445,941.54/6,052</td>
<td></td>
<td>$73.68 Per student loss</td>
</tr>
</tbody>
</table>

Allocation amounts taken directly from the 2005 Superintendent’s Report (VDOE, 2010)

Cost or Savings?

Despite the increase in Virginia’s home school enrollment, there is limited relevant literature and nonexistent empirical data addressing the fiscal impact of home schooling on Virginia public schools revenues and costs. The review of literature indicated that Virginia public schools rely upon average daily membership funds (ADM) as a major source of funding. Since ADM funds are tied directly to student enrollment, Virginia public schools’ operating funds would have to be directly influenced by an increase in home school enrollment (B. Browder, Personal Communication, 2012). Also,
the summary of SOQ cost indicates that all costs are converted to a per-pupil amount and are also multiplied by ADM counts. Even in determining state and local shares, the composite index of local ability to pay is divided by either local or state ADM numbers. The fringe benefits account for funded instructional positions was not a part of Virginia’s current equation for determining home schools fiscal relationship with public schools but it too is based on student enrollment. Whether it is the formula for funding or the determinant formula for cost, ADM numbers appeared to be a determinant factor and a viable measure (B. Browder, Personal Communication, 2012). This revelation lead to the conclusion that student enrollment was a major factor in determining the fiscal relationship between home schooling and public school revenues and expenditures.

Advocates for public schools believed that home schools cost public schools. Home school supporters believed that home school enrollment saved per pupil expenditures that had been utilized for each home school student Ray, 2008; (Sutton & Bogan, 2005; Wenders & Clements, 2008). The underlying revelation of the literature suggested that the solution to this ongoing debate was not as simplistic as most of the authors indicated in their study results (Ray & Weller, 2004; Sutton & Bogan, 2005; Wenders & Clements, 2008). In fact, the review of literature has posed the reader to question why three of the four relevant studies highlighted did not factor in other costs such as instructional and administrative salaries, fringe benefits as well as transportation, supplies and utilities.

Both sides of the argument warrant further research in order to resolve this ongoing contention but the question posed is which method of determination was
appropriate for Virginia public schools? WCCPS (2008) reported that both an increase and a decrease in student numbers impacted local economies and public school budgets but they did not reveal a method that determined the impact. The literature indicated that the methods used to calculate home schools’ impact on public school finance were simply, ADM numbers or PPE. It suggested that if the method of determination used was per pupil expenditures (PPE) then home schools saved funds for public schools (Sutton & Bogan, 2005; Ray & Weller, 2004; Wenders & Clements, 2008). If the measures were average daily membership funds then public schools appeared to lose funds because of home schooling (Christy, 2000; B. Browder, Personal Communication, 2012).

Virginia’s method appeared to be inconsistent with the studies in the literature review as Virginia used two determinant measures; ADM funds and Enumerated funds (B. Browder, Personal Communication, 2012). It was important that other variables of possible influence be examined to determine a relationship between home schooling and public schools’ expenditures and revenues Therefore, expenditures and revenues variables were examined in an exploratory model for a more efficient financial evaluation (Sutton & Bogan, 2005; Christy, 2000; Ray & Weller, 2004; Wenders & Clements, 2008). The model was a comparison process designed to be generalized by other states to utilize. For this study, two sets of variables were examined, SOQ Expenditures and Revenues. SOQ Expenditures included Instructional Salaries, Administrative Salaries and Per Pupil Expenditures. For SOQ Revenues, the State Portion of Basic Aid, State Portion of Average Daily Membership Funds and Enumerated Funds. The remaining SOQ funding accounts will not be used as they are tied directly to student enrollment.
CHAPTER 3
Methodology

Introduction

The purpose of this study was to determine if there is a fiscal relationship between Virginia Home Schools and Virginia Public Schools i.e. to ascertain if Virginia Public Schools lose funding based on the number of students home schooled. Virginia Public Schools or if home schools provide a savings of valuable state funds. This study produced a model that measured the relationship between Virginia Public Schools and appropriate Home School variables. The same model was designed to be generalized for use by other states and localities when utilizing their own appropriate variables to measure if a fiscal relationship between Home Schools and Public Schools exists.

The first part of the analysis addressed the premise that Home School is on the rise and the possibility that Home School enrollment is growing at a faster rate than Public School enrollment. Enrollment trends were described and analyzed for both Virginia Home School enrollment and Virginia Public School Enrollment. The second part of the analysis examined SOQ Expenditure and Revenue Variables in relation to Home School Enrollment in an attempt to identify if a fiscal relationship existed.

In Virginia, public schools receive designated monies from the General Assembly, via the Appropriations Act; those funds are supplemented by other revenues, federal and local, to assist in the funding of public schools. The support localities provide to public schools is derived from local sales tax and real estate tax. The majority of these funds are linked to student enrollment either directly or indirectly, thus, feeding the
argument from public school officials that a reduction in student enrollment reduces public school revenues (Kent Dickey, VDOE, personal communication, 2012). Home school proponents suggest almost the same, that student enrollment is linked directly or indirectly to funding; the difference is, home school supporters contend that a reduction in public school enrollment will ultimately lead to a reduction in per pupil expenditure thus causing a savings in public school costs (Ray, 2003).

Both sides have valid arguments as they both are correct in linking student enrollment as a primary variable in the fiscal relationship between public schools and home schools. The literature revealed that major sources of Virginia public school funding comes from monies that are distributed based on school enrollment. Students who are not enrolled in public schools obviously do not yield any of the school enrollment based funds but for the purpose of this study, home school students were the main focus and not private or charter school students. The unresolved issue remains, do public schools lose funding they would otherwise have if students were not enrolled in home school or do public schools save monies they would otherwise spend if students were enrolled in public schools and not home schools?

This study evaluated both sides of the debate by first examining the enrollment trends for both home schools and public schools from fall 2001 to fall 2010. The ten year evaluation period was chosen because it included the last triennial census which was conducted in 2008. Second, the model created analyzed the fiscal relationship between homeschooling and Virginia Public Schools by comparing SOQ Revenues and SOQ
Expenditures with Home School Enrollment. The research questions that guided this study were:

Research Question 1: What are the enrollment trends of Home Schools and Public Schools in Superintendent Region I of Virginia Public Schools from Fall membership 2001 through Fall membership 2010?

Research Question 2: Is there a relationship between Home School Enrollment and Public School Enrollment in Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Expenditures?

a. Is there a relationship between Home School Enrollment Instructional Salaries?

b. Is there a relationship between Home School Enrollment and Administrative Salaries?

c. Is there a relationship between Home School Enrollment and Per Pupil Expenditure (PPE)?

