

INVESTIGATING TEACHER PERCEPTIONS OF
PROFESSIONAL DEVELOPMENT AND STUDENT ACHIEVEMENT
IN RURAL MARYLAND

By

Kay Roché Sheehe

Dissertation Submitted

In Partial Fulfillment of Requirements for the Degree

Doctor of Education

College of Education

Frostburg State University

May 2015


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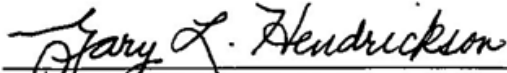
Kay Roché Sheehe

The undersigned, appointed by the Dean of the College of Education, have examined and approved this dissertation submitted in partial fulfillment of requirements for the degree of Doctor of Education.

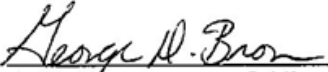


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Acknowledgements

I would like to express my deep appreciation and gratitude to my advisor, Dr. William J. AuMiller, for the guidance and mentorship he provided to me, all the way from my early years as a new teacher, through the progression to this degree. I have been fortunate to have the opportunity to work with and learn from him for over 20 years.

I also acknowledge and thank my committee members. Dr. Gary L. Hendrickson not only offered me sound mathematical advice, but also provided me with a mentorship that dates back to my high school days, 30 years ago. Ironically, he was my high school National Honor Society advisor when he completed his doctoral degree. Dr. George D. Brown guided me through facets of professional development and learning while encouraging me along the way. We have been colleagues and friends for 20 years.

I am indebted to all who worked so hard to bring a doctoral program to Frostburg and am honored to have been accepted into the first cohort. I would like to recognize Program Coordinator Dr. Glenn Thompson, for piloting the plane as it was being built, and thank all of the professors and fellow cohort members for a rewarding three years.

Innumerable sacrifices were made by my immediate and extended family to help me pursue this degree; it was not easy being a wife, mother, full-time high school teacher, and full-time doctoral student. Thank you to my parents, David and Ruth Roché; sister, Kristi Roché; husband, Daniel; and sons, Colin and Connor, who were only ages six and one when I started this program and are now nine and four as I am finishing. I could not have completed this process without them, the Allegany High School community, or my good friend, colleague, and now fellow graduate, Dr. Lori Brown.

I am grateful to have had this opportunity, and I will never forget the experience.

Abstract

INVESTIGATING TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT AND STUDENT ACHIEVEMENT IN RURAL MARYLAND

By

Kay Roché Sheehee

This dissertation addresses 12 questions related to an overall investigation designed to determine if there is a relationship between teacher perceptions of professional development and student achievement in rural Maryland. During an era of federal, state, and local education reform, lessons learned could help dramatically redesign professional development for the future. “Pedagogical Content Knowledge” (PCK) coined in 1986 by Lee Shulman, a past president of the Carnegie Foundation for the Advancement of Teaching, and the 1995 book written by Stephen Brookfield *Becoming a Critically Reflective Teacher* helped to form the conceptual framework of this study.

Twelve elements relating to professional development were part of the questions on the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey of 2011 and 2013. The change in these TELL Maryland Survey teacher perceptions was correlated with the change in student High School Assessment (HSA) senior exit exam results for the same time period. Data were included from 79% (11,365 of 14,368) of teachers in 80% (63 of 79) of all rural high schools in Maryland that reported HSA senior exit exam data and responded at a 50% or higher rate on both studied years of the TELL

Maryland Survey.

After analyzing statewide data, disaggregated by five regions, it was determined that three professional development elements had positive correlations and nine had negative correlations, although none of these were statistically significant. Those elements that correlated most positively with student achievement (with shortened titles used in the study) were collaboration, reflect(ion), and time. The literature review provided insight into some possible reasons for these results.

Keywords: TELL Maryland Survey, professional development, student achievement, High School Assessments, rural Maryland

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Chapter 1 – Introduction

Policymakers, practitioners, and researchers have long realized that teaching quality is the most important variable for the success of students. Supportive school environments, where educators are valued, trusted, and have the time and ability to collaborate, are necessary for enabling teachers to be successful. (TELL Maryland, 2014)

In the interest of assessing these conditions for student learning, in 2009, a coalition of statewide education organizations partnered with Maryland Governor Martin O'Malley to initiate the first perceptual survey of certificated educators in the state. Subsequent to this initial effort, the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey has been administered in 2011 and 2013 (the 2015 administration was underway at the time of study completion), incorporating constructs linked to the outcomes of teacher retention and student learning. Twelve elements of professional development have been included as one of the core constructs (TELL Maryland, 2014).

It was the purpose of this study to investigate the relationship of rural high school teacher perceptions of professional development to High School Assessment (HSA) results in Maryland. The professional development construct was studied quantitatively, by comparing teacher perceptions of professional development from the TELL Maryland Survey of 2011 and 2013, to the HSA data, represented as senior exit exam student achievement data, from the two corresponding years.

Data analysis revealed the relationship results between teacher perceptions and student achievement. These results may provide insight into state, local, and school-based decisions on professional development preparations for the emerging standardized tests in

Maryland, managed the Maryland State Department of Education (MSDE), coming from the newest federal reform of public education (Maryland State Department of Education [MSDE], 2014a). Recommendations for action and for further study were generated with the assistance of the studied literature.

Statement of the Problem

As schools in Maryland and throughout the United States engage in the current era of public school reform known as Race to the Top (RTTT) or Common Core, one research-based strategy for teachers at the high school level to engage in educational reform is for the staff to receive professional development training (MSDE, 2014c). During this era of reform, Maryland has the opportunity, through the use of federal and state resources and new guidelines, to dramatically redesign professional development and allow “state policymakers [to] have a major impact on the quality of the teaching force” (Darling-Hammond, 1998, p. 1). Teachers appear ready to embrace this professional development. “Education reform has increased the motivation of teachers to increase uniformity while enhancing their knowledge” (Carroll, Rosson, Dunlap, & Isenhour, 2005, p. 162).

Determining, designing, and implementing professional development for teachers, under the new and current education reform policy in the United States, is the responsibility of the Local Education Agencies (LEAs) and the states, with states being required to “place a few specific policies” of their own into the vision and mission/design (United States Department of Education [USDE], 2010). At the same time, the federal government partially funds professional development, with greater sums of funding provided to 12 states that competed to receive the first RTTT grants. The state of

Maryland received \$250 million dollars over four years after being awarded one of the grants in 2010 (MSDE, 2014b). Additionally, 43 of 50 states, the District of Columbia, four U.S. territories, and the Department of Defense Education Activity (DoDEA) have plans to shift to Common Core State Standards (CCSS), or have already started the process, with the overall goal of adopting standards and assessments that will prepare students to succeed in college and in the workplace, known as College and Career Readiness Standards. The assessments, in Maryland, are being created by the Partnership for Assessment of Readiness of College and Careers (PARCC) and piloting testing began during the 2014-2015 school year (Partnership for Assessment of Readiness of College and Careers [PARCC], 2014).

One of the four main points of Maryland's vision is to "[r]edesign the model for preparation, development, retention, and evaluation of teachers and principals" (MSDE, 2014d). Using a School Progress Index (SPI), the State uses some of the federal funds to provide assistance to schools. Maryland identifies five-strands for providing assistance. Strand 1 asks schools to "identify the professional development and training that can lead to additional improvement...;" however, it is the responsibility of the LEA to decide how to provide this training (MSDE, 2014c).

Even though Maryland mandates professional development, "the adherence to this requirement is inconsistent across the state" (MSDE, 2014c). In 2003, Maryland enacted the Bridge to Excellence in Public Schools Act and increased funding to all public schools. In accordance with that legislation, a master plan with flexibility and without requirements for overall consistency is required of all counties. With this flexibility comes a demand to determine the best allocation of resources. School systems are held

accountable for the performance of their schools and their students and must demonstrate that they are making progress each year “in accelerating student achievement and eliminating achievement gaps” (MSDE, 2006, p. 12). One of the ways to attempt to accomplish greater gains in student achievement is to design more effective professional development activities.

Determining relationship status between teacher perceptions of professional development and student achievement in rural Maryland may serve as an additional indicator in the quest to design efficient and effective opportunities for teachers to prepare and adapt to reform initiatives.

Purpose and Rationale of the Study

The purpose of this research was to determine the relationship, if any, between teacher perceptions of professional development and student achievement in rural Maryland high schools using student exit exam data from HSA and teacher perception data from the 2011 and 2013 TELL Maryland Survey (See Appendix D for questions from both Survey years).

To determine if the elements of professional development were related to student achievement required that the professional development elements, and the opinions about these elements offered by teachers, be examined in the context of student achievement results from students’ senior exit exam scores based on HSA end of course exams.

These results could affect a professional development transition plan to the new reform era. It is now a critical need for teachers, including rural high school teachers, to receive training to prepare for these changes, to adapt to reform initiatives, and to affect, positively, student achievement on new assessments.

This discovery may serve those who plan professional development during the newest educational reform preparation. Politically, “there are numerous state efforts to recruit, train, and retain more teachers, [but] fewer initiatives focus on developing teachers once they enter the classroom” (Dounay & Christie, 2008, p. 1). The new reform provides the initiative and the resources to help develop classroom teachers. Any state, local, and/or school reform initiative could benefit by determining if there is a relationship between teacher perceptions of professional development and student achievement in rural Maryland high schools.

Significance of Study

During an age of wide-spread educational reform, new strategies that may help to improve student achievement are worth pursuing. One strategy directed at improving student achievement is providing ongoing professional development training of teachers. Determining, designing, and implementing professional development for teachers, under current education reform policy in the United States, coming out of the RTTT legislation, is the responsibility of each individual state and local district.

United States Congressmen Elliot Richardson said, “The federal government cannot do the whole job” (Urban, 2010, p. 90). Considering that point, it is essential to explore past reform movements and explore correlations between teacher perceptions of professional development elements and student achievement to assist all stakeholders in the professional development process.

Research-based information, such as the analysis of the TELL Maryland Survey, can drive “professional learning that increases educator effectiveness and results for all students” (MSDE, 2014c). Research information for a variety of areas is important to

inform and create a plan that makes a difference for educators and for students.

According to MSDE, on the website devoted to the topic of school improvement,

Education is not a collection of parts. It is the whole process that must make sense to people. Disjointed and unconnected events have disjointed and unconnected outcomes. It is only through combining efforts and tying them together that synergy is achieved. The whole is really greater than the sum of the parts.

(MSDE, 2014c)

Using the knowledge gained from the analysis of the correlation between professional development elements and student achievement could help involved persons achieve the synergy.

Conceptual Framework

Exploring teachers' perceptions regarding select elements of their own professional development and discovering how these perceptions correlate with student achievement is an inquiry into the concept that continually trained teachers in content knowledge and, more importantly, in process knowledge are better equipped to help their students achieve at higher levels. When they are better pedagogically equipped, their own values and the culture of the school help to provide an environment where opinions matter and can make a difference in the school setting. This framework is based on the work of Lee Shulman (Shulman, 1987), a past president of the Carnegie Foundation for the Advancement of Teaching who advocated for teacher professional development, and Stephen Brookfield (Brookfield, 1986), an author who also advocated for continual, pedagogical training of teachers.

Research Design Overview

The goal for this quantitative research project was to determine if there is a relationship between teacher perceptions of professional development and student achievement in rural Maryland. This was an explanatory research design because the discovery of a relationship in one or more of the variables could lead to predictions of future relationships between the two variables (Creswell, 2008). These professional development elements and their ratings by Maryland participants of 18 of 18 counties, designated as rural by the Annotated Code of Maryland, were taken from publically accessible information gathered from the main websites (tellmaryland.org) for the TELL Maryland Survey of 2011 and 2013 (Rural Maryland Council, 2014). For those two surveys, the exact same professional development elements were asked of the survey respondents.

The measurement for student achievement was HSA scores, utilized as senior exit exams, reported from the corresponding high schools in rural Maryland for the same years of 2011 and 2013. This information was also taken from publically available State data (mdreportcard.org).

The TELL Maryland Survey provides a demonstrated valid and reliable instrument to measure teachers' perceptions of professional development conditions but does not measure student achievement. For this research, this measurement can occur by using Maryland's HSA, and the subsequent correlation and results will speak to the conceptual framework of the overall relationship between teacher professional development and student achievement.

A documentation review of public artifacts related to the topics of professional

development and student achievement in Maryland was completed early in the process to gather information, to help weigh the value of sources, to complete a literature review, and to prepare for collection and analysis of data.

Research Questions

Explanatorily, how can using quantitative data from the TELL Maryland Survey and HSA student exit exam scores answer the overall question: Is there a relationship between teacher perceptions of professional development elements and student achievement in rural high schools in Maryland? Along with answers and analysis of this question came a correlational answer and analysis of all 12 of the individual professional development elements found on both years of the TELL Maryland survey studied with student achievement as measured by the HSA data.

According to the New Teacher Center, the designers of the TELL Maryland Survey, “There are far fewer large-scale empirical studies exploring the association between teaching and learning conditions and student achievement” (New Teacher Center, 2013, p. 2).

Assumptions, Limitations, Scope, and Delimitations

It was assumed that the publicly accessible information utilized for the scope of the research on HSA data and TELL Maryland Survey data was correctly posted on websites, could be accessed in a timely manner, and could be applicable for this research question.

The limitations of this study included a self-reported bias, as the researcher is a public school teacher in a rural county in the state of Maryland, one of the rural counties studied in the sample. An additional limitation was that one of the HSA, the Government

HSA, was removed from the mandated testing requirements after 2011 but was allowed to be utilized as a score report for the combined score option for senior exit exam data. Also, the assumption was that the teacher-participants in the TELL Maryland Survey included people willing to truthfully rate, on a Likert scale, their opinion of the areas of study, as the response was voluntary though strongly encouraged. In fact, if a number smaller than 50% responded from a school, those scores were not used in the reporting that followed each survey.

Criterion sampling, a “study...associated with some predetermined criterion of importance to the study’s purpose,” was used for this research for both variables (Rovai, Baker & Ponton 2012, p. 25). This sample utilized only rural counties’ high schools where 50% or more of the potential survey takers completed the survey for both years and utilized student achievement data as senior exit exams based on students meeting a passing score on each exam or achieving a combined score option.

In Maryland, even if students do not pass the HSAs, or meet the standard for the combined score option, they may still earn a high school diploma by completing a project (or projects) called a bridge or bridge project (MSDE, 2015). However, this graduation/pass rate data was not analyzed because only a few teachers work with students on these projects; the effect did not compare to the overall network of school-wide support and preparation for standardized testing over all core content areas. The standards for these projects were different standards. Note: public data was available for actual test takers, as numbers and percentages, separate from the students who completed bridge projects to earn a diploma (see Appendix B).

The scope of this study included the years 2011 and 2013.

The delimitations of this study included using only the state of Maryland, using only the rural counties in the state, using only high school results that met reporting criteria for both the TELL Maryland Survey and HSA for both years, using only the TELL Maryland Survey for teacher opinions about professional development, and using only HSA data for the standardized testing component for student achievement.

Definitions

High school assessments (HSA). Assessments created and given under No Child Left Behind (see definition below) in Maryland high schools in English, Social Studies (Government), Mathematics (Algebra/Data Analysis), and Science (Biology). These assessments were a graduation requirement in all Maryland high schools at the time of the research and reported by mdreportcard.org.

Local Education Agency (LEA). An LEA refers to any of the individual jurisdictions in Maryland that have educational control over one of the 24 local school systems. The LEAs are comprised of 23 counties and Baltimore City (a municipality that, according to Maryland.gov (2015), basically serves on par with county status. Therefore, 24 LEAs are interchangeable with 23 counties and Baltimore City).