Research Question 3: Is there a relationship between Home School Enrollment and Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Revenues;

a) Is there a relationship between Home School Enrollment and Virginia’s portion of Virginia’s portion of Basic Aid Funds?

b) Is there a relationship between Home School Enrollment and ADM funding?

c) Is there a relationship between Home School Enrollment and State Retail Sales and Use tax (Enumerated funds)?
Research Design

Secondary data analysis and review is the examination of second hand data collected for another purpose. It allows a researcher to retrieve and analyze large amounts of data and data sets without the time and expense of having to collect the data directly (Smith, 2008). The primary design for this study was a secondary data analysis and review using data from the Virginia Department of Education. This design was selected because there exists large amounts of data to be retrieved from the Virginia Department of Education’s Division of Finance, Enrollment and Demographics and the Superintendents’ Annual Report from a ten year period, school years Fall 2001 through Fall 2010.

The first part of the data analysis described the enrollment trends of both Virginia Home Schools and Public Schools in Superintendent Region I utilizing a regression analysis that yielded enrollment trend predictor values. The second analysis was a bivariate correlation that computed each of the Expenditure Variables and Revenue Variables in relation to Home School enrollment variables. The Pearson Product-Moment Correlation which is the most common correlation technique for measuring the strength of a relationship between two continuous variables was used (Coolidge, 2006; McMillan & Schumacher, 2001). This statistical method was chosen because continuous variables were used in this study to determine if a relationship between Home Schools and Public Schools existed (McMillan & Wergin, 2001).
Implementation of Design

Population

Virginia’s public schools are divided into eight Superintendents’ Regions and one hundred and thirty-two individual school divisions (VDOE, 2011f). For the purpose of this study, Superintendent’s Region I served as the population as it was an appropriate representation of urban, suburban and rural school divisions and is believed to be suitable for this study. See Table 8:

Table 8 Virginia Superintendent Region I School Divisions

<table>
<thead>
<tr>
<th>Virginia Public Schools: Region I</th>
<th>Rural</th>
<th>Small Town</th>
<th>Suburban/Uran</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charles City Public Schools</td>
<td>Colonial Heights City Public Schools</td>
<td>Chesterfield County Public Schools</td>
<td></td>
</tr>
<tr>
<td>Dinwiddie County Public Schools</td>
<td>Hopewell Public Schools</td>
<td>Henrico County Public Schools</td>
<td></td>
</tr>
<tr>
<td>Goochland County Public Schools</td>
<td>Petersburg City Public Schools</td>
<td>Richmond City Public Schools</td>
<td></td>
</tr>
<tr>
<td>Hanover County Public Schools</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New Kent County Public Schools</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Powhatan County Public Schools</td>
<td></td>
<td></td>
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<tr>
<td>Prince George County Public Schools</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Surry County Public Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sussex County Public Schools</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Sources

The Virginia Department of Education is a repository of information on Virginia Public Education to include statistical data on student enrollment and demographics. For this study, the Division of Statistics and Reports and the Department of Finance, both subdivisions of VDOE, served as the primary data sources. The Division of Statistics and Reports yielded statistical reports from four areas of interest:

Fall Membership, the Superintendent’s Annual report
Triennial Census Reports
Home Schooled Students and Religious Exemptions

Three reports from within the Superintendents’ Annual Report were utilized for this study, specifically:

Table 12 - Receipts by Division from State Funds and ADM funds
Table 13 - Disbursements by Division for Instruction and Administration
Table 15 - Sources of Financial Support for Per-Pupil Expenditures (PPE)

Descriptive statistical data on public school student enrollment and Home School Enrollment numbers were downloaded and collected on Superintendent Region I from the Enrollment and Demographics division of VDOE’s website. The financial data needed to complete this study was retrieved from the 2001 through 2011 Superintendent’s Annual Reports, specifically, data found in Tables 12, 13 and 15 along with the Triennial Census Reports from 1999 through 2008 as the Triennial Census were only conducted every three years from 2001 and 2010 (1999, 2002, 2005 and 2008).

Table 15 of the Annual Superintendents’ Report itemizes the sources of financial support for each school division in the Commonwealth of Virginia. It provides the reader
with the amounts of local, state, State Retail Sales & Use tax (Enumerated Funds) and federal funds disbursed to each school division for one year. Each of these amounts represents a source of revenue. Table 15 also details the amount of funds allocated per student thus providing the amount of ADM funding per student from each source. For the purpose of this study, the funds analyzed were, Virginia’s contribution to ADM allocations, State Retail Sales and use tax and Virginia’s portion of the Basic Aid Fund. These sources of funding were chosen because Virginia’s funding for public schools varies by student enrollment which is a primary focus of this study. The state ADM allocations represent Virginia’s contribution to students’ total ADM funding; it is the amount the state sends to each locality for each student (Kent Dickey VDOE, personal communication, March 2012). Finally, the state retail sales & use tax source was selected because it represents the enumerated funds disbursed based on the results of the triennial census. As reported in the literature review, enumerated funds were the funds that were disbursed based on the number of school aged students a survey determines reside in each locality.

**Variables**

There are eight SOQ expenditure categories; instruction, administration and health, transportation, maintenance, technology, operation, food service and per pupil expenditure (VDOE, 2012). For the purpose of this study, the only expenditure categories that were analyzed were the instructional salaries and administrative salaries and per pupil expenditure as these three categories have the most potential to have a relationship with student enrollment or average daily membership. Two of these variables represent
personnel expenses, the largest public education expense of Virginia’s SOQs (Kent Dickey, VDOE personal communication, March 12, 2012). The revenue variables analyzed were Virginia’s portion of State Basic Aid, Average Daily Membership Funds (ADM) and Enumerated Funds for Superintendents’ Region I. These revenue variables, State Portion of Basic Aid, State Portion of ADM Funds and Enumerated Funds, have the most potential to have a relationship with student enrollment or average daily membership.

The variables for the first portion of the study were Home School enrollment and Public School enrollment in Virginia Superintendent Region I from Fall 2001 through Fall 2010.

The second portion of the study examined two sets of variables. The first set of variables consisted of the three SOQ Virginia Public School Revenues i.e. Virginia’s portion of the Basic Aid Fund, Virginia’s portion of ADM funds, and the Sales Tax and Use Funds (Enumerated Funds) were used in relation to Home School enrollment. The second set of variables was Virginia Expenditures for Instructional Salaries, Administrative Salaries and Per Pupil Expenditures as these variables were also expected to have the greatest relation to Home School enrollment.

**Data Collection Methods**

Descriptive statistical data on public school student and home school enrollment was downloaded primarily from the Virginia Department of Education’s Division of Enrollment and Demographics website. Data were gathered from all eight Superintendent Regions’ Fall Membership Reports from 2001 through 2010 and from the Home
Schooled Students and Religious Exemptions Reports also from 2001 through 2010. Additional data were downloaded from the Annual Superintendent Reports from 2001 through 2010 (2011’s report will be published April 2012) and the Triennial Census Reports from 1999 through 2008 as this report was only collected triennially from 1999 through 2008.

**Data Analysis**

The data were analyzed in three steps: the first step involved a descriptive analysis of the enrollment trends of both Virginia Home Schools and Virginia Public Schools. The second step was an analysis of SOQ Expenditures, i.e., the dollar amounts of instructional salaries, administrative salaries and PPE from Region I in relation to Home School enrollments from 2001 through 2010. This was done in an effort to determine if there was a relationship between Home School enrollment, instructional salaries, administrative salaries and PPE, over the ten year evaluation period.