No Child Left Behind (NCLB). An act passed into law in 2001 by the United States Congress that reauthorized the Elementary and Secondary Act. NCLB supported standards-based educational reform and required states to develop assessments in basic skills given in select grades and subjects. NCLB expanded the federal role in public education through annual testing, annual academic progress, report cards, teacher qualifications, and funding changes (McDonnell, 2005).

Partnership for Assessment of Readiness for College and Careers (PARCC).

PARCC is, as of April 2015, a consortium of 12 states (in addition to the District of Columbia) and includes Pennsylvania as a participating state. These partners are working together to develop a common set of K-12 assessments in English and math anchored in academic skills necessary for success for college and careers. These new K-12 assessments are meant to build a pathway to college and career readiness by the end of high school to mark students' progress toward this goal from 3rd grade up, and to provide teachers with timely information to inform instruction and provide student support. The PARCC assessments are being administered officially for the first time during the 2014-15 school year. PARCC received a \$186 million grant through the USDE's Race to the Top (see definition below) assessment competition to support the development and design of the assessment system and is reported online at parcconline.org/parcc-states.

Professional development. The formal definition found on the TELL Maryland Survey itself for all subsets of Question 8 describe professional development as “includ[ing] all opportunities, formal and informal, where adults learn from one another including graduate courses, in service, workshops, conferences, professional learning communities and other meetings focused on improving teaching and learning” (TELL Maryland, 2014, para. 9).

Race to the Top (RTTT). RTTT is part of the federal government's American Recovery and Reinvestment Law (ARRA) of 2009 (as of May 2015, it is not a separate law that reauthorizes the Elementary and Secondary Act, but has once passed through the House of Representatives). According to the USDE's Executive Summary of the reauthorization, “The ARRA provides \$4.35 billion for the Race to the Top Fund, a competitive grant program designed to encourage and reward States that are creating the

conditions for education innovation and reform; achieving significant improvement in student outcomes” (USDE, 2010, para. 2).

Rural. According to the Annotated Code of Maryland, as referenced by the Rural Maryland Council’s website 18 of 24 jurisdictions are designated as rural (Rural Maryland Council, 2014). These 18 jurisdictions each have local school systems. “Rural jurisdictions share common characteristics that set them apart from their suburban and urban counterparts, such as geographic isolation, lack of transportation, and lack of access to and availability of health care” (Rural Maryland Council, 2014, para. 5).

Teacher perceptions. The terminology of teacher perceptions refers to the opinionated outcomes of the individual 12 items rated by teachers, in survey form, in the professional development section of the TELL Maryland Survey (see below).

The Teaching, Empowering, Leading, and Learning Maryland (TELL) Survey. The TELL Maryland Survey is a cooperation between the New Teacher Center and the Office of the Governor of Maryland. In Maryland for all LEAs (23 counties, including Baltimore City separately as the 24th), have been given in, and results are available for, 2009, 2011, and 2013, by the main website tellmaryland.org, and include a variety of topics, including professional development elements (see Appendix D), in an anonymous form to teachers and principals in Maryland. Participants use a scale to rate their opinion of each topic/question. It is publically accessible in various configurations. The 2015 Survey was given in April of 2015 as this research concluded.

Organization of the Study

Chapter 1 has presented the introduction; statement of the problem; purpose and significance of the study; conceptual framework; research design overview; research

questions; assumptions, limitations, and delimitations of the study; and definitions.

Chapter 2 contains the review of related literature and research related to the problem being investigated. The methodology and procedures used to gather data for the study are presented in Chapter 3. The results of analyses and findings that emerged from the study are contained in Chapter 4. Chapter 5 contains a study summary and findings, conclusions drawn, a discussion, and recommendations for further study.

Chapter 2 – Literature Review

Introduction

The exploration of the literature focused on the 12 elements used to measure participants' professional development perceptions on the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey of 2011 and 2013 (TELL Maryland, 2011, 2013). The literature study of these elements was crucial to explore the perceived role they had regarding professional development in general and in rural areas. Additionally, it was important to analyze the results of the correlated relationship between teacher perceptions of professional development and student achievement in rural Maryland over the studied time-period.

An end goal was to utilize the literature to provide insight into the results of the research and to contribute predictions as to which professional development elements, when focused on, could correlate with future student achievement. This prediction could especially serve rural areas that often see resources stretched thin, as they prepare for new reform efforts at the federal, state, and local levels.

American Education Reform – Teacher Development and Student Achievement

Education reform has been a major topic of national interest throughout American history. This interest dates back to the early colonial settlers in America who had the desire of the upmost importance to practice their Bible readings and engage their family members and the tight knit community at large in religious discussions and meetings. Promoting literacy in order for children to read the Bible influenced the urge to educate but it was a little more complicated than just the physical ability to read the passages; these colonists wholeheartedly believed that “[a] just society was to result from

inculcating religious commandments” (Spring, 2011, p. 13).

Since 1867, and the creation of the precursor to the USDE, the Office of Education, the federal government has had a legal and economic stake in the structure and composition of schools to “help the States establish effective school systems” (USDE, 2015b).

The post-Civil War time-period’s educational changes in the United States of America have most contributed to the evolution into the current national reform affecting public education. These changes are explored, below, by focusing on the parts of the reforms that had a specific and/or associated relationship to teacher development and student achievement. They are not explored as a comprehensive history.

Report of the Committee on Secondary School Studies (1893). In 1892, the National Educational [more commonly known as Education] Association (NEA) appointed a Committee on Secondary School Studies, the Committee of Ten, chaired by Dr. Charles Eliot, president of Harvard University. This oversight committee organized nine additional subcommittees, of ten members each, assigned to study high schools in the United States. The 249 page *Report of the Committee on Secondary School Studies* was published in 1893 (National Education Association [NEA], 1893).

Historical context and rationale for reform. By the late nineteenth Century, rapidly expanding high schools “began to...provide a specific college preparatory curriculum” (Spring, 2011, pp. 237-238). This was a period of great economic change in America due in part to a post-Civil War industrial boom. The open frontier had just closed and the United States was rising to world power status. It was important to look at high school curriculum and the preparation it offered to students.

Commissioner of Education William T. Harris stated, “It has been agreed on all hands that the most defective part of the education in this country is that of secondary schools” (NEA, 1893, p. I).

The Committee of Ten studied high school curriculum uniformity in the U.S. as well as college admissions requirements. Using information from 40 leading schools and principals, the Committee found that of 40 subjects taught, for some subjects, “the high school teacher finds in the pupils fresh from the grammar schools no foundation...” (NEA, 1893, p. 13). College professors also reported that science habits, such as inquiry skills, were sometimes not observed in high school graduates and the professors believed these skills should have been developed throughout the educational process. Of those 40 subjects taught by the leading schools studied, only 13 were routinely offered in the curriculums and the time allotted for those subjects varied widely. Furthermore, this made admissions at the collegiate level difficult “because the pupil may...go through a secondary school course of a very feeble and scrappy nature...nothing which can be called a thorough training” (NEA, 1893, p. 52). The Committee assigned subcommittees comprised to pursue: Latin; Greek; English; Other Modern Languages; Mathematics, Physics, Astronomy, and Chemistry; Natural History (Biology, including Botany, Zoology, and Physiology); History, Civil Government, and Political Economy; and Geography (Physical Geography, Geology, and Meteorology) (NEA, 1893).

Changes proposed by the reform. Major changes revolving around the nine subjects became the focus of the report. Standardizing certain factors would prove that students had completed a rigorous high school program of study and would make the college admission process easier. Factors studied for standardization that were placed in

the report included: the age of study for the subjects, the hours per week devoted to each, the number years of study that should occur from age six through high school, the topics that should be covered before and during high school, the method the subjects should be used in college admissions, the method of instruction for non-college-bound students, and the best method to teach the subject in the most appropriate way to determine college worthiness (NEA, 1893).

It was emphasized that elements of the subjects should be taught at younger ages, especially foreign languages, and that the courses should be uniform across high school even by period lengths. To further create uniformity and rigor, the report strongly encouraged Saturday morning schooling, under the direction of assistants, to specifically allow for laboratory work. These changes did not just affect scheduling; they affected teachers and teacher training. The Committee hoped for teacher support. As stated in the report, “Ninety-eight teachers...unanimously declare that every subject...should be taught in the same way...no matter what the probable destination of the pupil...or at what point his education is to cease” (NEA, 1893, p. 3). Commissioner of Education William T. Harris stated that “[t]he recommendations of this report will draw the attention of great numbers of teachers” (NEA, 1893, p. II).

Cardinal principles of secondary education (1918). In 1913, the NEA appointed the Commission on the Reorganization of Secondary Education chaired by Clarence D. Kingsley. Sixteen committees studied the organization and administration of secondary schools. The 32 page *Cardinal Principles of Secondary Education* report was published in 1918 (NEA, 1918).

Historical context and rationale for reform. By 1911, the National

Education Association had been studying articulation between high school and college and whether entrance requirements could be modified so that high schools could also meet the needs of the non-college bound. Educators were aware of John Dewey's work at his Laboratory School at the University of Chicago (1896) in which he stressed the knowledge based on a social value and were familiar with the work of famous psychologist G. Stanley Hall in the field of adolescent and developmental psychology in which he believed that adolescent interests and abilities should be harnessed and directed to socially useful functions (Spring, 2011). By 1914, the Commission on National Aid to Vocational Education noted that "[i]ndustrial and social unrest is due in large measure to a lack of a system of practical education" (Spring, 2011, pp. 245-246). This was also the era of the Great War (later renamed World War I) with demand for factory labor not dependent on a college-bound curriculum.

High schools were stressing college readiness, but in reality, only one in nine youths graduated. A new approach was to be developed in order to meet the changing educational needs of the school population. As noted in the *Cardinal Principles*, "Secondary education should be determined by the needs of the society to be served, the character of the individuals to be educated and the knowledge of educational theory and practice available" (NEA, 1918, p. 17).

Changes proposed by the reform. The numerous changes proposed by *The Cardinal Principles* Report included philosophical, structural, and course alterations. Taking into account the new educational theories it was stated that due to "...differences in capacities and aptitudes among secondary-school pupils," high schools should focus on "the application of knowledge to the activities of life rather than...any subject" (NEA,

1918, p. 10). The Commission urged colleges to modify entrance requirements so that secondary schools could adapt to the different needs of pupils. This philosophy was in opposition to the Committee of Ten's work stressing college entrance (NEA, 1918).

The *Cardinal Principles* also recommended that high schools should be divided into junior high segments of grades 7 and 8, where students would explore careers in line with their future aspirations, and senior high segments of grades 9 to 12, where students would be exposed to basic and specific curricular requirements. The curriculum was "in need of extensive reorganization" and in order to meet the new goals, seven new objectives were deemed necessary to stress in secondary schools: Health, Command of fundamental processes, Worthy home membership, Vocation, Citizenship, Worthy use of leisure, and Ethical character: With the exclusion of the Command of fundamental processes, the new objectives were unlike any subjects stressed by the Committee of Ten (NEA, 1918, pp. 10-11). These new goals were meant to support all students and even went so far and to ask that elementary schools not retain pupils who might be in danger of failure so that the newly structured and designed secondary junior and high schools could "provide special instruction for over-age pupils" (NEA, 1918, pp. 16-19).

National Defense Education Act. During the post-World War II era, the presidential administration of Dwight Eisenhower pushed for the availability of large sums of federal money for education. The funding became a reality with bi-partisan support and passage of the National Defense Education Act (NDEA) in 1958 (Hartman, 2008).

Historical context and rationale for reform. In the post-World War II atmosphere of the United States, schooling became more conservative in part because

U.S. society was becoming more conservative. The nation had become anxious about the future due in large part to the Soviet's launch of the satellite Sputnik in 1957. This created an interest about American education and for the first time, without any real precedent, the Dwight Eisenhower administration pushed for the availability of large sums of federal money specifically to go to education – not as part of a larger purpose, such as the GI Bill. Former presidential administrations had faced public opposition to similar propositions in the past (Hartman, 2008; Urban, 2010).

President Eisenhower believed that American education was sound but American scientists said that the Soviet emphasis on science in education could put the U.S. in danger of falling behind if the same emphasis was not developed in America. Widespread public opinion, influenced by the Soviet achievement, prompted Eisenhower to act as he wanted to have political support. In the hopes of garnering even further support, CBS radio aired broadcasts, throughout the 1950s, weekly radio shows that profiled student achievement in science talent searches. Watson Davis, the editor, had students testify in the Senate, and provide evidence that “Soviet Russia is not ahead of us in the skill, enthusiasm, and knowledge of young scientists...who might someday help to defend the nation” (Terzian, 2008, p. 320). Whether the intention was for national defense or not, this public opinion provided the mandate for sweeping changes tied to the federal dollar.

Changes proposed by the reform. This passage moved the federal government into a leadership role in education (Spring, 2011). NDEA provided for 10 titles, I-IX, that serviced areas such as educational emergencies; availability of college student loans; strengthening of science; mathematics and foreign language instruction in secondary schools; training of teachers; identifying able students; designing language institutes; use

of educational media; the teaching of science and vocational subjects; and giving grants to states with required matching funds to be used for education. These areas expanded the role of the federal government in the everyday life of public schools at every level, including public colleges. Even teacher salaries, long a traditionally local responsibility, were impacted with federal aid to the states for that expressed purpose. Note: Title II focused, and still does, on the development and skills of classroom teachers (Spring 2011).

The Elementary and Secondary Education Act of 1965. Public Law No. 89-10, the Elementary and Secondary Education Act (ESEA) of 1965, became the most expansive federal education bill ever passed when Congress enacted it on April 9, 1965 (USDE, 2015a). Now 50 years later, and after several reauthorizations, it is the overall education law at the federal level in the United States of America (The Social Welfare History Project, 2015).

Historical context and rationale for reform. This legislation was part of United States President Lyndon Johnson's "War on Poverty." A former teacher, Johnson spoke on the issue of poverty and its impact on schoolchildren. According to The Social Welfare History Project's website on this legislation, Johnson stressed that a great educational system can move children away from becoming "dropouts...to school graduates" (2015, para. 3).

Changes proposed by the reform. Preschool programs and monetary allocations "to local educational programs serving areas with concentrations of children from low-income families" fell under Title I of the legislation (The Social Welfare History Project, 2015). The legislation kept the format of the NDEA with regards to the

use of specific Titles. States became responsible for the allocation of money and that responsibility expanded the involvement of state governments in the decision-making process regarding multiple areas of education.

Partial reforms and full reauthorizations of the ESEA. The first reauthorization of the ESEA took place under the administration of President Richard Nixon in 1972. Following that, there were full reauthorizations in 1978, 1988, 1994, and 2002. In 2010, a reform was designed to reauthorize and it has been embraced voluntarily, but the reform had not been passed into law at study conclusion.

The 1972 education amendments.

Historical context and rationale for reform. A new presidential administration and a change in political party highlighted the desire to change the original ESEA while the country still focused on the anti-poverty and civil rights acts and laws of the 1960s and the 1970s (USDE, 2014a).

Changes proposed by the reform. The Omnibus Education Amendments of 1972, (Public Law No. 92-318), provided for an increase of support to higher education programs and most notably Title IX, which prohibited gender discrimination in educational institutions that receive federal funds. The reform also created a National Institute for Education (Education Commission of the States, 1972).

The 1978 reauthorization.

Historical context and rationale for reform. President Jimmy Carter, himself bilingual, advocated for the reauthorization of 1978 that included the Bilingual Education Act (BEA) that had become Title VII of ESEA, independently, in 1968.