The third and final step was the examination of the relationship between Home School Enrollment and Public School SOQ Revenues. As stated, This included the Virginia’s portion of State Basic Aid, Average Daily Membership Funds (ADM) and Enumerated funds Superintendents’ Region I. Again, the analysis spanned from Fall 2001 through Fall 2010.

**Limitations of the Study**

Limitations are those factors that a researcher cannot control (McMillian & Schumacher, 2002). Using data from secondary data from 2001 through 2010 is a limitation as some factors may have changed since 2010. The literature revealed that
Home School enrollment numbers may not be accurate as it is difficult to ascertain accurate enrollment counts due to Religious Exempt students and Home School students not reported in area surveys (Collom, 2005). The studies referenced in the literature review did not share the unique funding sources as Virginia public schools which did not allow for a complete comparison of revenues to revenues and expenditures to expenditures. Lastly, the limitations of the model created would be restricted to variables used to determine a fiscal relationship. In other words, the variables used would have to meet a school division’s criteria as a possible variable that be expected to have a relation to Home School Enrollment and Public School Finances.

Summary

This study measured the fiscal relationship between Virginia’s Home School Enrollment and Virginia’s public schools using a model, created for this study. The model was created to analyze the enrollment trends of Virginia Home Schools in comparison to Virginia Public Schools. This analysis compared Home School enrollments for the State level, Superintendents’ Region I and for each individual school division within Superintendent’s Region I. Additionally, two sets of variables, Virginia SOQ Expenditures and Revenues were compared with Home School Enrollments. The Expenditure Variables were Instructional Salaries, Administrative Salaries and Per Pupil Expenditures (PPE); the Revenue Variables were Virginia’s Portion of Average Daily Membership funds (ADM), Enumerated Funds from the triennial census and Per Pupil Expenditures.
The conceptual framework served as the visual model for the study. Figure 6 displays the conceptual framework.

*Figure 6. Conceptual Analysis Model*

The model was created to determine if there was a fiscal relationship between Home School Enrollments and SOQ Revenues and Expenditures. It was also designed to be utilized and generalized by other states with similar or different variables.
Chapter 4

Findings

Introduction

The purpose of this study was to analyze the fiscal relationship between Virginia Home Schools and Virginia Public Schools to better understand the influence Home Schools have on Virginia Public School Finance. This chapter contains the findings of the three research questions presented in this study.

Research Question 1: What are the enrollment trends of Home Schools and Public Schools in Superintendent Region I of Virginia Public Schools from Fall membership 2001 through Fall membership 2010?

Research Question 2: Is there a relationship between Home School Enrollment and Public School Enrollment in Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Expenditures?
   a. Is there a relationship between Home School Enrollment and Instructional Salaries?
   b. Is there a relationship between Home School Enrollment and Administrative Salaries?
   c. Is there a relationship between Home School Enrollment and Per Pupil Expenditure (PPE)?

Research Question 3: Is there a relationship between Home School Enrollment and Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Revenues;
a) Is there a relationship between Home School Enrollment and Virginia’s portion of Virginia’s portion of Basic Aid Funds?

b) Is there a relationship between Home School Enrollment and ADM funding?

c) Is there a relationship between Home School Enrollment and State Retail Sales and Use tax (Enumerated funds)?

Data Findings

Research Question #1

Research Question #1: What are the enrollment trends of Home Schools and Public Schools in Superintendent Region I of Virginia Public Schools from Fall membership 2001 through Fall membership 2010? Superintendents’ Region I served as the sample region for this study.

To determine if a linear trend existed, a scatter plot was done with Home School Enrollment plotted on the y-axis and z-score of the predictor variables plotted on the x-axis. The results revealed that Home School Enrollment increased from Fall 2001 to Fall 2010. Next, a regression was run with Home School Enrollment as the independent variable and school year 2001 through 2010 as the predictor variable. $R = .969$, with $R^2 = .939$ which indicated a strong relationship but also revealed that Home School Enrollment is predicted to grow by 168.818 students per year. The average Home School Enrollment from 2001 to 2010 was 4007.7 and the average rate of growth was 4.2%. This is the quotient of the average growth in enrollment divided by the average enrollment over ten years to yield this average rate of growth. See Table 9 for descriptive
information about the Home School Enrollment and Public School Enrollment Variables.

See Figure 7 for scatter plot on Home School Enrollment.

*Figure 7. Scatter plot of Home School Enrollment and School Years as Predictor Variable with Coefficients and Residual Statistics*

<table>
<thead>
<tr>
<th>Coefficients*</th>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td></td>
<td>-334557.164</td>
<td>30637.422</td>
</tr>
<tr>
<td>YEAR</td>
<td></td>
<td>168.818</td>
<td>15.277</td>
</tr>
</tbody>
</table>

a. Dependent Variable: HSenrollmentR1

<table>
<thead>
<tr>
<th>Residuals Statistics*</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Value</td>
<td>3248.02</td>
<td>4767.38</td>
<td>4007.70</td>
<td>511.122</td>
<td>10</td>
</tr>
<tr>
<td>Residual</td>
<td>-297.927</td>
<td>186.709</td>
<td>.000</td>
<td>130.822</td>
<td>10</td>
</tr>
<tr>
<td>Std. Predicted Value</td>
<td>-1.486</td>
<td>1.486</td>
<td>.000</td>
<td>1.000</td>
<td>10</td>
</tr>
<tr>
<td>Std. Residual</td>
<td>-2.147</td>
<td>1.346</td>
<td>.000</td>
<td>.943</td>
<td>10</td>
</tr>
</tbody>
</table>

a. Dependent Variable: HS ENROLL
Another scatter plot was done for Public School Enrollment; Public School Enrollment was plotted on the y-axis and z-score of the predictor variables plotted on the x-axis. The scatter plot revealed that Public School Enrollment increased from Fall 2001 to Fall 2010. Another regression was run with Public School Enrollment as the criterion variable and school year 2001 through 2010 as the predictor variable. R = .951 and \( R^2 = .904 \) indicated a strong relationship but also revealed that Public School Enrollment is predicted to grow by 1398.045 students per year. The average Public School Enrollment from 2001 to 2010 was 179,614.7 and the average rate of growth was 0.78%. See Table 9 for descriptive information about Home School Enrollment and Public School Enrollment Variables.

For Home School Enrollment and Public School Enrollment, the average rate of growth was calculated for each year using the same method. See Table 9.

Table 9 Descriptive Statistics for Region I Home School and Public School Enrollment

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
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<tbody>
<tr>
<td>HS Enrollment</td>
<td>3222</td>
<td>3396</td>
<td>3640</td>
<td>3706</td>
<td>4110</td>
<td>4063</td>
<td>3963</td>
<td>4646</td>
<td>4642</td>
<td>4856</td>
</tr>
<tr>
<td>HS Growth Rate</td>
<td>5.24%</td>
<td>4.97%</td>
<td>4.64%</td>
<td>4.56%</td>
<td>4.1%</td>
<td>4.16%</td>
<td>4.26%</td>
<td>3.6%</td>
<td>3.6%</td>
<td>3.5%</td>
</tr>
<tr>
<td>PS Avg. Enrollment</td>
<td>171946</td>
<td>173936</td>
<td>175945</td>
<td>178585</td>
<td>180468</td>
<td>182335</td>
<td>182461</td>
<td>181917</td>
<td>182299</td>
<td>186255</td>
</tr>
<tr>
<td>PS Growth Rate</td>
<td>0.8%</td>
<td>0.8%</td>
<td>.79%</td>
<td>.78%</td>
<td>.77%</td>
<td>.77%</td>
<td>.77%</td>
<td>.77%</td>
<td>.77%</td>
<td>.75%</td>
</tr>
</tbody>
</table>
Figure 8. Scatter plot of Public School Enrollment and School Years as Predictor Variable with Coefficients and Residual Statistics

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>-2624159.382</td>
<td>323421.489</td>
<td>-8.114</td>
<td>.000</td>
</tr>
<tr>
<td>YEAR</td>
<td>1398.042</td>
<td>161.267</td>
<td>.951</td>
<td>8.669</td>
</tr>
</tbody>
</table>

Dependent Variable: PSenrollmentR1

Residuals Statistics

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Value</td>
<td>173323.5156</td>
<td>185905.8906</td>
<td>179614.7000</td>
<td>4232.78364</td>
<td>10</td>
</tr>
<tr>
<td>Residual</td>
<td>-2208.84839</td>
<td>2021.27881</td>
<td>.00000</td>
<td>1381.00889</td>
<td>10</td>
</tr>
<tr>
<td>Std. Predicted Value</td>
<td>-1.486</td>
<td>1.486</td>
<td>.000</td>
<td>1.000</td>
<td>10</td>
</tr>
<tr>
<td>Std. Residual</td>
<td>-1.508</td>
<td>1.380</td>
<td>.000</td>
<td>.943</td>
<td>10</td>
</tr>
</tbody>
</table>

Dependent Variable: PSenrollmentR1
Summary of Region I Home School and Public School Enrollment

Region I experienced an overall percent of change in Public School enrollment of .78% (from 171,946 to 186,255 students) and Home School enrollment experienced an overall percent of change of 4.2% from Fall 2001 to Fall 2010 (from 3,222 to 4856 students). In 2001 the rate of growth was 5.24% for Home School Enrollment and .80% for Public School Enrollment; in 2010 the rate of growth was 3.5% for Home School Enrollment and 0.75% for Public School Enrollment. These numbers represented an increase of 1,634 students in Home School Enrollment over ten years and an increase of 14,309 students in Public School enrollment.

The Home School Enrollment growth rate decreased but, Home School enrollment only decreased in 2006, 2007 and 2009. The Public School Enrollment growth rate slightly decreased but the actual enrollment continued on a steady increase except for 2008 when its enrollment decreased by only two students. The calculation of the growth rates provided a leveling out of the rash changes in yearly rates of change for Home School Enrollment. For example, the rate of change from 2006 to 2007 was -2.52% and from 2007 to 2008 it was 14.7%. This appeared to be a rash change in Home School Enrollment but using the slope provided by the regression analysis a more realistic trend for Home School Enrollment is achieved.
Research Question #2

The second portion of the analysis addressed Research Question #2 i.e., is there a relationship between Home School Enrollment and Public School Enrollment in Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Expenditures?

a. Is there a relationship between Home School Enrollment Instructional Salaries?

b. Is there a relationship between Home School Enrollment and Administrative Salaries?

c. Is there a relationship between Home School Enrollment and Per Pupil Expenditure (PPE)?

Because the primary purpose for this study was to determine if a relationship existed between Region I Home Schools and Public Schools, the Pearson r Correlation Coefficient was the statistic used to reveal the strength or the degree to which the study variables were related (Coolidge, 2006). The results for the Pearson r can range from -1.00 to 1.00 representing high, moderate and low relationships. The Pearson r Correlation Coefficient ranges used for this study were:

- .50 to 1.0 positive or negative High Relationship
- .20 to .49 positive or negative Moderate Relationship
- .00 to .19 positive or negative Low to Zero Relationship

(Coolidge, 2006; McMillan & Schumacher, 2002)

A negative relationship suggests an inverse relationship which indicates as one variable increases the pairing variable decreases. A positive relationship reveals a direct
relationship; as one variable increases the pairing variable increases or as one variable decreases the pairing variable also decreases (Coolidge, 2006; McMillan & Schumacher, 2002).

For research question #2, a bivariate correlation was run between Home School Enrollments and each of the three SOQ Expenditure Variables. The Pearson Correlation coefficients indicated that there were statistically significant relations at the \( p < .05 \) level between Home School Enrollments and two of the three variables, Instructional Salaries and Administrative Salaries. To further understand the relationships that the correlation coefficients represented, the researcher calculated coefficients of determination \( (r^2) \) to define the percentage of variance for each correlation coefficient. In other words, to determine the percentage of variance in the SOQ Expenditure Variables that was shared with Home School Enrollment (Brown, 2003). The range of the coefficients of determination for Instructional and Administrative salaries revealed that the variance in Home School Enrollment overlapped with both Expenditure Variable changes. For Instructional Salaries \( r^2 \) ranged from \( r^2 = .579 \) to \( .671 \) and for Administrative Salaries \( r^2 \) ranged from \( r^2 = .352 \) to \( .714 \). For PPE \( r^2 \) ranged from \( r^2 = .026 \) to \( .187 \) which indicated no significant relationship. See Tables 11 through 13 and Figures 34 through 36.
Table 11

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficient of Determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.796**</td>
<td>0.633</td>
</tr>
<tr>
<td>2002</td>
<td>0.804**</td>
<td>0.646</td>
</tr>
<tr>
<td>2003</td>
<td>0.761**</td>
<td>0.579</td>
</tr>
<tr>
<td>2004</td>
<td>0.811**</td>
<td>0.658</td>
</tr>
<tr>
<td>2005</td>
<td>0.788**</td>
<td>0.621</td>
</tr>
<tr>
<td>2006</td>
<td>0.765**</td>
<td>0.585</td>
</tr>
<tr>
<td>2007</td>
<td>0.763**</td>
<td>0.582</td>
</tr>
<tr>
<td>2008</td>
<td>0.817**</td>
<td>0.667</td>
</tr>
<tr>
<td>2009</td>
<td>0.819**</td>
<td>0.671</td>
</tr>
<tr>
<td>2010</td>
<td>0.797**</td>
<td>0.635</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level  
*Correlation is significant at the 0.05 level

Figure 9.
Table 12

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficients of Determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.593*</td>
<td>0.352</td>
</tr>
<tr>
<td>2002</td>
<td>0.620*</td>
<td>0.384</td>
</tr>
<tr>
<td>2003</td>
<td>0.670**</td>
<td>0.449</td>
</tr>
<tr>
<td>2004</td>
<td>0.695**</td>
<td>0.483</td>
</tr>
<tr>
<td>2005</td>
<td>0.724**</td>
<td>0.524</td>
</tr>
<tr>
<td>2006</td>
<td>0.789**</td>
<td>0.623</td>
</tr>
<tr>
<td>2007</td>
<td>0.758**</td>
<td>0.575</td>
</tr>
<tr>
<td>2008</td>
<td>0.798**</td>
<td>0.637</td>
</tr>
<tr>
<td>2009</td>
<td>0.810**</td>
<td>0.656</td>
</tr>
<tr>
<td>2010</td>
<td>0.845**</td>
<td>0.714</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level  
**Correlation is significant at the 0.01 level

Figure 10.