Changes proposed by the reform. The reauthorization in 1978 (Public Law No.

95-561) officially required school personnel to be proficient in both the language of their instruction and in English. The topics highlighted by the 1978 reauthorization were, “basic skills, improvement, special projects..., state leadership, emergency school aid, bilingual education, community education, education for gifted and talented students and Indian education” (Education Amendments of 1978, 1978, p. 1).

The 1980s changes and formal reauthorization. In 1980, Congress established, as a Cabinet-level agency, the USDE, changing from the Office of Education (OE). Then in 1988, Congress approved and President Ronald Reagan signed a reauthorization of the ESEA, Public Law No. 100-297 (Augustus F. Hawkins, 1988).

Historical context and rationale for reform. Part of the mission of the USDE became “to promote student achievement and preparation for global competitiveness by fostering educational excellence...” (USDE, 2015b). However, in 1983, the federal government published a report, *A Nation at Risk*, which blamed schools for any weakness in the ability of the country to compete globally (Spring, 2011). This report further intensified the national interest in public education.

Changes proposed by the reform. The promotion of the USDE to a Cabinet-level agency expanded the scope and responsibility of the Department with the oversight and interest of all Presidents of the United States. The reauthorization of ESEA not only amended the previous reauthorization, it included several new programs. Title 1 became retitled to Chapter 1. This accounted to a demotion of the most expensive portion of the original ESEA. A new Chapter 2 was created that focused on block education grants targeting educational needs but at the same time, removed discretionary grants from the umbrella of the USDE. The newer programs in Chapter 2 emphasized, “school drop-out

prevention and secondary school basic skills improvement... [and] a series of demonstration programs supporting innovative educational techniques... .” (Augustus F. Hawkins, 1988, p. 22). This legislation, according to the text of the law, expanded the frequency of assessments, required under the previous reauthorization of ESEA, and the reporting of data to and by the National Assessment of Educational Progress with the purpose of “assessing the performance of children...” (Augustus F. Hawkins, 1988, p. 23).

The 1994 reauthorization.

Historical context and rationale for reform. President William Jefferson Clinton had been the chair of the National Governors’ Association (NGA), when he was the governor of Arkansas and presided over the Charlottesville summit in 1989. This was at a time when states were “eas[ing] their regulation of local school districts in exchange for greater local accountability for effective student learning, as measured largely by improved scores on standardized tests” (McDonnell, 2005, p. 29). The Clinton administration continued this emphasis after his inauguration in 1993.

Changes proposed by the reform. The official reauthorization of the ESEA came in 1994 with the passage of The Improving America’s Schools Act of 1994, Reauthorization of the Elementary and Secondary Education Act into Public Law No. 103-382. Four key elements were emphasized for American public schools in this reform. These included, (1) high standards for all students; (2) teachers better trained for teaching to high standards; (3) flexibility to stimulate local reform, coupled with accountability for results; and (4) close partnerships among families, communities, and schools. Coming out of the second element was the new Eisenhower Professional Development program (Title

II) intended to “support[] sustained, intensive, high-quality professional development tied to challenging state academic standards” with the bulk of the funds allocated for the efforts towards teacher improvement designed by the states (USDE, 1994, pp. 1-6).

The 2002 No Child Left Behind reauthorization. Public Law No. 107-110, originally, the No Child Left Behind (NCLB) Act of 2001 was passed by Congress and signed into law on January 8, 2002, by President George W. Bush (McDonnell, 2005).

Historical context and rationale for reform. NCLB was a reauthorization of the Elementary and Secondary Act (ESEA), specifically a redesign of the 1965 and 1994 reauthorizations, and came out of President Bush’s first-term campaign agenda. As of May of 2015, at study completion, it was still the most current, congressionally approved, education law updating the ESEA.

Changes proposed by the reform. Significant changes came out of the legislation. These focused on student achievement and holding schools and teachers more accountable for the growth of students. These changes included annual testing of students in various grades and subjects, yearly monitoring of academic progress by states tied to potential loss of federal funding, yearly report cards based on numerous subgroups of student achievement, and reporting of teacher qualifications reserving the distinction of “highly qualified” for teachers who were certified and demonstrably proficient in his or her subject matter (McDonnell, 2005).

The 2010 Race to the Top blueprint for reform – not reauthorization. Twenty-five years after *A Nation at Risk*, part of President (then Senator) Barak Obama’s presidential platform dealt with the role of the federal government in public education.

Following the January 2009 inauguration of President Barack Obama, official

work began on reformatting President George W. Bush's NCLB education law. In 2010, the 42 page plan, *A Blueprint for Reform: The Reauthorization of the Elementary and Secondary Education Act*, was released and later embraced by the majority of states without official approval of Congress (Spring, 2011). According to the Congressional Research Service, the most recent attempt to gain Congressional approval was with Senate Bill (S. 1094) in 2013 (Skinner, Kuenzi, Dortch, & McCallion, 2013) and with House Bill (H.R. 5) in 2015 (Skinner & Kuenzi, 2015).

Historical context and rationale for reform. President Obama was operating on the premise that his educational reform would help the country improve competitive advantages in economic markets globally (Spring, 2011). President Obama stated in the reform report that “the countries that out-educate us today will out-compete us tomorrow... [e]very child in America deserves a world-class education;” and he also said that a great education is a moral issue that helps to secure “a more equal, fair, and just society” (USDE, 2010, p. 1).

Changes proposed by the reform. The rationale for the reform, now known as Race to the Top (RTTT), encompasses five priorities targeted as needing improvement. One is entitled, “Great Teachers and Leaders in Every School” (USDE, 2010, pp. 4-6). States and districts are required, if they want federal funding opportunities, to “put in place...an evaluation system at the district level that, in part, provide(s) meaningful feedback to teachers and principals to improve their practice and inform professional development” (MSDE, 2014c). The funding is the opportunity for states to join this federal competitive incentive program and the presidential administration continues to seek Congressional votes for the official reauthorization of

ESEA. The most notable areas emphasized, in the proposals for the official reauthorization in the Senate and the House of Representatives versions of bills, are “accountability for student achievement,” “teacher quality versus teacher effectiveness,” and “targeted support for elementary and secondary education versus the use of a block grant” (Skinner, et al., 2013).

Concluding statement on education reform in America. For better or worse, the federal government has reached a level of widespread regulation and control over public education at all levels with growing emphasis on teacher quality and student achievement. Evidence suggests that increasing regulation has led to educational gains. After WWII, children who had been educated in the U.S. Nisei camps “emerged as one of the better educated groups in American society” (James, 1987, p. 8). The General Issue (GI) Bill drastically enlarged the federal scope in regards to education and “there [was] ample evidence that GI Bill students...performed at a higher academic level than non-veterans after the war” (Katznelson, 2006, p. 116). Concerns about American education in the 1950s were brought to light after Sputnik even though there was evidence that Americans already thought, at that time, that the educational system was inferior to the Soviet system. This concern helped to pass NDEA and forever broadened the federal government’s role in education. It was the Johnson administration that pushed for the passing of ESEA by Congress and, still today, the same elemental design continues even after frequent changes usually associated with changes in the presidential office holder. Unprecedented monetary allocations are given to the states each year by the federal government. During the era of the Sputnik launch and American response, U.S. Congressman Elliot Richardson said, “The federal government cannot do the whole job”

(Urban, 2010, p. 90). Even by considering that point, the federal expansion of the role of the government in public education did not slow and does not seem to be slowing anytime soon. With growing emphasis coming out of the historical approaches on teacher quality, on-going professional training, and student achievement, it is worthy to discover correlations between the two elements of professional development and student achievement.

Professional Development in Maryland – Designs

Maryland is in the process of designing and implementing professional development in accordance with new federal policy reforming public education. This professional development is intended for teachers who are already employed and is commonly referred to as Continuing Professional Development (CPD). The agency with ultimate responsibility in Maryland is the Maryland State Department of Education (MSDE).

State-based design. Continuing Professional Development (CPD) in Maryland, since 1994, has fallen under the Code of Maryland Regulations (COMAR) numbers 13A.12.01.06 and 13A.12.11, derived from the National Staff Development Councils (NSDC) Standards for Staff Development. Included are four fundamental assumptions, six content standards, and three process standards. (MSDE, 2010; MSDE, 2014c). Maryland traditionally spends, on average, \$200 per pupil on professional development (Dede, Ketelhut, Whitehouse, Breit, & McCloskey, 2006). The federal government partially funds professional development, with greater sums provided first to twelve states receiving the first Race to the Top (RTTT) dollars. Maryland, one of the twelve states, received \$250 million, over a four year period, after receiving one of the grants in

2010 (MSDE, 2014d).

Federal funds can be used for professional development in any subject area in any context. During the 2011-2012 school year, according to the USDE (2014b), states received “\$2.26 billion for teacher quality reforms...states used the majority of the funds for professional development...,and these activities included “daily learning team sessions,” “full-day workshops,” “half-day workshops,” multi-day workshops,” and “after school workshops...” where the most common activity was the full-day workshop in which “more than 2.6 million teachers participated” (USDE, 2014b, pp. 1-7). During these activities teachers received instruction on topics such as “using effective instructional strategies and increasing core academic content area knowledge,” and “increasing core academic content area knowledge” (USDE, 2014b, p. 7).

Maryland’s vision for professional development reform under Race to the Top is to:

1. Revise the PreK-12 Maryland State Curriculum, assessments, and accountability system based on the Common Core Standards to assure that all graduates are college-and-career ready,
2. Build a statewide technology infrastructure that links all data elements with analytic and instructional tools to monitor and promote student achievement,
3. Redesign the model for preparation, development, retention, and evaluation of teachers and principals, and
4. Fully implement the innovative Breakthrough Center approach for transforming low-performing schools and districts (MSDE, 2014b).

Concurrent with the new reforms is the continuation of MSDE policy that requires

teachers to complete six credits, of various combinations of course-work and approved professional development, every five years for renewal of their state teaching certificate except for those who have twenty-five years' experience—they can file for a senior teacher exemption (MSDE, 2014b).

The new teacher evaluation measure bases 12.5% of the 50% professional responsibility score on completion of professional development (MSDE, 2012b).

A challenge to designing and implementing professional development policy statewide is that the Local Education Agencies (LEA), normally referred to as counties, including Baltimore City, are diverse and unique. Nine of Maryland's 24 counties, over one-third, are designated rural by the federal government; an additional nine counties receive the rural distinction under the Annotated Code of Maryland, bringing the total to 18 of 24 counties, 75%, being designated rural from the State's perspective (Rural Maryland Council, 2014).

Statewide, expanded online professional development is a cost-effective way to expose everyone to the same material. For example, Maryland's teacher toolkit portal is funded with RTTT money and provides educators with resources linked to the Common Core State Standards (CCSS) (MSDE, 2014e). To meet the challenges of these new educational reform initiatives, teachers will need on-going, intensive professional learning and not "spray and pray" training that consists of one-day workshops or beginning or end of the year in-service meetings: Research suggests that, even after a course ends, teachers increase their personal capacity (Hirsch, 2012, p. 2). Since so many school systems have signed onto the CCSS reform, organizations providing online CPD have been "inundated" with requests for training courses, so some of these organizations,

such as EdTech Leaders Online (ETLO) and EduCore, could provide courses for Thinkport further reducing costs (Ash, 2012, p. 1; Dede, et al., 2006, p. 11).

Local-based design. Ultimately, it is the responsibility of the LEA to decide how to provide this CPD training (MSDE, 2012a).

To satisfy the new Strand 1 requirement of MSDE's vision for educational reform, individual districts can have overall responsibility in providing professional development for teachers after schools first identify specific areas of need. An example of district-wide professional development can be found in Minnesota where state law (2007) requires teacher centers so that all teachers, even rural teachers, have access to high quality professional development. In Texas, also as a result of legislation, teachers in a district work in vertical teams of K-12 educators in concert with post-secondary faculty to participate in and even develop professional development materials. These materials must then be approved by Texas's state Board of Education. In Kentucky, mentoring programs also provide learning for teachers outside of their schools by partnering them with engineers and business professionals to better understand the rigorous academic preparation that students will need in the future, especially important with the CCSC coming soon. Even though schools may provide some development activities, the district-wide option puts the bulk of the responsibility on the county. Therefore, teachers, under this design, spend the majority of their professional development time in activities designed and implemented outside of school (Dounay & Christie, 2008).

District-level activities are reported to be the most often used nationwide with over 50% of professional development coming from a combination of district-level and other outside sources (National Center for Education Statistics, 2000).

School-based design. The Strand 1 requirement of the MSDE can also support school-based development as it states that, “the school will identify the professional development and training that can lead to additional improvement in achievement” (MSDE, 2012a).

The wording allows room for the school to have the overall responsibility of providing the identified professional development for teachers in a school-based design much like other states. For example, in South Dakota, teachers plan, implement, and evaluate the professional development in their own schools in short, “[w]ell organized meetings” that teachers report are effective (Barnett, 2004, pp. 13-15). Legislation in Iowa directs the state Department of Education to oversee school-based teams of teachers that focus on teacher development that is monitored by the state in each school. In Florida, the state Department of Education in accordance with the School Community Professional Development Act (2006) uses a master plan for in-service activities, and individual schools incorporate “specific components” into their own school improvement plans (Dounay & Christie, 2008, p. 4). Nationally, schools have already been changing professional development models to a more school-based approach because former President Bush’s NCLB legislation “encouraged high-quality professional development in all schools...within every school” (Bingenheimer-Rendahal, 2006, p. 7).

Under current education reform, a school is judged as a stand-alone entity, and not folded into a district-wide rating. Not only do “teachers have a practical perspective of the needs of a school,” they have “positive feelings from professional development led by peers;” therefore, involving teachers in local activities “may have the impact of spotlighting specific skills while personalizing the process” (Hickey & Harris, 2005, pp.

13-15). The National Commission on Teaching and America's Future encourages "schools to make ongoing professional development part of teachers' daily work through school designs that allow...peer coaching" (Darling-Hammond, 1998, p. 4). "Rural schools... [promote] cooperation among teachers, enabling them to improve instruction...within the context of their daily practice. This extends beyond professional development and takes conversations into the hallways and faculty rooms" (Howley & Howley, 2004, p. 4).

A school-based development model can require too much of a rural school's finite resources; and that issue is one that Maryland, as well as other states, deals with daily. In the Northern Tier of Pennsylvania, teachers found that they had to come together and work as part of the district as well as the community in order to affect change (Schafft & Jackson, 2010). "Rural schools require more efficient and effective use of limited human and financial resources," so rural schools may not be able to use these resources for school-based professional development (Hickey & Harris, 2005, p. 13).

Concluding statement on professional development in Maryland. Discovering the relationship between changes in teacher perceptions of professional development elements and changes in HSA scores in rural Maryland could help the design and implementation of new professional development at the state, local, and school level to make the most out of the new federal money coming from the current reform. This monetary issue is especially important in a state where, as previously documented, over 75% of the counties are designated as rural counties and where a balance must occur between these counties and the urban ones to help Maryland teachers and students achieve in the best possible way. To find this balance, in order to provide massive

amounts of new information to teachers, may require varied levels of approaches utilizing researched professional development elements.

The National Commission on Teaching and America's Future recommends that when organizing professional development around new standards, districts should support "professional development...networks" because they "connect teachers across schools and disciplines" (Darling-Hammond, 1998, p. 4). "Fifteen percent of the superintendents in rural districts throughout the U.S. [report] that few professional development opportunities [are] available for their teachers" and indicate interest in expanding activities beyond the school level (Bingenheimer-Rendahal, 2006, p. 17).