![Relationship between Home School Enrollments and Administrative Salaries](image-url)
Table 13.

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficients of Determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>-0.361</td>
<td>0.130</td>
</tr>
<tr>
<td>2002</td>
<td>-0.422</td>
<td>0.178</td>
</tr>
<tr>
<td>2003</td>
<td>-0.409</td>
<td>0.167</td>
</tr>
<tr>
<td>2004</td>
<td>-0.396</td>
<td>0.157</td>
</tr>
<tr>
<td>2005</td>
<td>-0.162</td>
<td>0.026</td>
</tr>
<tr>
<td>2006</td>
<td>-0.432</td>
<td>0.187</td>
</tr>
<tr>
<td>2007</td>
<td>-0.375</td>
<td>0.140</td>
</tr>
<tr>
<td>2008</td>
<td>-0.365</td>
<td>0.133</td>
</tr>
<tr>
<td>2009</td>
<td>-0.383</td>
<td>0.147</td>
</tr>
<tr>
<td>2010</td>
<td>-0.367</td>
<td>0.135</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level**

*Correlation is significant at the 0.05 level

Figure 11.
Specifically, the correlations revealed that there were statistically significant relations between Home School Enrollment, Instructional Salaries and the majority of Administrative Salaries at the p < .05 level with the exception of Administrative Salaries in 2001 and 2002.

**Research Question #3**

The next analysis addressed Research Question #3 and last of the variables to be analyzed, i.e., is there a relationship between Home School Enrollment and Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Revenues;

- a) Is there a relationship between Home School Enrollment and Virginia’s portion of Virginia’s portion of Basic Aid Funds?
- b) Is there a relationship between Home School Enrollment and ADM funding?
- c) Is there a relationship between Home School Enrollment and State Retail Sales and Use tax (Enumerated funds)?

Correlations were run between Home School Enrollment and the three SOQ Revenue variables i.e. Virginia’s portion of State Basic Aid and Average Daily Membership Funds (ADM) and Enumerated Funds. Strong correlations were revealed between Home School Enrollments and the State’s portion of Basic Aid funds ranging from $r = .813$ to $r = .879$ at the p < .05 level and $r^2$ ranged from $r^2 = .661$ to $r^2 = .773$. Average Daily Membership funds and Enumerated funds were inversely not correlated with Home School Enrollment. See Tables 14 through 16 and Figures 37 through 39.
Table 14

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficients of Determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.843**</td>
<td>0.711</td>
</tr>
<tr>
<td>2002</td>
<td>0.860**</td>
<td>0.740</td>
</tr>
<tr>
<td>2003</td>
<td>0.868**</td>
<td>0.753</td>
</tr>
<tr>
<td>2004</td>
<td>0.879**</td>
<td>0.773</td>
</tr>
<tr>
<td>2005</td>
<td>0.864**</td>
<td>0.746</td>
</tr>
<tr>
<td>2006</td>
<td>0.852**</td>
<td>0.726</td>
</tr>
<tr>
<td>2007</td>
<td>0.813**</td>
<td>0.661</td>
</tr>
<tr>
<td>2008</td>
<td>0.862**</td>
<td>0.743</td>
</tr>
<tr>
<td>2009</td>
<td>0.867**</td>
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</tr>
<tr>
<td>2010</td>
<td>0.878**</td>
<td>0.771</td>
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</table>

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

Figure 12.
Table 15

### Relationship between Home School Enrollments and State Portion ADM Funds
Region I 2001 thru 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficients of Determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>-0.227</td>
<td>0.052</td>
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<tr>
<td>2002</td>
<td>-0.224</td>
<td>0.050</td>
</tr>
<tr>
<td>2003</td>
<td>-0.150</td>
<td>0.023</td>
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<tr>
<td>2004</td>
<td>-0.144</td>
<td>0.021</td>
</tr>
<tr>
<td>2005</td>
<td>-0.176</td>
<td>0.031</td>
</tr>
<tr>
<td>2006</td>
<td>-0.245</td>
<td>0.060</td>
</tr>
<tr>
<td>2007</td>
<td>-0.162</td>
<td>0.026</td>
</tr>
<tr>
<td>2008</td>
<td>-0.164</td>
<td>0.027</td>
</tr>
<tr>
<td>2009</td>
<td>-0.153</td>
<td>0.023</td>
</tr>
<tr>
<td>2010</td>
<td>-0.168</td>
<td>0.030</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

Figure 13.

### Relationship between Home School Enrollment and ADM Funds

<table>
<thead>
<tr>
<th>Correlations</th>
<th>School Year</th>
</tr>
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<tbody>
<tr>
<td>-0.3</td>
<td>2001</td>
</tr>
<tr>
<td>-0.1</td>
<td>2002</td>
</tr>
<tr>
<td>0.1</td>
<td>2003</td>
</tr>
<tr>
<td>0.3</td>
<td>2004</td>
</tr>
<tr>
<td>0.5</td>
<td>2005</td>
</tr>
<tr>
<td>0.7</td>
<td>2006</td>
</tr>
<tr>
<td>0.9</td>
<td>2007</td>
</tr>
</tbody>
</table>

2008 2009 2010
Table 15

<table>
<thead>
<tr>
<th>Year</th>
<th>Correlation (r)</th>
<th>Coefficients of Determination ($r^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>-0.031</td>
<td>0.0001</td>
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<tr>
<td>2002</td>
<td>-0.052</td>
<td>0.003</td>
</tr>
<tr>
<td>2003</td>
<td>-0.060</td>
<td>0.004</td>
</tr>
<tr>
<td>2004</td>
<td>-0.039</td>
<td>0.002</td>
</tr>
<tr>
<td>2005</td>
<td>-0.216</td>
<td>0.047</td>
</tr>
<tr>
<td>2006</td>
<td>-0.237</td>
<td>0.056</td>
</tr>
<tr>
<td>2007</td>
<td>-0.232</td>
<td>0.054</td>
</tr>
<tr>
<td>2008</td>
<td>-0.233</td>
<td>0.054</td>
</tr>
<tr>
<td>2009</td>
<td>-0.241</td>
<td>0.058</td>
</tr>
<tr>
<td>2010</td>
<td>-0.268</td>
<td>0.072</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level
*Correlation is significant at the 0.05 level

Figure 13.
Chapter 5
Discussion and Recommendations

Introduction

The primary purpose of this study was to analyze the enrollment trends of Region I Home Schools and Public Schools; to determine the relationship between Virginia Home School Enrollment and Virginia Public School finances. The uniqueness of this study was that it considered SOQ Revenues and Expenditure Variables that are directly related to Virginia Public School Enrollment which subsequently has a direct bearing on funding. Of the studies referenced in the literature review, none utilized both expenditures and revenues as variables and none were found that addressed Virginia Home Schooling in relation to Virginia Public School finances.