Research also indicates that even though a majority of teachers attend workshops yearly, 95% in the 1999-2000 school year (National Center for Education Statistics, 2000), the activities may not be adequately improving the teaching profession (Darling-Hammond, 1998).

In rural locales, 67.0% are subject certified teachers as opposed to only 49.6% in urban locales and 58.0% in suburban/town locations (National Center for Education Statistics, 2014). This fact may assist in the Maryland design. Economically, "rural schools [can be] better... knowledgeable of various local resources" that can be helpful in developing school programs; therefore, resources expended on teachers' professional development net "greater gains" in student learning and achievement (Chance & Segura, 2009, p. 11; Darling-Hammond, 1998, p. 1; Bingenheimer-Rendahal, 2006, p. 17) . "Decentralized decision making is effective because teachers recognize obstacles to achievement that exist in current procedures" (Barley & Beesley, 2007, p. 14). Teachers are knowledgeable about the needs of the school and can take into account social and

cultural factors at the individual school level when designing professional development activities (Hickey & Harris, 2005).

TELL Maryland Survey PD Elements

Professional development opinions are available for the years 2009, 2011, and 2013, from one part of the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey. The 2011 and 2013 surveys include the same 12 elements (See Appendix D); the 2009 survey shares eight of the same elements. Main points of reference used by the New Teacher Center, the designers of the TELL Survey, are analyses by Ladd (2009); Johnson, Kraft, and Papay (2011); and the private organization funded by the Bill and Melinda Gates Foundation, the Measuring Effective Teachers Project that operates through its main website: metproject.org (New Teacher Center, 2013).

The New Teacher Center (2013) found in its own research for its policy brief that there has not been enough research into “the association between teaching and learning conditions and student achievement” (p. 2). Opinions of professional development elements are a part of these conditions.

Pervasive in the literature were the elements of professional development rated by participants on the TELL Maryland Survey administrations of 2011 and 2013. These elements accessed from the main webpages and then found under the professional development section from the state and all county reports from both years, researched in total (with titles narrowed for following pages in parentheses) were

- “Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices” (Collaborating);

- “Teachers are encouraged to reflect on their own practice” (Reflect);
- “Professional development deepens teachers’ content knowledge” (Content Knowledge);
- “Professional development offerings are data driven” (Data Driven);
- “Professional learning opportunities are aligned with the school’s improvement plan” (SIP);
- “Professional development is differentiated to meet the needs of individual teachers” (Teacher Needs);
- “Professional development is evaluated and results are communicated to teachers” (Evaluate/Communicate Results);
- “In this school, follow up is provided from professional development” (Follow Up);
- “Professional development enhances teachers' ability to implement instructional strategies that meet diverse student learning needs” (Student Needs);
- “Sufficient resources are available for professional development in my school” (Resources);
- “An appropriate amount of time is provided for professional development” (Time); and
- “Professional development enhances teachers' abilities to improve student learning” (Student Learning) (TELL Maryland, 2011, 2013).

Included in each of the following sections are highlights from current literature related to each element, providing positive and negative information and examples, with a focus on the relationship to student achievement as well as to the uniqueness of rural

areas.

Collaborating and reflect(ing). The concept of teachers working together to grow in relation to pedagogical skills and the craft of teaching seems to be a common thread in research. The National Commission on Teaching and America's Future recommends that when organizing professional development around new standards, districts should support "professional development...networks" because they "connect teachers across schools and disciplines" (Darling-Hammond, 1998, p. 4). Ongoing opportunities for collaboration can come out of professional development. An essential component of the professional practice of teachers is creating meaningful and supportive collaborative relationships (Riveros, Newton, & Burgess, 2012). This collaboration can occur because of different professional development designs.

In a research study by Graham (2007), it was found that teachers collaborated more often when professional learning communities were formed for professional development purposes: one teacher noted, "I am seeing things through at least ten other eyes" (p. 8). Another teacher interviewed for Graham's (2007) research said, "One hundred percent [of the success] was due to common planning time – it would fall apart without common planning time" (p. 10). Collaboration at a high school studied by Henry (2005) also came out of development arranged in subject-area teams. The study found in 12 academic departments "content-area collaboration len[t] itself to more in-depth academic discussion..." (pp. 3-4). When staff and administration became part of the structure, alongside of teachers, it increased the chances of successful collaboration as well (Smith, 2012). In research by both Graham (2007) and Maxwell, Huggins, & Scheurich (2010), new principals to schools were so interested in staffs that would

collaborate, they hired and even fired personnel to help meet their goal of promoting on-going collaboration. Dounay and Christie (2008) advocated mentor to mentee collaboration with new teachers and encouraged the collaboration to extend to the new teacher reflecting on the practice of teaching. According to Killion (2012), there should be “team based support for transferring professional learning into practice and constructive feedback to refine and sustain practice” (p. 29). This team approach may operate a little differently in rural areas. “Rural schools...[promote] cooperation among teachers, enabling them to improve instruction...within the context of their daily practice extending beyond professional development by taking conversations into the hallways and faculty rooms (Howley & Howley, 2004, p. 4).

However, Riveros, Newton, & Burgess (2012) reported that schools are not “static organizational structures... [they are] dynamic and complex” and that diversity factors into whether or not an intended structure operated in the foreseen manner (p. 6). Furthermore, Graham (2007) noted that an existing school culture may even be “hostile to a different collaborative structure” (p. 15). Maxwell et al. (2010) found that simply “having...organizational factors in place does not necessarily create a highly functional professional learning community” (p. 2).

Beyond just accomplishing goals, Henry (2005), reported that reforming any traditional practice is difficult and can even be controversial. “Educators often fall victim to the four-wall syndrome that prevents professional sharing and isolates educational practice;” therefore, “simply discussing and exchanging ideas is not sufficient” (pp. 1-3). Full collaboration requires a “level of vulnerability that many teachers would rather not experience” (Maxwell, Huggins, & Scheurich, 2010, p. 2).

Content knowledge. Susan Reese (2010), author of “Bringing Effective Professional Development to Educators,” stated that professional development cannot be “empty credit hours earned to put on a resume” (p. 40). According to Morewood, Ankrum and Bean (2010), the ultimate goal of professional development is not to just improve the delivery of instruction, it is to “deepen teachers’ knowledge and pedagogy” (p. 203). Monte-Sano and Budano (2012) called the continuing professional development geared toward content knowledge, “pedagogical content knowledge” (PCK) and described it as “subject matter knowledge for teaching” that helps teachers to create lessons that “support student learning and achievement” (p. 172).

Today, new sources of professional development are available to use personally such as on-line, web-based assistance (Reese, 2010). These sources may prove beneficial in professional development delivery because teachers generally feel good about their content knowledge (Morewood, Ankrum & Bean, 2010). Economically, this could serve rural areas well. Since online resources are in place, further costs should be moderate and are likely to pay dividends in the future (Matzat, 2013).

However, Nadelson, Seifert, Hettinger & Coats (2013) found that teachers do prefer face-to-face professional development and those small-group sessions, such as Professional Learning Community (PLC) designs, prove the most effective for professional development that is not necessarily content-based. Therefore, this structure could extend to content instruction. Reese (2010) found that career and technical educators, especially since the rise of standardized testing under No Child Left Behind, uniquely understand, due to the nature of their students’ testing requirements that the improvement of their own content knowledge directly relates to the improvement of

student learning. Seeing this link, between the improvement of content knowledge and student achievement, is crucial for teachers to become “life-long learners” and participate in content-based professional development (Morewood et al., 2010, p. 201).

“Policy makers recognize that schools will not improve if teachers do not continue to learn” (Morewood et al., 2010, p. 202). Unfortunately, teachers do not usually seek content assistance from others, and even if they do, the experienced “master teacher” may not be available to them because of the years of practice it takes to become ready to mentor others. Additionally, the current structure of professional development does not work as an ‘on your own’ type of research design to encourage teachers to improve the content knowledge that they perceive does not need improvement (Nadelson, Seifert, Hettinger & Coats, 2010). However, even though teachers may not recognize the necessity of content professional development, the National Staff Development Council in 2001 recognized that teachers must allot 25% of their time each week for professional development to improve content and instruction (Morewood et al., 2010). To get near to this percentage, teacher preferences should be taken into consideration for the planning and delivery of content-based professional development (Nadelson et al., 2013).

Data driven and school improvement plans. Gleason (2010) noted that schools now have more data than ever since the federal government’s push for school reform greatly expanded under NCLB, now continuously provides unique provisions for schools to be tightly accountable to data. Professional development designed strictly around data is not an easy design. Taking professional development time to discuss discipline issues, complete paperwork, and deal with other administrative issues depletes too much of the time needed for collaboration and for working on the prescribed task. Smith (2012)

reported that higher achieving PLC teams ensured that the agenda was “not to [be] preempt[ed]...for other purposes” (p. 3). Those issues must be saved for a different meeting configuration at a different time. In the once underperforming school studied by Maxwell et al. (2010), teachers went so far as to go into the community to talk with school “stakeholders” in order to design PLC agendas that used the information as data to better represent the goals of that district (p. 5). When professional development time was spent discussing data, student progress in courses, and instructional activities, the intended outcome had a better chance of becoming a reality (Henry, 2005). In Canada, during a reform effort, the principal of the Crosby Heights school in Toronto, Ontario used data specific to the school to help the school progress toward its goals (Fullan, 2011). In the Dixon school, described by Marrapodi & Beard (2013), the staff purposefully integrated walk-through data with student achievement while continuously asking five questions such as: “What professional learning do we need to support this improvement?” (p. 53).

A big obstacle in creating an agenda that surrounds working towards using data to inform the improvement of student achievement is the attitude of the participants and the temptation to move away from the central goal desired. Henry (2005) found that the statement “*this too shall pass*” operated as a widely held belief” and created barriers to those designing professional development agendas (p. 3). “Most professional development for teachers is little more than ‘hit and run’ workshops, uninformed by new student standards or current knowledge about effective practice” (Darling-Hammond, 1998, p. 1).

A School Improvement Plan (SIP) in Maryland officially serves as an action plan

at the school level. MSDE sets targets for all schools and districts; yearly goals at the school level are set by a SIP team, and this team must identify the data that will be collected throughout the year to monitor progress, such as professional development activities, toward the objective. Schools are encouraged to be rigorous but not choose too many strategies that “will overwhelm and exhaust staff” (Mdk12.org, 2014).

Evaluate/communicate results and follow up. Those ‘hit and run’ workshops discussed by Darling-Hammond (1998) also may not give teachers the opportunity to evaluate the professional development. Even if the workshops are evaluated, it is not a given that the results of the evaluation are communicated to teachers or, perhaps more importantly, that the teachers have any opportunities to readjust future professional development based on those results in follow up sessions.

A 2009-2010 study of New York City schools by the Consortium for Policy Research in Education (CPRE) (2010), funded by a grant from The Wallace Foundation, found “collaborative inquiry” by teachers effective in helping schools meet school improvement goals in several areas, including student achievement. An important part of the “collaborative inquiry” dealt with teachers having the opportunity to evaluate professional development and then receive the results of that evaluation to discuss and use for future planning. Teachers, with a goal of 90% participation, working under the “collaborative inquiry” design, met frequently and learned to use student data to improve instruction and thus raise student achievement in part by “inform[ing] professional development needs for the school” and the study found that the most effective professional development (measured qualitatively through 213 interviews in 13 schools), came from teachers when they “reviewed and discussed multiple sources of data” and

had the opportunities to help design professional development (Robinson et al., 2014, pp. ii, 51). By having such a close relationship with the design of their own professional development, teachers also learned how to ask for outside help and consider what particular outside help was needed to assist them in meeting their goals.

Similar to the CPRE study, research by Jonathan D. Wallace of the University of Pennsylvania (2012) also found that principal leadership style was crucial for teachers to have the opportunity for ongoing feedback and for the “build[ing] [of] a culture where teachers are expected and expect themselves to learn and grow professionally” (p. 46). Both of the research instances found that not only does this unique culture allow autonomy to occur; but it can also cultivate future leaders in the teachers who learn to have school-wide leadership.

However, according to Wallace’s study (2012), “outside of education, there has been an erosion of trust in the people who are teaching our kids...they don’t trust us to create a system...of...professional development that is going to help” (p. 44). Part of this reason may be from the high stakes accountability and testing started under No Child Left Behind (NCLB) and part may be from economic issues, according to Wallace (2012) because “when the economy is poor, teachers are vilified” (p. 44). Schools have not operated under a business model, but those policy-making models might be needed to allow for more professional development structure. However, the time still remain a huge factor. Additionally, with the intense focus on accountability and testing, less public focus has been on professional growth. It has been more about “quality control” (Wallace, 2012, p. 45; Robinson, Passantino, Acerra, Bae, Tiehen, Pido...Langland, 2010). Therefore, finding time and allowing for the trust for professionals to follow up

and have the responsibility to change training may not be an easy process to provide growth in this element of professional development.

Meeting student needs. Teacher education programs may only offer an introduction to theory when it comes to meeting diverse student needs. Dixon, Yssel, McConnell and Hardin (2014) found in their own research that preparatory programs for teachers are only a “glimpse” into meeting the requirements of students with diverse needs, often called differentiation or differentiation instruction (p. 114). They stressed that school districts must offer on-going professional development so that preparing to meet diverse student needs becomes a “process” and a “journey” that will lead teachers to practice new techniques in lessons with this coaching aspect of professional development allowing teachers to try out new ways of differentiating in their classrooms (Dixon et al., 2014, p. 114). According to Killion (2012), after the exploration of literature by another author in 1992 regarding successful differentiation instruction, 12 key elements were summarized. One of the elements was, “Teachers are personally committed to achieving equity for all students and believe that they are capable of making a difference in their students’ learning” and this “commitment to equity ensures success for all students,” therefore, Killion (2012) stressed that this element should be the “primary driver” for professional learning (p. 15).

Diversity in the classroom includes English learners. In 2008, O’Hara and Pritchard reported “half of all teachers nationally may expect to have a culturally and linguistically diverse (CLD) student in their classroom at some point in their career” (p. 43). Since the number of English learners continues to expand, teachers need training for this area of diversity as well since “the majority of English learners receive most, if not

all, of their instruction from regular classroom teachers” (O’Hara & Pritchard, 2008, p. 43). In Maryland, according to the National Center for Education Statistics (2015), six percent of public school students, 51,574 in total, participated in programs for English language learners during the 2011-2012 school year.

If meeting the challenges of diversity by differentiating instruction depends on professional development for teachers, the training may have to be changed for the evolving educational environment, because evidence supports that teachers are not ready upon college graduation with the skills to differentiate (O’Hara and Pritchard, 2008) and must develop these skills with the assistance of their school system (Dixon et al., 2014). However, adding one more requirement for teachers, especially new teachers, increases the burden on those in a demanding profession. “Teaching a mixed-ability class is a difficult and complex issue for today’s educators...taxed with so many issues to carry out simultaneously, it is challenging for educators to cope with this variety of teaching tasks...,” so to learn to do this effectively, teachers need professional development that is of a new model of practice instead of just being “told” of theory at professional trainings (Dixon et al. 2014, pp. 113-114). For a dissertation presented to Liberty University, Linkenhoker (2012) found that teachers, with experience in the field averaging 5-10 years, had concerns with teaching English language learners even though they had all graduated from accredited teacher education programs. In addition to the personal concerns are the economic concerns overall to assisting teachers with differentiation instruction training. Killion (2012) found that high-poverty schools and districts tend to have fewer opportunities for collaborative, informal learning among peers and yet often work with students who “have special needs, or have academic challenges” (p. 15).

Resources and time. One of the four main points of Maryland’s vision is to “[r]edesign the model for preparation, development, retention, and evaluation of teachers and principals” (MSDE, 2014d). Using a School Progress Index (SPI), the State uses some federal funds to provide assistance to schools. The federal government partially funds professional development, with greater sums provided to twelve states receiving Race to the Top (RTTT) dollars. Maryland was allotted \$250 million over four years after being awarded one of the RTTT grants in 2010 (MSDE, 2014b). Maryland then identified five, so-named, strands for giving assistance. Strand 1 asks schools to “identify the professional development and training that can lead to additional improvement...,” and it is the responsibility of the Local Education Agency (LEA), often the county, to decide how to provide this training (MSDE, 2012a). Maryland traditionally spends, on average, \$200 per pupil on professional development (Dede, et al., 2006). In 2011-2012, 44% of the federal funding under Title II Part A went towards professional development (USDE, 2014b).

Cincinnati Public Schools designed a system-wide study of the resources it was using for professional development and then put in place an action team to design better professional development strategies in a more cost-effective manner (Education Resource Strategies, 2009). Economically, “rural schools [can be] better... knowledgeable of various local resources” that can be helpful in developing school programs; therefore, resources expended on teachers’ professional development net “greater gains” in student learning as well as in achievement (Chance & Segura, 2009, p. 11; Darling-Hammond, 1998; Bingenheimer-Rendahal, 2006) .

Cost-effectively designing professional development is a lofty goal, and it is

especially difficult in rural areas where money must stretch further. Nine of Maryland's 24 counties are designated rural; an additional nine counties receive the rural distinction under the Annotated Code of Maryland, bringing the total to 18 of 24 counties being designated rural (Rural Maryland Council, 2014). These areas must determine what will work best to provide this needed and mandated training for teachers. "Rural schools require more efficient and effective use of limited human and financial resources" and rural schools may not be able to use these resources for school-based professional development (Hickey & Harris, 2005, p. 13). District-level activities are reported to be the most often used with over 50% of professional development coming from a combination of district-level and other outside sources (National Center for Educational Statistics, 2000). To change the norm over to a school-based development model may require too much of a rural school's resources. In the Northern Tier of Pennsylvania, teachers found that they had to come together and work as part of the district as well as the community in order to effect change (Schafft & Jackson, 2010, p. 167).

An additional obstacle in rural districts is that the limited availability of personnel makes it very difficult to provide release time for teachers to leave the school and attend "conferences and professional development" and "...factors of isolation, poverty, and size may restrict the implementation of policy requirements" (Bingenheimer-Rendahal, 2006, pp. 1-6). Henry (2005) reported that "Districts often place too many educational initiatives...and grant minimal time...to accomplish [professional development] tasks" (p. 1). To create adequate time, configurations could include common planning time with flexible instructional time (Graham 2007) and student early-release or late start days (Smith 2012; Henry 2005).

Teacher needs. Gene Wilhoit, the executive director of the Council of Chief State School Officers, asked the question, “What made you think you could transform teacher practice...with traditional models of professional development?” (Hirsch, 2012, p. 1). “Schools must identify the appropriate processes that align with content to meet the needs of adult learners” (Gleason, 2010, p. 47). “[T]eachers must have empowerment that include[s] influence over school... [and] sense of ownership” (Maxwell et al., 2010, p. 2).

Differentiating professional development is an area of focus that can effect change. In South Dakota, teachers plan, implement, and evaluate the professional development in their own schools in short, “[w]ell organized meetings” that teachers report are effective (Barnett, 2004, pp. 13-15). In Kentucky, mentoring programs also provide learning for teachers outside of their schools by partnering them with engineers and business professionals to better understand the rigorous academic preparation that students will need in the future. In Indiana, teachers have opportunities to learn about business needs by participating in externships in the summer. It is hoped that lessons learned by these teachers will extend into their own classrooms (Dounay & Christie, 2008). Not only do “teachers have a practical perspective of the needs of a school,” they have “positive feelings from professional development led by peers,” and involving teachers in local activities “may have the impact of spotlighting specific skills while personalizing the process” (Hickey & Harris, 2005, pp. 12-15). As cited in Darling-Hammond (1998), The National Commission on Teaching and America’s Future encourages “schools to make ongoing professional development part of teachers’ daily work through school designs that allow...peer coaching” (p. 4). Teachers are knowledgeable about the needs of the school and can take into account social and cultural

factors at the individual school level when designing professional development activities (Hickey & Harris, 2005).

However, providing varied and unique professional development to schools is not easy and can raise costs. “No single strategy will always work in every school, for every teacher, all of the time” (Texas Instruments, 2009, p. 15). Politically, “there are numerous state efforts to recruit, train, and retain more teachers, [but] fewer initiatives focus on developing teachers once they enter the classroom” (Dounay & Christie, 2008, p. 1).

Kentucky’s Highlands Middle School’s principal looked for differentiation and turned to online resources. He said, “There was no one I could bring in cost-effectively to do professional development...for what I thought we could get off of professional development online” (Ash, 2012, p. 1).

Student learning. Educational policy initiatives world-wide have put an “unprecedented focus” on these policies to “narrow the achievement gap” and often combine reform efforts with “accountability measures and high-stakes testing.” (Kennedy, 2010, p. 384). To satisfy the Strand 1 requirement of MSDE, “the school will identify the professional development and training that can lead to additional improvement in achievement” (MSDE, 2012a). This requirement follows from NCLB legislation because former President Bush’s push for legislation that did pass “encouraged high-quality professional development in all schools...within every school” (Bingenheimer-Rendahal, 2006, p. 7).

In research by Kennedy (2010), a statistically significant increase in student achievement occurred when teachers participated in a “multifaceted professional development program,” and even though Kennedy notes that “sustainable change is

complex,” the achievement gap in the school narrowed (pp. 384-386). Avalos (2011) noted that teachers who received professional development that encouraged a change in teacher beliefs and/or expectations of student achievement resulted in a higher outcome for students after two years of instruction to the teachers. Additionally, as teachers were taught to adapt to student needs, similar positive gains in achievement increased over time.

In the Graham (2007) case study of a PLC, research found that “very little time was devoted to identifying how well students were learning” within the team meetings (p. 8). Even with all of the best intentions, it is still possible to move away from the agenda due to legislative mandates and pervasive school issues that also require attention. “It is easy to get bogged down with the three deadly Cs: calendar, choices, and consequences...collaboration must be focused on student learning” (Henry, 2005, p. 2).

Conceptual Framework Referenced

Pedagogical content knowledge. Lee Shulman, a past president of the Carnegie Foundation for the Advancement of Teaching, has long studied teacher preparation and continuing professional development. In 1986, he introduced (then published in 1987) the phrase “pedagogical content knowledge” (PCK) that was a support to academic content knowledge that promoted others to study and write scholarly articles on successful teaching (Shulman, 1987). In 2006, while giving an awards acceptance speech, Shulman stated that good teachers are critical to the success of people in every profession. To get the most from an educational system, people involved in the system must do a better job of preparing and assessing the performance of teachers at all levels. “No microcomputer will replace them, no television system will clone them, no scripted lessons will direct

and control them, no voucher system will bypass them” (University of Louisville, 2006).

Critically reflective teaching. Stephen Brookfield (1995) described in his book, *Becoming a Critically Reflective Teacher*, that “we teach to change the world” (p. 1). He said that educational institutions are thought of as places for students to learn and not for teachers to learn. Taking PCK a step further, Brookfield stressed that teachers, while continually working on their craft, must seek out guidance from others and not be afraid of sharing failures. In this book, he advocated for “peer conversation” years before PLCs became a known practice in schools (p. 141). Teachers can, according to Brookfield (1995), find “critical clarity” to help them improve their pedagogical knowledge to better support student achievement by thinking about practice and even talking to students to gain insight into their opinions of teachers for further self-reflection (p. 244).

Values and culture. The values and culture of a PK-12 school system, and even each school, can aid in determining that ideal future based on the current situation’s needs. According to Nolan, Goodstein, and Goodstein (2008), “values are the underlying principles or standards that guide all human interactions...” and these values are collectively important in a PK-12 school district as well as in each school, (p. 43) and this importance is notably exemplified in how the “beliefs and ideas” of the organization, as controlled by the employees, help to define the means to accomplish goals (p. 45).

Nolan et al. (2008) described the culture of an organization by explaining that, “Organizational values are beliefs and ideas about what kinds of goals members of an organization should pursue and ideas about the appropriate kinds or standards of behavior organizational members should use to achieve these goals” (p. 45).

Taking into account the federal and state reform effort’s focus on professional

development, determining how best to properly train staff is a value that may be embraced by schools. Additionally, the value of student achievement is highlighted as a component of the new reform of education. Therefore, professional development to help properly train staff ensures students are achieving under the new standards, at all levels, while reinforcing values and culture may provide an additional framework moving forward.

Essential Elements

Tables 1, 2, and 3 along with Figure 1 include essential TELL Maryland Survey and professional development elements crucial to this study.

Table 1

First Six of the 12 TELL Maryland Survey PD Elements

Collaborating	Reflecting	Content Knowledge	Data Driven	SIP	Teacher Needs
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Note. Elements in order of Chapter 2 sections. Adapted from “Historical,” by TELL Maryland, 2014 (<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Table 2

Second Six of the 12 TELL Maryland Survey PD Elements

Evaluate/ Communicate Results	Follow Up	Student Needs	Resources	Time	Student Learning
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Note. Elements in order of Chapter 2 sections. Adapted from “Historical,” by TELL Maryland, 2014 (<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Table 3

High School Assessments

Algebra/ Data Analysis	Biology	English 10	Government
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Note. Senior exit exam data based on four passing scores or combined score option. Adapted from “2014 Maryland Report Card,” by Maryland State Department of Education, 2014 (<http://msp2014.msde.state.md.us/>). Copyright 1998-2015 by Maryland State Department of Education.

Strand	Maryland State Department of Education (MSDE) and Local Education Agency (LEA)
1	The school will identify the professional development and training that can lead to additional improvement in achievement. The LEA may provide this resource or the school can seek training beyond their own LEA.
2	It is expected that the LEA will assure that lower-performing subgroups and other particular needs the school may have (specifically in the Indicator that was missed) are addressed in the School Improvement Plan (SIP)/School Performance Plan (SPP). Title I schools that fail to make the AMO in Mathematics or Reading will be eligible to apply for 1003(a) School Improvement Grant (SIG) funds.
3	The school will develop a School Improvement Plan (SIP)/School Performance Plan (SPP) that will address the specific Indicators that are missed. Progress on improvement of the Indicators will be monitored by the LEA. Title I schools that fail to make the AMO in Mathematics or Reading will be eligible to apply for 1003(a) School Improvement Grant (SIG) funds.
4	The LEA will examine the existing supports in the school to determine the effectiveness of the current push for increased progress and monitor necessary changes to address. All instructional as well as those ancillary supports, like classroom management training, that can prevent other problems from interfering with instruction. Title I schools that fail to make the AMO in Mathematics or Reading will be eligible to apply for 1003(a) School Improvement Grant (SIG) funds.
5	The LEA will provide intensive, sustained support and technical assistance through onsite monitoring for the school. It may include, but is not limited to, examining existing supports, curriculum, instruction, assessment, professional development with accountability, school culture and climate, family and community support, organizational structure and resources, and comprehensive and effective planning. Title I schools that fail to make the AMO in Mathematics or Reading will be eligible to apply for 1003(a) School Improvement Grant (SIG) funds.

Figure 1. Professional development as Strand 1 goal under RTTT. Adapted from “Divisions,” by Maryland State Department of Education, 2014 (http://www.marylandpublicschools.org/msde/divisions/instruction/prof_standards.html). Copyright 2003 by Maryland State Department of Education.

Summary

Looking at the literature and the TELL Maryland Survey results relative to the 12 specific professional development elements could help to shed light on the perceived role they have for rural public educators in Maryland and how they correlate with HSA scores. This could bring new information to those who have the responsibility to plan professional development and much needed teacher training in this era of reform.

The focus on the literature additionally aided in Chapter 5’s interpretation of the results of the study and helped to provide recommendations for further study, also found in Chapter 5.

Chapter 3 – Research Design and Methodology

Research Design

This explanatory examination was designed in order to discover the relationship between teacher perceptions of professional development elements, as rated by the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey, and student achievement, as measured by High School Assessment scores (HSA) used as senior exit exam data, in rural Maryland, over a corresponding two-year time period (Rovai et al., 2012). This design consisted entirely of quantitative methods (McMillan, 2008). The correlational research did not prove causation, but hopefully served not only as an indicator, but also as a predictor as the statistics “can show one where to look” after variables were correlated and the relationship was described in Chapters 4 and 5 (Rovai et al., 2012, p. 82).

Hypotheses

According to Rovai et al. (2012), Independent Variables (IVs) are potential causes or influences on the Dependent Variable (DV). Twelve IVs were tested with the constant DV of HSA scores as the measure of student achievement.

Thus, taking the categories individually with narrow titles in parenthesis, the null hypotheses (H_0) were

- There is no relationship between teacher perceptions of professional development (Collaborating) and student achievement;
- There is no relationship between teacher perceptions of the encouragement of (Reflect)ing on their own practice and student achievement;
- There is no relationship between teachers’ (Content Knowledge) in professional

development and student achievement;

- There is no relationship between teacher perceptions of the offerings of (Data Driven) agendas in professional development and student achievement;
- There is no relationship between teacher perceptions of the alignment of professional development offerings with the school's improvement plan (SIP) and student achievement;
- There is no relationship between teacher perceptions of meeting (Teacher Needs) by differentiating in professional development and student achievement;
- There is no relationship between teacher perceptions of evaluation and the results of that evaluation being communicated (Evaluate/Communicate Results) in professional development and student achievement;
- There is no relationship between teacher perceptions of (Follow Up) being provided from professional development and student achievement;
- There is no relationship between teacher perceptions of meeting diverse (Student Needs) for learning in professional development and student achievement;
- There is no relationship between teacher perceptions of sufficiency of (Resources) for professional development and student achievement;
- There is no relationship between teacher perceptions of appropriate (Time) provided for professional development and student achievement;
- There is no relationship between teacher perceptions of professional development improving (Student Learning) and student achievement.

The alternative hypotheses (H_a) were

- There is a relationship between teacher perceptions of professional development

(Collaborating) and student achievement;

- There is a relationship between teacher perceptions of the encouragement of (Reflect)ing on their own practice and student achievement;
- There is a relationship between teachers' (Content Knowledge) in professional development and student achievement;
- There is a relationship between teacher perceptions of the offerings of (Data Driven) agendas in professional development and student achievement;
- There is a relationship between teacher perceptions of the alignment of professional development offerings with the school's improvement plan (SIP) and student achievement;
- There is a relationship between teacher perceptions of meeting (Teacher Needs) by differentiating in professional development and student achievement;
- There is a relationship between teacher perceptions of evaluation and the results of that evaluation being communicated (Evaluate/Communicate Results) in professional development and student achievement;
- There is a relationship between teacher perceptions of (Follow up) being provided from professional development and student achievement;
- There is a relationship between teacher perceptions of meeting diverse (Student Needs) for learning in professional development and student achievement;
- There is a relationship between teacher perceptions of sufficiency of (Resources) for professional development and student achievement;
- There is a relationship between teacher perceptions of appropriate (Time) provided for professional development and student achievement;

- There is a relationship between teacher perceptions of professional development improving (Student Learning) and student achievement.