This study began by analyzing the enrollment trends of Virginia Home Schools and Public Schools over the ten year period, Fall 2001 through Fall 2010. This study attempted to provide some answers to the ongoing debate between home school supporters and public school advocates about the influence of Home School Enrollment on Public School Finances. Specifically, this study addressed whether or not home schools cost public schools critical funding. Two sets of SOQ variables were used as variable measures: Expenditures (Instructional Salaries, Administrative Salaries and Per-Pupil Expenditures) and Revenues (State portion of Basic Aid, the State portion of ADM funds and Enumerated Funds). The unique contribution of this study was, 1) the development of a model that examined the fiscal relationship using variables that were not used by any of the studies referenced in the literature review but deemed appropriate
for an analysis in Virginia and 2) the generalization of the model to be used by any state for their own analysis.

The studies referenced in the literature, used two variables to measure the “impact of Home Schooling on Public School finance”: per pupil expenditures and home school enrollment (Bogan & Sutton, 2004; Ray & Weller, 2004; Wenders & Clements, 2008). However, this study did not attempt to measure the impact of Home Schooling on Public School finance but only set out to determine the fiscal relationship between Home Schools and Public Schools in Virginia. The method, used in all three studies contained in the literature, was to multiply the per-pupil expenditure by Home School enrollment numbers to determine the amount home schools saved public schools.

**Virginia Public School and Home School Trends**

Research Question #1: What are the enrollment trends of Superintendent Region I Home Schools and Public Schools from Fall 2001 through Fall 2010?

Overall the data indicate that Home School and Public School enrollment increased in numbers from Fall 2001 to Fall 2010 and the slopes were created to predict future growth in both. The literature supported an increase in Home School enrollment at a much greater percentage than Public School enrollment (WCCPS, 2008) however, the data indicated that Public School and Home School enrollment both are similar in their trend of movement.

As reported in the literature review, WCCPS forecasted that Home Schooling in Virginia would continue to increase through 2012; the trend lines, for the ten years studied, are consistent with the WCCPS forecasts (WCCPS, 2008). Additionally,
WCCPS (2007) indicated that the increase in Virginia’s home schooling only accounted for a small percentage of school aged students, but any increase in Home School Enrollment should be viable reason for further research. In Fall of 2001 home schooled students represented 1.65% (18,799 HS/1,137,709 PS) of Public School enrollment and in Fall 2010, they represented 2.6% (31,798 HS/1,280,118PS) of the public school enrollment. In Fall of 2011 home schooled students represented 2.54% (31,978 HS/1,258,521 PS) of public school enrollment and in Fall 2012 home schooled students represented 2.54% (32,064 HS/1,264,764 PS) of public school enrollment. This supports the literature review reports that home schooling is on the rise but it only represents a small percentage of public school students (WCCPS, 2007 & WCCPS, 2008).

**Recommendations for Research Question #1**

Based on these findings this study supports three recommendations: 1) The Virginia Department of Education should continue to monitor Home School enrollment in an effort to forecast any changes that may impact Virginia Public School finances and should encourage each school division to monitor the same, 2) Per-pupil funding should be monitored and analyzed using Home School enrollment as a continuous variable in relation to the State portion of funding for each school division rather than multiplying the number of home school students by ADM funds. By doing this, it would help to identify the influence of Home School Enrollment on per pupil funding more accurately for each school division as each has an unique amount of funding, 3) Virginia Public School Divisions should be looking at creative ways to include Home School students in
academic activities in an effort to regain whole or partial ADM funds lost because of
Home School enrollment.

**SOQ Expenditures: Home School Fiscal Influences**

Question #2 asked is there a relationship between Virginia Home School
Enrollment and SOQ Expenditures;

a. Is there a relationship between Home School Enrollment and Instructional
   Salaries?

b. Is there a relationship between Home School Enrollment and Administrative
   Salaries?

c. Is there a relationship between Home School Enrollment and Per Pupil
   Expenditure (PPE)?

As presented earlier, personnel costs are the largest expense of the Virginia SOQs.

Using the raw number data for Home School Enrollment and for Expenditures, this
study’s results revealed that as Home School enrollment increased, both Instructional and
Administrative Salaries increased. The correlations revealed a significant relationship for
both Instructional Salaries ($r = 0.761$ to $r = 0.819$ at the $p < .05$ level) and Administrative
Salaries ($r = 0.593$ to $0.845$ at $p < .05$ level). The coefficients of determination supported
mild to strong percentages of variance as $r^2$ ranged for Instructional Salaries $r^2 = 0.579$ to
$r^2 = 0.671$. For Administrative Salaries $r^2 = 0.352$ to $r^2 = 0.714$. In other words, the
percentage of variance revealed that a significant amount of the increase in Instructional
and Administrative Salaries may have been due to Home School Enrollment. As
previously expressed in the literature review, it is assumed that as Home School
enrollment increases, there would be a decrease in Public School expenses. The findings in this portion of the analysis appeared to indicate that increased Home School Enrollment increased the amount monies paid for teachers and administrators. However, the average percent of growth for Home School Enrollment was 4.2% which could have been similar to the percentage of increase in state funds allocated for teachers and administrators pay increases. This could be an explanation for the high correlations since correlations do not represent a cause and effect. Nevertheless, the results appear to indicate that the loss of students due to increased Home School Enrollment had a positive effect on Instructional or Administrative Salaries.

In contrast the results differed for Per Pupil Expenditures. In the literature, review Wenders and Clements (2008) reported that home schools served as an asset to public schools as it decreased student enrollment thus reducing the amount of Per Pupil Expenditures (PPE). Sutton and Bogan (2005), who examined the influence of Home Schooling on Florida Public Schools, concluded that increased Home School Enrollment reduced their Per Pupil Expenditures which lead to Public School savings as it reduced the amount of funds needed to educate Florida Public School students.

This study found as Virginia Home School enrollment had no relationship with in Per Pupil Expenditures as the correlations between Home School enrollment and PPE ranged from $r = -0.162$ to $r = -0.422$ therefore none reached the $p < .05$ level.

**Recommendations for Research Question #2**

The data indicated that there was no relationship between Per Pupil Expenditures and Home School Enrollment but there was a significant relationship between Virginia
Home Schools and Instructional and Administrative Salaries. A correlation only depicts a relationship it does not define a cause or an effect therefore an in-depth analysis would be useful to determine what other variables may or may not be contributing factors to the significant relationship. Other factors that may have influenced the relationship i.e. demographics, tax base, personnel recruitment and or personnel need should be explored. It is recommended that there should be further study on the how and why the relationships existed.