Setting

The summer and fall of 2014 and the winter and spring of 2015, in rural Maryland, was the setting for this research. Specifically, all 18 rural Maryland counties, also known as Local Education Agencies (LEAs), were studied according to the variables.

Sample Selection

Maryland, at the time of research, had 244 high schools in 24 jurisdictions (including Baltimore City) that mirror the 24 school systems/LEAs. Eighteen of the jurisdictions, also known as Maryland counties, defined as rural by the Annotated Code of Maryland, were studied quantitatively (Rural Maryland Council, 2014). Maryland reports TELL Maryland Survey results that exceed 50% participation or better; all 18 counties not only met the 50% rate, they exceeded that percentage. Three rural counties had 84% of schools reporting, and 12 rural counties had 100% of schools reporting. Therefore, all combined, the 18 rural counties achieved an 80% reporting rate which exceeded the 50% participation rate recognized by the TELL Maryland Survey. It was determined that it would be a much better look at the state to include all of the counties. Additionally, to be included in the sample, the high schools must also have reported senior exit exam data percentages based on the administration of all of the HSA for both studied years (2011 & 2013). Cumulatively meeting all of the above criteria, 63 of 79 rural high schools, representing all of the 18 rural counties, were included in the research.

The sample became a convenience sample because the high percentage of

respondents meant that they were “willing and available to be studied” when they completed the TELL Maryland Survey (Creswell, 2008, p. 155).

The small percentage of high schools in the six urban LEAs meeting the 50% reporting level on the TELL Maryland Survey helped to further solidify the focus of this research on only rural LEAs (TELL Maryland, 2011, 2013).

Data, Instruments, and Materials

The data from State survey participants came from the publically available TELL Maryland Survey ratings from the years of 2011 and 2013. Professional development elements, represented as percentages of “agree” as opposed to “disagree” were compiled for the state of Maryland after the survey participants rated each item on a Likert scale (TELL Maryland, 2014) (See Appendix D). The HSA data came from the publically available Maryland Report Card, reported first by the LEAs, as senior exit exam percentages representative from the same years as the TELL Maryland Survey.

Maryland public school data determines and reports the pass rate percentage of senior students on all HSA, reported as passing scores on all tests individually or as a combined score option (Algebra/Data Analysis, Biology, English10, and Government) each year. This senior exit exam data is the particular data that is determined to be reliable and valid by the creators of the test for the state of Maryland (Educational Testing Service, 2014). Data of alternative tests used for graduation requirements for students with special needs, for example, including Maryland Bridge projects used for students with repeated HSA failures, was not used for this research because validity and reliability are determined differently from the written assessments (MSDE, 2014a).

According to McMillan (2008), nonmanipulated variables in correlational

research may be considered independent because they come before the dependent variable. The 12 independent variables were the teacher perceptions of the 12 professional development items and the constant dependent variable was student achievement.

Interval data was represented as HSA senior exit exam pass rates (Rovai et al., 2012).

Data Collection Procedures

First, the 12 professional development elements were researched in the literature. Second, utilizing an Excel spreadsheet, a listing of all rural LEAs and their high schools that met the criteria to administer HSA for the two studied years allowed the researcher to additionally determine, from public data, what high schools had completed the 2011 and the 2013 TELL Maryland Survey. This procedure determined that the sample could actually include all of the 18 rural counties.

Third, specific results of the 12 professional development elements from the TELL Maryland Survey were collected from the official state of Maryland's TELL website (tellmaryland.org) and placed into an Excel spreadsheet. These results were the percentages relative to the level of agreement, of each element, from the statements of participants in high schools where there was at least a 50% response rate each year, for the two studied years, 2011 and 2013. Interval data was represented as percentages from the TELL Survey's original, Likert scale, interval instrument (Rovai et al., 2012). Fourth, student achievement data was collected from each high school from the sample LEAs, and was placed into an Excel spreadsheet, represented as senior exit exam rates of HSA for the two studied years of 2011 and 2013 (mdreportcard.org). This data was chosen

because of the research on the reliability and validity of Maryland's HSA when utilized as senior exit exams (Educational Testing Service, 2014).

Data Analysis Procedures

The statistical measurement used for analysis was the Pearson r value that varies between -1.00 and $+1.00$. "A correlational design produces studies that examine relationships...between two or more existing, non-manipulated variables" (Rovai et al., 2012, p. 81). In deciding on a statistic those afore noted parameters were met; there were two variables, an interval-to-interval design, and the desired outcome was to determine relationship.

Note: the original TELL Maryland Survey was an ordinal measurement but utilizing the percentages of the respondents' agree to disagree perceptions changed the scale to interval.

The level of significance was set at $p \leq .05$; a typical level for social science research (Rovai et al., 2012). The correlation coefficient (r) and the coefficient of determination (r^2) are suitable for estimating effect size, according to Rovai et al. (2012), "when analyzing continuous, normally distributed variables. Cohen's d and Pearson r can be converted one from another using the following formulas: $r = \sqrt{[d^2 / (d^2 + 4)]}$ $d = 2r / \sqrt{(1 - r^2)}$ " (p. 207). The effect size recognized as $r \geq .10$ is determined relevant for this study.

The change in teacher perceptions of professional development over the 2011-2013 two-year period was correlated with the change in student achievement over the same time-period.

Validity and Reliability

Guessing on the part of the respondents for the TELL Maryland Survey may have affected reliability. In this case, a test-retest design could be used in the future. In addition, situational aspects related to work issues may have had an impact on respondents as they determined the professional development elements that they perceived as most important. For example, a particular professional development element that they personally liked or dis-liked may have led them to select an answer without consideration to the importance of the element on teachers in general (Rovai et al., 2012).

According to the Research Brief published by the New Teacher Center (2013), an external review, the Swanlund study of 2011, analyzed the TELL Maryland Survey reliability by using the Rasch model person separation and Cronbach's alpha, and the outside study concluded the survey capable of producing "consistent results" (p. 3).

According to Educational Testing Service (ETS), the developer of Maryland's HSAs, its "assessment specialists have extensive expertise in many areas, which allows for the creation of tests with a variety of purposes" and "for more than 60 years [its] team has worked with organizations worldwide to design, equate, scale and score assessments that meet the highest quality standards." This includes the senior exit exam testing needed by seniors in Maryland (Educational Testing Service, 2014).

Role of Researcher

The researcher is a high school teacher/instructional leader in a rural Maryland county that was one of the studied counties and is someone who completed the TELL Maryland Survey both years.

This research was part of a doctoral program at a four-year university in

Maryland. Professional development design and topics, which were the initial focus, expanded to include HSA results as the result of an interest in the relationship between professional development and student achievement.

It is the desire of the researcher that the results of this study will be useful for predicting a future focus for professional development. This is especially important in an era of educational reform with an increasing focus on improved student achievement.

Measures for Ethical Protection

No rural high schools in Maryland investigated in this study were named in any documentation associated with data. By not utilizing the specific data set from the TELL Maryland Survey, no particular identifiers attributable to individuals were available for any part of the research. Additionally, the HSA senior exit exam percentages offer no individual student reports. All data used from the TELL Maryland Survey and the HSA come from public, readily available sources.

The researcher successfully completed a web-based training course, “Protecting Human Research Participants” from the National Institutes of Health (NIH) Office of Extramural Research (Certificate 1248854) and researched the University guidelines with respect to the obligation to conduct studies with attention to ethical and legal guidelines (McMillian, 2008). The completion of post-graduate research courses and a relationship with a learned committee, assisted with preparation to conduct University Internal Review Board (IRB) approved research. The IRB application, submitted on December 17, 2014, was approved (H2015-016) on February 10, 2015 (Appendix E).

Chapter 4 – Findings

Introduction

The purpose of this research was to determine if there was a relationship between teacher perceptions of professional development and student achievement in rural Maryland high schools. The teacher perception data on 12 professional development elements came from the 2011 and 2013 Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey (See Appendix Table D1 for the survey questions). Student data came from publically available senior exit exam percentages based on the four, end of course, High School Assessment (HSA) exams in Algebra/Data Analysis, Biology, English 10, and Government that were a state, pass or combined score option, requirement for most students to earn a high school diploma for the years of the research (MSDE, 2014a). The changes in the values from 2011 to 2013 for both variables provided the data for research and analysis.

Sample Information

Following the specific procedures outlined in Chapter 3, the final sample was assembled in order to proceed with the research. All 18 rural counties were included in the study. Seventy-nine possible schools were considered because they administered the TELL Maryland Survey, and they reported HSA senior exit exam data. However, not all schools had 50% or more of the staff complete the survey for one or both years, so those schools had to be excluded, as no survey data was publically reported by the New Teacher Center unless that percentage was met. Therefore, 63 of the 79 schools met all of the criteria and became part of the sample. Of the 18 rural counties, 12 counties had 100% of the high schools make the sample and three counties had 84% of the high

schools meet all criteria. The total percentage of rural high schools statewide included in the study was 80%. From these schools, a combined percentage of 79% of potential participants completed the survey of 2011 and/or 2013. This was a total of 11,365 out of 14,368 survey respondents (See Appendices B and C).

After the determination of the sample, the data collection and data analysis procedures outlined in Chapter 3 were completed over a three-month process. Excel spreadsheets were built and the readily available public data were entered methodically and checked three times by the researcher to protect against errors. The final statewide sample was analyzed by the researcher using Excel statistical analysis tools, and then the Excel spreadsheets were divided into five regions. Each region's data analysis proceeded in the same manner as the statewide sample and was included with the statewide results to assist in table and figure development and comparisons.

This chapter includes the statistical results, and the appendices provide further detailed information. The examination of the results of the studied sample is presented in an analysis of five regions and by a total composite of the state of Maryland.

Region Data Reporting Explanation

For the presentation and analysis of the data, Maryland was divided into regions (see Table 4 and Figure 2) designated by the Maryland Department of Labor, Licensing, and Regulation (2015). A county commissioner of one of the rural counties in the study provided information that led to the source for the best region designation that mirrored education-funding districts. This division allowed for more analysis and comparison of the data than one statewide composite would have presented for Chapters 4 and 5.

Table 4

Region Designations in Maryland and Corresponding Rural Counties

Western	Capital	Southern	Central	Eastern
<u>Counties</u>				
Allegany	Frederick	Calvert	Carroll	Caroline
Garrett		Charles	Harford	Cecil
Washington		St. Mary's		Dorchester
				Kent
				Queen
				Anne's
				Somerset
				Talbot
				Wicomico
				Worcester

Note. Adapted from “Division of Workforce Development and Adult Learning,” by the Maryland Department of Labor, Licensing and Regulation. Retrieved April 20, 2015 from <http://www.dllr.state.md.us/provets/mdregions.shtml>

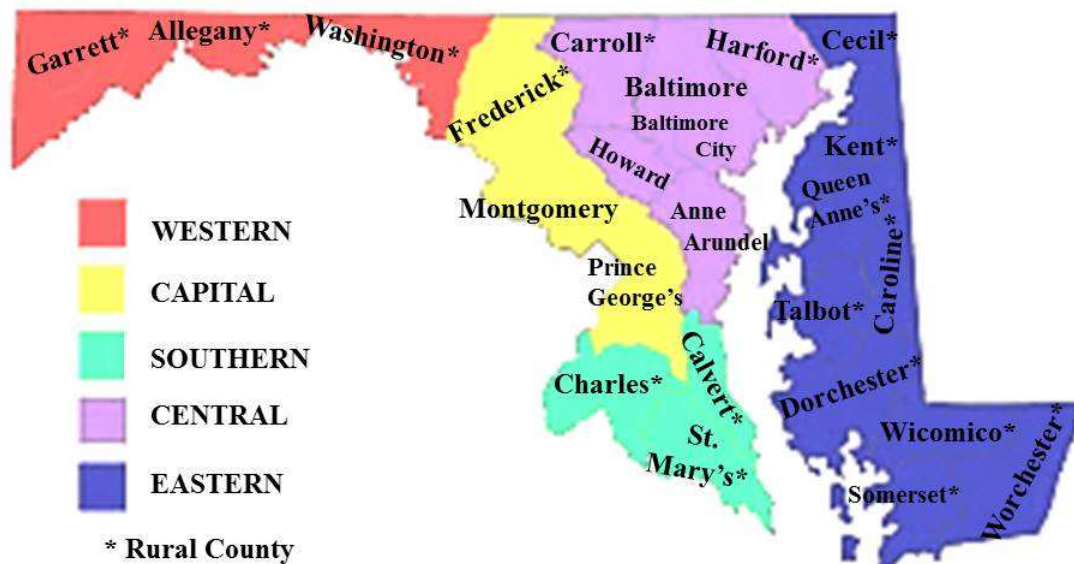


Figure 2. Map of Maryland's Region Designations. Adapted from “Division of Workforce Development and Adult Learning,” by the Maryland Department of Labor, Licensing and Regulation. Retrieved April 20, 2015 from <http://www.dllr.state.md.us/provets/mdregions.shtml>

Western Region

The Western Region was comprised of three counties, all three of which were included in the studied sample because they were considered to be rural. These were the

counties, also serving as LEAs, of Allegany, Garrett, and Washington. Fourteen high schools met the criteria, for both of the studied years, of administering and reporting results of the TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, all 14 of these schools met the specifications for inclusion in the final TELL Maryland Survey results. Therefore, 100%, 14 of 14, of the high schools in this region that met the original criteria, were part of the final, studied sample.

In this region's sample, 810 teachers out of a possible 1019, 79.5%, completed the 2011 TELL Maryland Survey and 807 out of a possible 921, 87.6%, completed the 2013 TELL Maryland Survey. This was an 84% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do not match the published percentages. Taking this into account, 874 of 954 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 94.01%. In 2013, 864 of 948 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 93.57%. The -0.44% change was used for the correlation value for the constant dependent variable.

Table 5 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the Western Region.

Table 5

Western Region Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	Weak Negative	-.231	.214
Reflect	Weak Positive	.210	.235
Content Knowledge	Moderate Negative	-.314	.137
Data Driven	n/a	-.031	
SIP	n/a	-.179	
Teacher Needs	Moderate Negative	-.343	.115
Evaluate/Communicate Results	n/a	.003	
Follow Up	n/a	-.003	
Student Needs	n/a	-.006	
Resources	Moderate Negative	-.299	.150
Time	Moderate Negative	-.300	.148
Student Learning	n/a	.022	

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Region) = 14. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on all 12 professional development elements declined in value between 2011 and 2013 (Figure 3). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

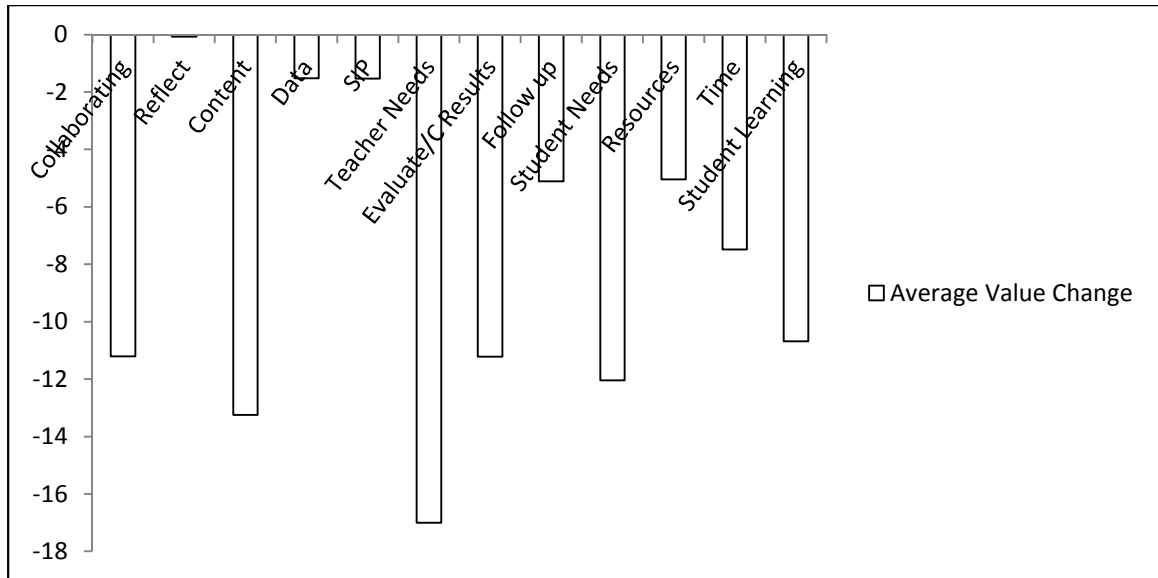


Figure 3. Average Western Region professional development element value change.

Four of the correlations: Teacher Needs, Content Knowledge, Resources, and Time produced a moderate negative relationship with student achievement as shown in Figures 4, 5, 6, and 7, beginning with largest correlation. None of these correlations resulted in a significant p value.

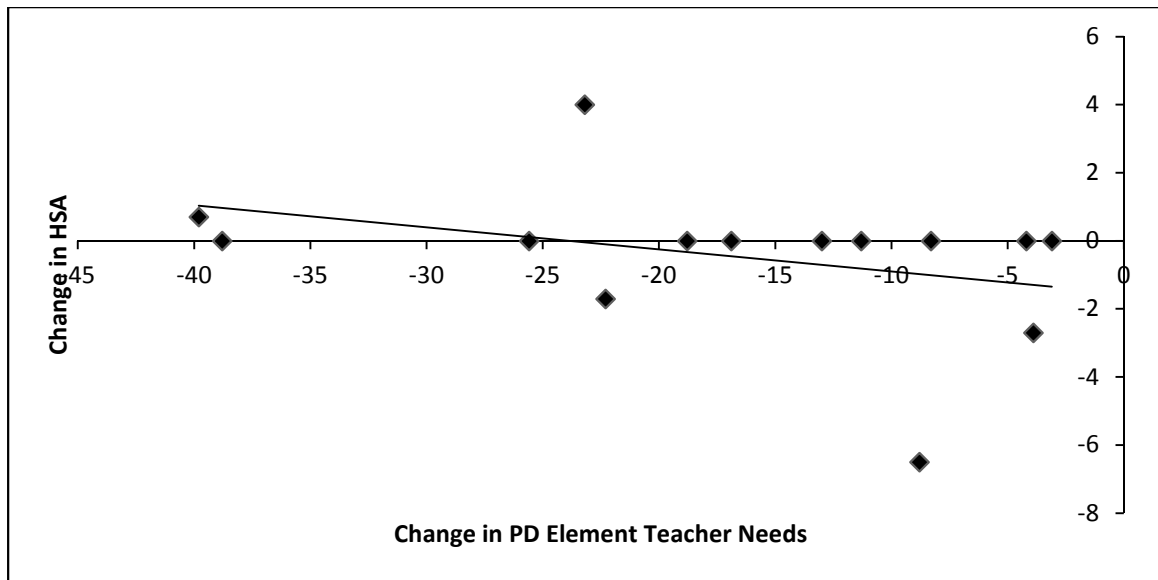


Figure 4. Western Region professional development element, Teacher Needs, correlation. The linear position shows the Moderate Negative, Pearson r -.343, correlation.

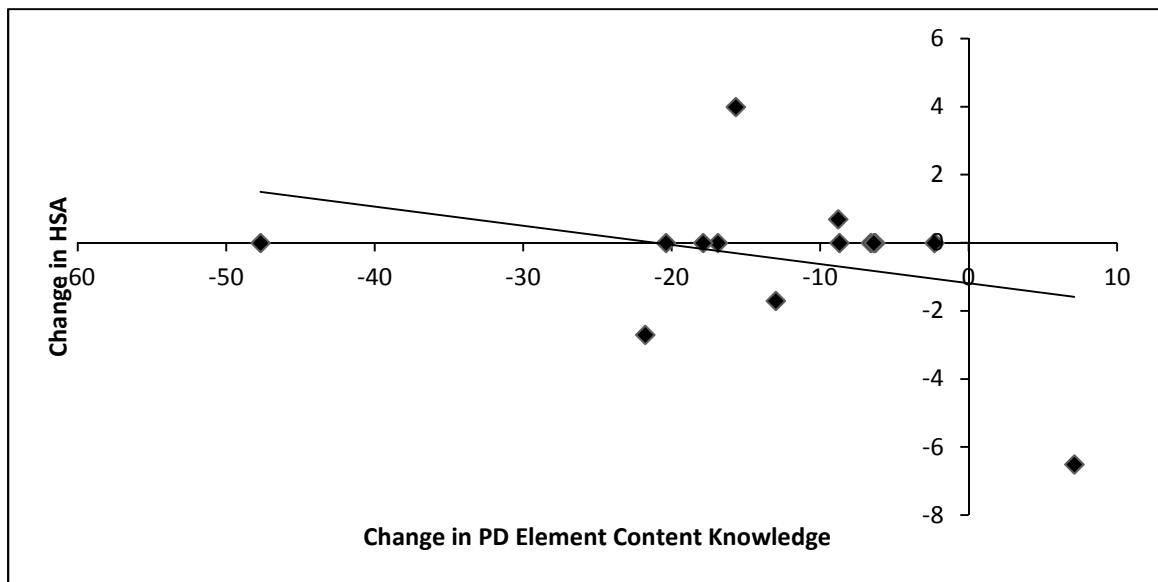


Figure 5. Western Region professional development element, Content Knowledge, correlation. The linear position shows the Moderate Negative, Pearson r -.314, correlation.

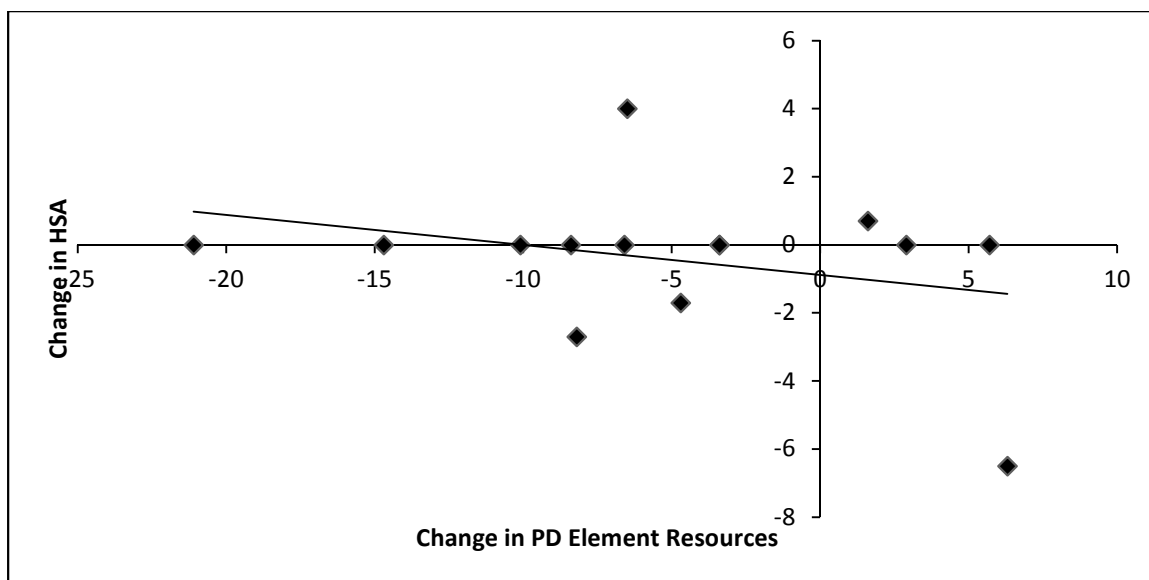


Figure 6. Western Region professional development element, Resources, correlation. The linear position shows the Moderate Negative, Pearson r -.300, correlation.

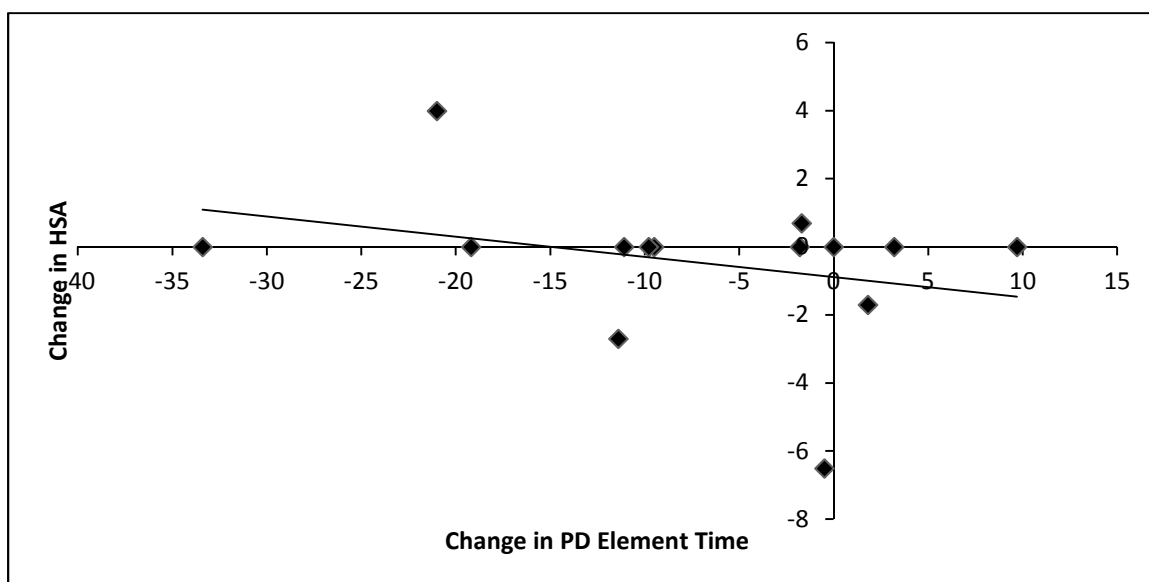


Figure 7. Western Region professional development element, Time, correlation. The linear position shows the Moderate Negative, Pearson r -.300, correlation.

The professional development element of Collaborating produced a weak negative correlation with student achievement and the professional development element of Reflect(ion) produced a weak positive correlation with student achievement.

The Rural Maryland in Total and Comparison sections later in this chapter provide information in table, figure, and text form on the comparability of this region to others and to the state's total results.

Capital Region

The Capital Region was comprised of three counties, one of which was included in the studied sample because it was considered to be rural. This was the county, also serving as LEA, of Frederick. Nine high schools met the criteria, for both of the studied years, of administering and reporting results of the TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, five of these schools met the specifications for inclusion in the final TELL Maryland Survey results. Therefore, 56%, five of nine, of the high schools in this region that met the original criteria, were part of the final, studied sample. Note: this was the smallest percentage of any of the studied regions.

In this region's sample, 340 teachers out of a possible 508, 67%, completed the 2011 TELL Maryland Survey and 336 out of a possible 438, 77%, completed the 2013 TELL Maryland Survey. This was a 72% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do

not match the published percentages. Taking this into account, 359 of 399 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 93.06%. In 2013, 224 of 236 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 94.98%. The 1.92% change was used for the correlation value for the constant dependent variable.

Table 6 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the Capital Region.

Table 6
Capital Region Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	Strong Positive	.657	.114
Reflect	Strong Positive	.510	.190
Content Knowledge	Very Strong Positive	.790	.056~
Data Driven	Very Strong Positive	.799	.052~
SIP	Very Strong Positive	.935	.010**
Teacher Needs	Strong Negative	-.651	.117
Evaluate/Communicate Results	Very Strong Positive	.937	.009**
Follow Up	Very Strong Positive	.800	.052~
Student Needs	Weak Positive	.265	.334
Resources	n/a	.159	
Time	Strong Positive	.460	.218
Student Learning	n/a	-.024	

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Region) = 5. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on eight professional development elements increased in value and four decreased in value between 2011 and 2013 (Figure 8). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

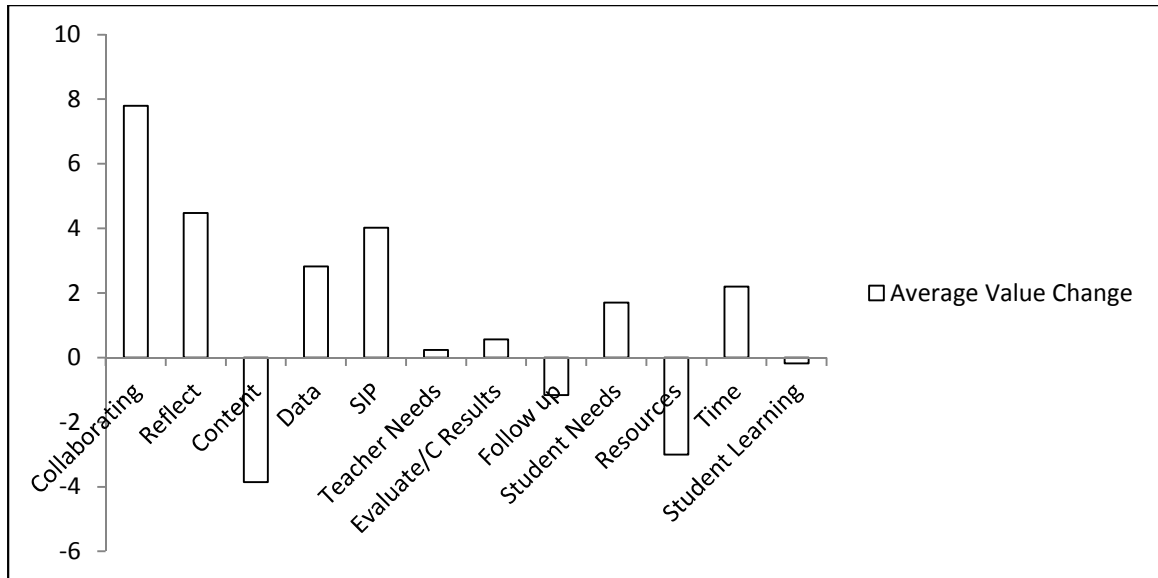


Figure 8. Average Capital Region professional development element value change.

Five of the correlations: Evaluate/Communicate Results, SIP, Follow Up, Data Driven, and Content Knowledge produced a very strong positive relationship with student achievement as shown in Figures 9, 10, 11, 12, and 13, beginning with the largest correlation. The two correlations of Evaluate/Communicate Results and SIP resulted in a highly significant p value. The three correlations of Follow Up, Data Driven, and Content Knowledge resulted in a marginally significant p value.