**SOQ Revenues: Home School Fiscal Influences**

Research Question #3 asked is there a relationship between Home School Enrollment and Superintendent Region I of Virginia Public Schools as measured by the Virginia SOQ Revenues;

a) Is there a relationship between Home School Enrollment and Virginia’s portion of Virginia’s portion of Basic Aid Funds?

b) Is there a relationship between Home School Enrollment and ADM funding?

c) Is there a relationship between Home School Enrollment and State Retail Sales and Use tax (Enumerated funds)?

Using the raw number data, the correlations revealed that as Home School enrollment increased the State Portion of Basic Aid increased ($r = 0.813$ to $0.879$ and $r^2 = 0.661$ to $0.773$) but as the raw numbers in Home School Enrollment increased the findings revealed that there is a significant relationship between Home School enrollment and State Portion of Aid.
This finding for ADM funding and Home School Enrollment was inconsistent with the Literature Review and the expectation of the researcher. Although, the ADM funding revealed no relationship, the expectation was a strong inverse correlation, i.e. as Home School enrollment increases ADM funding decreases; this was expressed in the Literature Review (B. Browder, personal communication, April, 2012).

The slight but consistent inverse correlations, between raw numbers in Home School enrollment and actual dollar amounts of Enumerated funding, over the ten years suggested that Home School Enrollment, while having no significant relationship with Enumerated funding, was consistent with the expectation of the researcher. As presented in the Literature review, Enumerated funding is based on the number of school aged children in a locality and not the number of students enrolled in a school division. (B. Browder, personal communication, April, 2012; K. Dickey). Home schooled students were counted in the Triennial Census of 1999 through 2008 and school divisions received enumerated fund based the number of student school aged students accounted for. As stated in the literature review, this funding is unique to Virginia and helps to offset any cost from an increase in Home School Enrollment.

**Recommendations for Research Question #3**

As stated in the Literature Review, Enumerated Funds are allocated based on the triennial census conducted every three years to determine the number of school aged children in a locality. The Virginia General Assembly decided in 2008 to not conduct a triennial census. Instead they re-assigned the task of determining the number of school aged children to the WCCPS. The recommendation for any researcher of Virginia is to
determine if there will be any changes in distribution of Enumerated Funds, to seek information from WCCPS for the allocations and to be informed on the new census process. Careful monitoring is strongly recommended to determine if there will be continuity in the distribution of funds.

With the growing demand for at least part-time academic services by home schooling parents, the VDOE should consider endorsing offering these requested services to school divisions with supplements to the dated Basic Aid and/or ADM funding formulas. This could include the possibility of recommending to the General Assembly that they authorize school divisions with funding for such services.

**Discussion**

Bogan and Sutton (2005) and Ray (2008) indicated that more parents are electing to Home School their children. In Virginia, the number of Home School students has increased over ten years but making a declaration that Home School enrollment is growing rapidly in Virginia is not a logical assertion. Such a generalization does not take into consideration the facts this study revealed. Virginia Public Schools and Virginia Home Schools share similar trends as they both have experienced modest but steady growth from Fall 2001 through Fall 2010. As presented earlier in Chapter 4, the trend of steady growth for both Home Schools and Public Schools in Region I as both have continued with a steady increase Fall 2011 and Fall 2012

The states represented in the literature review (Florida, Nevada, and Oregon) do not share the unique funding arrangement of Virginia public schools. Enumerated funds offer a buffer against the loss of public school funding because of alternative forms of
education, in this case home schooling. Enumerated funds in Virginia are awarded to school divisions based on the number of school aged children accounted for in the locality and the volume of retail sales and use taxes collected by the state for each locality. Regardless of the amount of ADM funds lost due to Home School Enrollment, school divisions still gain a percentage of the retail sales and use tax based on their local tax rate and the population of school aged children whether they are enrolled in school or not.

Wenders and Clements (2008) emphasized that the taxes paid by home school parents offer a savings to public schools because Home School Enrollment reduces the need for additional revenues therefore freeing the current funds to be used on other pertinent expenses. Bogan and Sutton (2005) concluded that Home Schools did not cost public schools but offered taxpayers a reduction in cost for public education. Neither of these assertions applied to Virginia. The Enumerated Funds’ correlations indicated that the taxes paid by home school parents did not offer a savings to Virginia Public Schools specifically. Retail sales and use taxes are paid partially by all residents of a locality and retail sales are generated from an unspecified population as retail sales are open marketing. The composite index is a means of distributing tax revenue to local schools but is based on a locality’s ability to pay via residents’ personal income and real estate taxes and local industry tax revenue. This revelation (based on the Enumerated Funds correlations) indicated that taxes paid by Home School parents should not be considered a significant savings to Virginia Public Schools.
Ray (2003) indicated if home school students would return to public schools, it could either cost public schools more to keep up with per-pupil revenues or cause public schools to reduce per-pupil expenditures. He indicated that state policies on student to teacher ratios play an important role on how Home School Enrollment influences public school finance. This too is a generalized statement that does not take into consideration other variables that play an important role in public school finance. In Virginia in 2010, the number of home schooled students represented only 2.6% of Public School Enrollment. If these students were to return to their local school divisions it appears that it would not pose a financial burden on Virginia School Divisions. For instance, if the 2,192 home schooled students would have returned to Chesterfield County Schools in 2010, it would have increased the ADM funding by $8,327,408 and would have increased the student population from 59,243 students to 61,435 students. Chesterfield has 12 high schools, 12 middle schools and 13 elementary schools. Adding 2,192 students into 37 schools would average approximately 60 students per school which should not pose a fiscal hardship to Chesterfield County Schools. If a smaller system such as Charles City (consisting of but 3 schools) would have all of its home school students to return, then the ADM funds would more than take care of the fiscal responsibility. These findings suggest that only simple arithmetic calculations could be used to address the impact of an increase due to the return of home school students in any form of analysis.

**Final Recommendation**

Home schooling has become a lucrative business for book vendors, those offering online classes and the expanding number of home school legal representation. From the
findings, it can be assumed that the upward trend in home school Enrollment may continue. Based on this study’s findings, it is recommended that VDOE research the opportunity to capitalize on the increase in Home School Enrollment through online class offerings to home schooled students in district or out of district. Many home schooling parents look for online sources or classes to supplement their teaching efforts (Ray, 2011). Virginia Code §22.1-253.13:2 allows public schools to offer core classes and some electives to home school children which could allow public schools to collect at least 50% of ADM funds. According to Virginia Homeschoolers (2010) approximately 50% Virginia public schools may have the resources to offer to home school students Advanced Placement (AP) classes and or dual enrollment. Offering these additional services could prove financially lucrative to Virginia school divisions and could offset any ADM funding lost.

Summary

In summary, many variables are connected Virginia Public School Funding and the influence of Home School enrollment on Public School finances requires individual school assessments, not generalized assumptions. Not assessing the individual school divisions was a limitation of this study. Another limitation of this study was the accuracy of the Home School enrollment numbers as VDOE could not claim that all Home School students were completely accounted for. As mentioned in the literature review, Home School enrollment in Virginia included Religious Exempt Students who may not have been required to report to the local school divisions for accountability.
It is important to acknowledge that there are limited studies on Home School Enrollment and its relationship to public school finances. The purpose in developing this model was to provide a means to compare variables to Home School Enrollment to determine its influence.

Overall, the model created in this study appeared to be an appropriate tool to measure the influence of Home School Enrollment on Virginia Public School finances. The six SOQ Variables could be compared to other variables that are linked to Home School enrollment such as teacher to student ratio or daily operations. All of the findings in this study could be used to drive future research questions but also can be used to prevent loss to Virginia public school enrollment. Finally, there appeared to be a fiscal relationship between Virginia Home Schools and Virginia Public School finances as measured by some SOQ Expenditures and Revenues but the relationships must be evaluated on an individual school division basis to improve future research and to determine if there is any impact at all.
References


Browder, B. Personal communication, April 5, 2012.


Virginia Code §22.1-253.13:2


http://www.coopercenter.org/demographics/SCHOOL%20MEMBERSHIP%20FORECAST/


http://www.coopercenter.org/demographics/SCHOOL%20MEMBERSHIP%20FORECAST/


APPENDIX A

Public School Enrollment, Home School Enrollment and SOQ Variables Raw Data
Table 16. Region I Public School Enrollment, Home School Enrollment and SOQ Variables Raw Data

<table>
<thead>
<tr>
<th>School Year</th>
<th>Home School Enrollment</th>
<th>Public School Enrollment</th>
<th>SOQ Expenditures</th>
<th>Instructional Salaries</th>
<th>Administrative Salaries</th>
<th>Per Pupil Expenditures</th>
<th>SOQ Revenue Variables</th>
<th>Basic Aid Funds (State Portion)</th>
<th>ADM Funds (State Portion)</th>
<th>Enumerated Funds</th>
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</table>
VITA

EDUCATION

Ph. D. in Educational Leadership  January 2013
Virginia Commonwealth University  Richmond, Virginia

Masters of Education in Counselor Education  May 1994
Concentration in Higher Education and Secondary Education
Virginia State University  Petersburg, Virginia

Bachelor of Arts in Psychology  December 1979
Concentration in Organizational Behavior and Human Services
North Carolina Agricultural and Technical State University  Greensboro, NC

RELATED EXPERIENCE

Executive Director  University College
Virginia State University  Virginia State University, VA

Created, developed and implementing model for University College Program adaptive to HBCUs. Manage programs and operations under the University College.  Provide a centralized location for University Advising, Student Enhancement and Support Services and University 101 Programs.  Administer all academic enhancement and student activities programs with a specific emphasis on Freshmen, Sophomore and Transfer Students.  Supervise two directors, three coordinators, University Advising Team and support staff located in one building (August 2012 – Present).

School Counselor/Testing Coordinator  Prince George High School
Prince George County Schools  Prince George, Virginia

School Counselor: Provided academic and career planning to all students and assist them in course selection.  Assisted students in evaluating their aptitudes and abilities through the interpretation of individual standardized test scores and other pertinent data, and worked with them in evolving education and careers in terms of such evaluation.  Assisted students in discovering and developing their special abilities and talents; Registered new students and orient them to school procedures and its various opportunities for learning.  Remained readily available to students so as to provide counseling that will lead each to increased personal growth, self-understanding, and maturity; Worked with students on an individual basis in the solution of personal problems which affect their learning; Maintained student academic records and protect their confidentiality.  Conferred with parents whenever necessary and arrange for parent/teacher conferences.  Interpreted the guidance program to students, parents, faculty and the community; Worked with at-risk students to develop effective educational
programs in order to reduce the number of school drop-outs; Consulted with students and parents with summer school options; Served as a referral resource as well as a consultant to outside agencies and families. Coordinated and made referrals to the division social worker on student absences / residency. Coordinated special education services with the Special Education personnel. Provided presentations on guidance related topics. Maintain PGHS NCAA compliance

**SOL Test Coordinator:** Coordinated all facets of Standards of Learning Test administrations; responsible for training examiners, scheduling all test administrations and reported directly to Assistant Superintendent/Division Director of Testing. *(August 2000 – August 2012)*

**ISAEP Coordinator:** Coordinated Individualized Alternative Education Program. *(April 2000 – August 2012).*

**VIRGINIA STATE UNIVERSITY College Coordination Liaison:** Created *Evening Intake Admissions* with VSU on PGHS campus (2006) and began *The VSU/PGHS Counselor Cooperative Experience* for VSU Counselor Education Graduate Students (2008).

**Assistant Director**
Virginia Commonwealth University, Richmond, Virginia

**Evening Coordinator:** Managed all operations for evening program. Assessed needs, designed career development programs and conducted workshops and class presentations on current career issues for particular clientele; Established and facilitated career changers seminars; Advised and counseled students and alumni on academic and career related issues; Frequently visualized, created, planned, developed and implemented projects with a high degree of efficiency for the benefit of students and staff; Executed assigned tasks with a high degree of independence when appropriate; Established and maintained career resource materials especially suited for adult clients; Monitored career resource acquisitions to establish a needs assessment profile and an up-to-date bibliography to use with all clients. Conducted staff training sessions on adult seminars and resource acquisition. *(August 1983 – May 1988).*

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Special Projects

Student Employment Office - Researched, analyzed and reviewed existing student employment programs located at major urban universities. Co-wrote proposal to establish a centralized student employment service at Virginia Commonwealth University. Determined positions needed to operate proposed employment service and wrote job descriptions for all proposed staff positions. Proposal was approved; student employment office fully operational at VCU Career Services.

Student Athlete Advisor: Advised men’s basketball team on NCAA compliance and academic retention.

ADDITIONAL EXPERIENCE

The Male Protégé Program Co-Coordinator  
(Volunteer) Delta Omega Chapter  
Omega Psi Phi Fraternity, Inc. Petersburg, Virginia.

Work with team of three experts to develop and execute annual curriculum for at risk Black males (ages 14+). Manifest program objective which is to monitor and provide academic, career, social, cultural, personal and advisement to participants through college graduation. Facilitate seminars on topics related to program objective; perform administrative duties as needed. (August 2010 – present).

Director of Christian Education Ministry (Volunteer)  
COGVT Ministries Children of God Victory Tabernacle Richmond, Virginia

Manage Christian Education Program: Church School, Educational Remediation Programs, Vacation Bible School, Quarterly workshops and training sessions for education and ministry personnel. Develop annual curriculum based on needs assessments. (June 1994 – Present).

Fast Track GED Instructor  
Southside Programs for Adult/Continuing Education Prince Georg High School Prince George, Virginia

Developed curriculum for Fast Track GED courses and taught GED preparation classes to adults and traditional aged students on a part-time basis for ten years. (September 1999 – September 2009)

REFERENCES
Available Upon Request