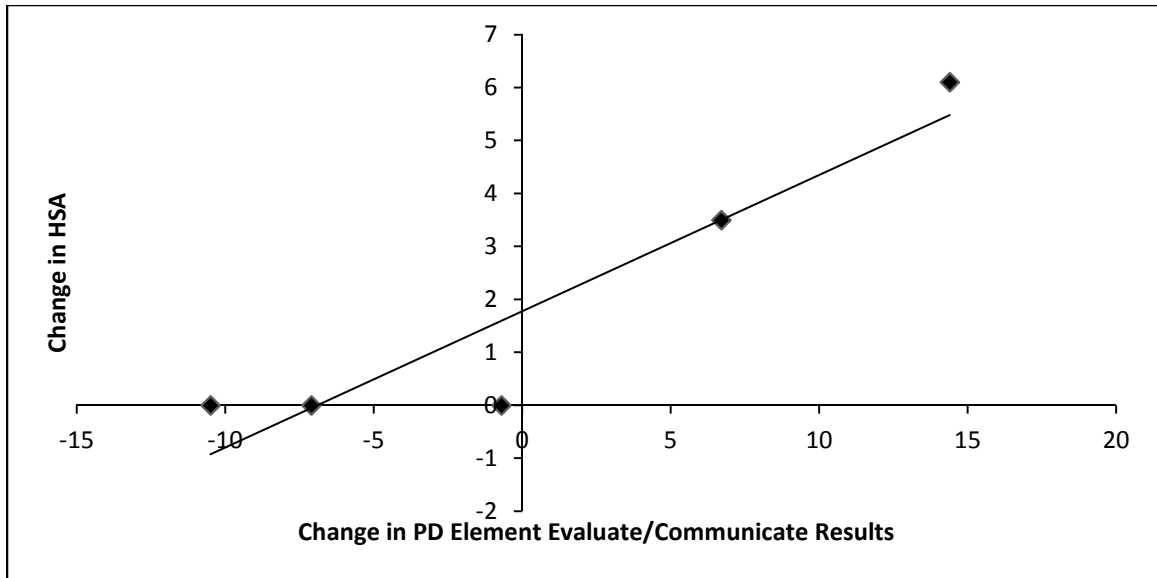


Figure 9. Capital Region professional development element, Evaluate/Communicate Results, correlation. The linear position shows the Very Strong Positive, Pearson r .937, correlation.

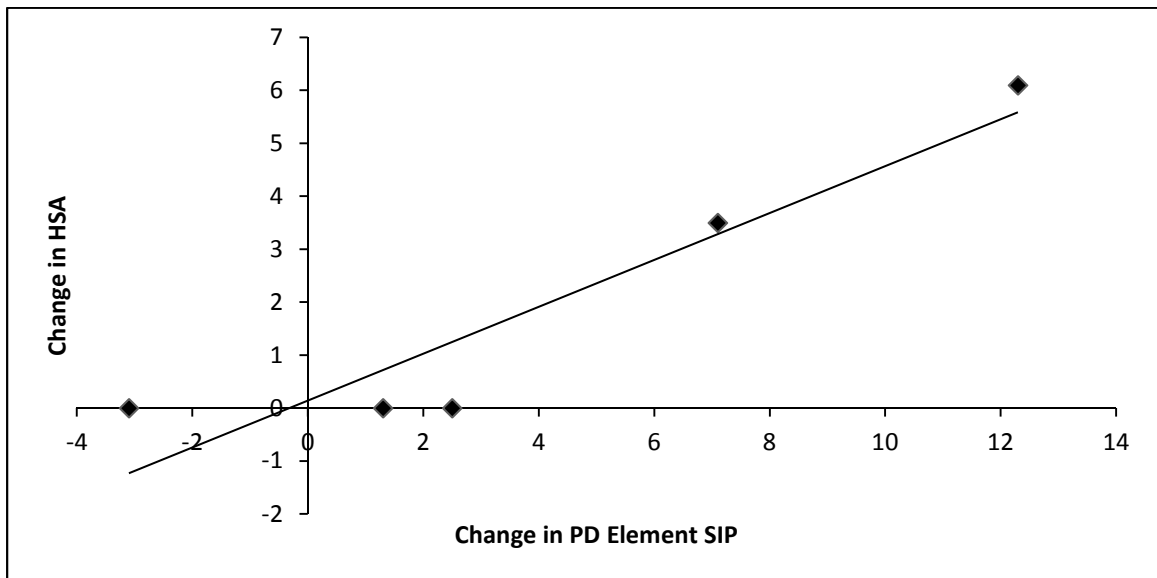


Figure 10. Capital Region professional development element, SIP, correlation. The linear position shows the Very Strong Positive, Pearson r .935, correlation.

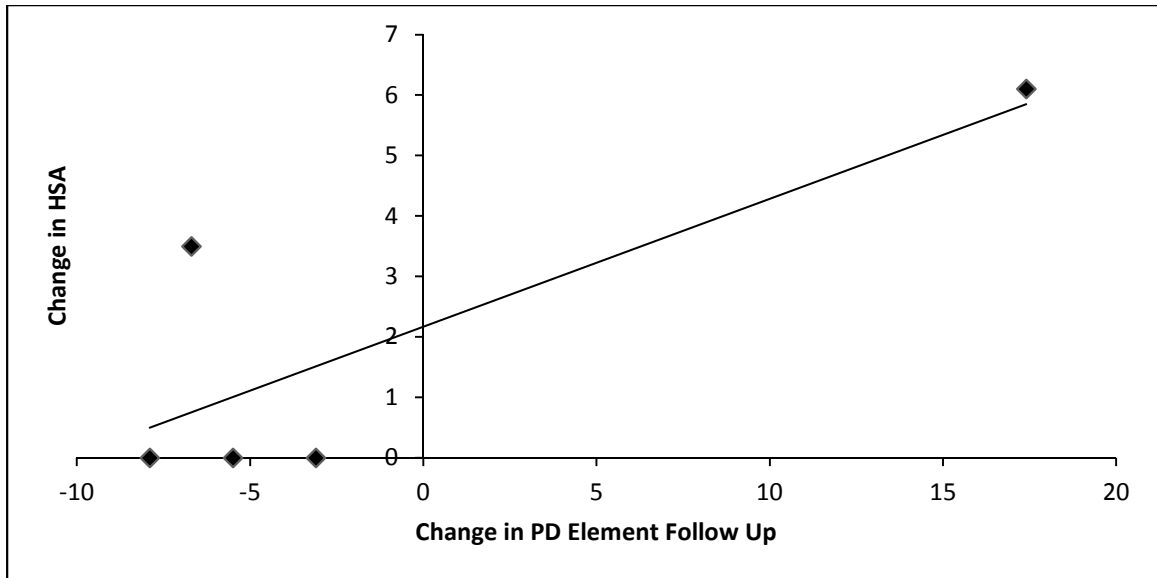


Figure 11. Capital Region professional development element, Follow Up, correlation. The linear position shows the Very Strong Positive, Pearson r .800, correlation.

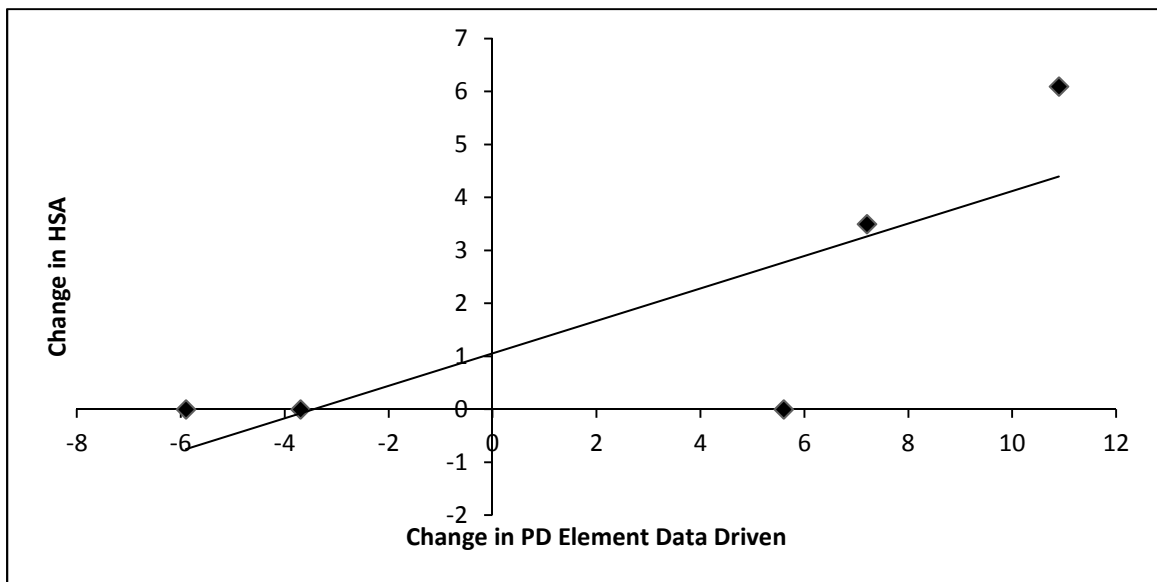


Figure 12. Capital Region professional development element, Data Driven, correlation. The linear position shows the Very Strong Positive, Pearson r .799, correlation.

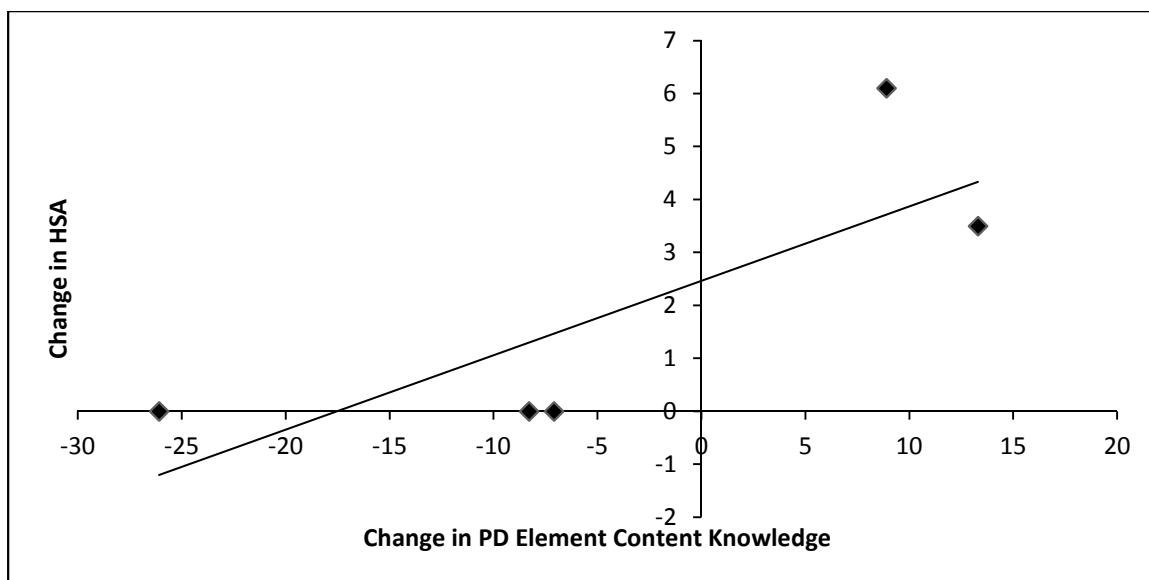


Figure 13. Capital Region professional development element, Content Knowledge, correlation. The linear position shows the Very Strong Positive, Pearson r .790, correlation.

The professional development elements of Collaborating, Reflect, and Time produced strong positive correlations with student achievement and the professional development element of Student Needs produced a weak positive correlation with student achievement. Teacher Needs produced a strong negative correlation with student achievement.

The Rural Maryland in Total and Comparison sections later in this chapter provide information in table, figure, and text form on the comparability of this region to others and to the state's total results.

Southern Region

The Southern Region was comprised of three counties, all three of which were included in the studied sample because they were considered to be rural. These were the counties, also serving as LEAs, of Calvert, Charles, and St. Mary's. Thirteen high schools met the criteria, for both of the studied years, of administering and reporting results of the

TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, 10 of these schools met the specifications for inclusion in the final TELL Maryland Survey results. Therefore, 77%, 10 of 13, of the high schools in this region that met the original criteria, were part of the final, studied sample.

In this region's sample, 1107 teachers out of a possible 1327, 83.4%, completed the 2011 TELL Maryland Survey and 1114 out of a possible 1289, 86%, completed the 2013 TELL Maryland Survey. This was an 85% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do not match the published percentages. Taking this into account, 1005 of 1127 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 93.05%. In 2013, 701 of 784 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 93.95%. The 0.9% change was used for the correlation value for the constant dependent variable.

Table 7 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the Southern Region.

Table 7
Southern Region Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	n/a	.067	
Reflect	n/a	.008	
Content Knowledge	n/a	-.147	
Data Driven	Weak Negative	-.269	.226
SIP	Moderate Negative	-.318	.185
Teacher Needs	Strong Negative	-.470	.085~
Evaluate/Communicate Results	Strong Negative	-.474	.083~
Follow Up	Strong Negative	-.531	.057~
Student Needs	Strong Negative	-.450	.958
Resources	Strong Negative	-.415	.117
Time	n/a	.093	
Student Learning	Strong Negative	-.502	.070~

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Region) = 10. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on eight professional development elements increased in value and four decreased in value between 2011 and 2013 (Figure 14). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

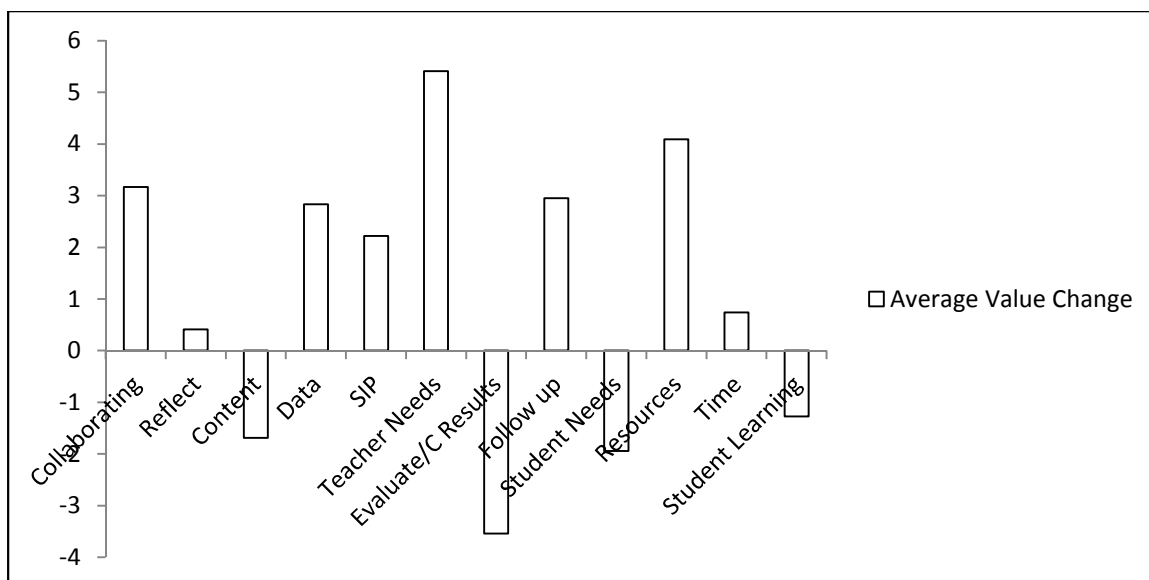


Figure 14. Average Southern Region professional development element value change.

Six of the correlations: Follow Up, Student Learning, Evaluate/Communicate Results, Teacher Needs, Student Needs, and Resources produced a strong negative relationship with student achievement as shown in Figures 15, 16, 17, 18, 19, and 20, beginning with the largest correlation. The four correlations of Follow Up, Student Learning, Evaluate/Communicate Results, and Teacher Needs resulted in a marginally significant p value.

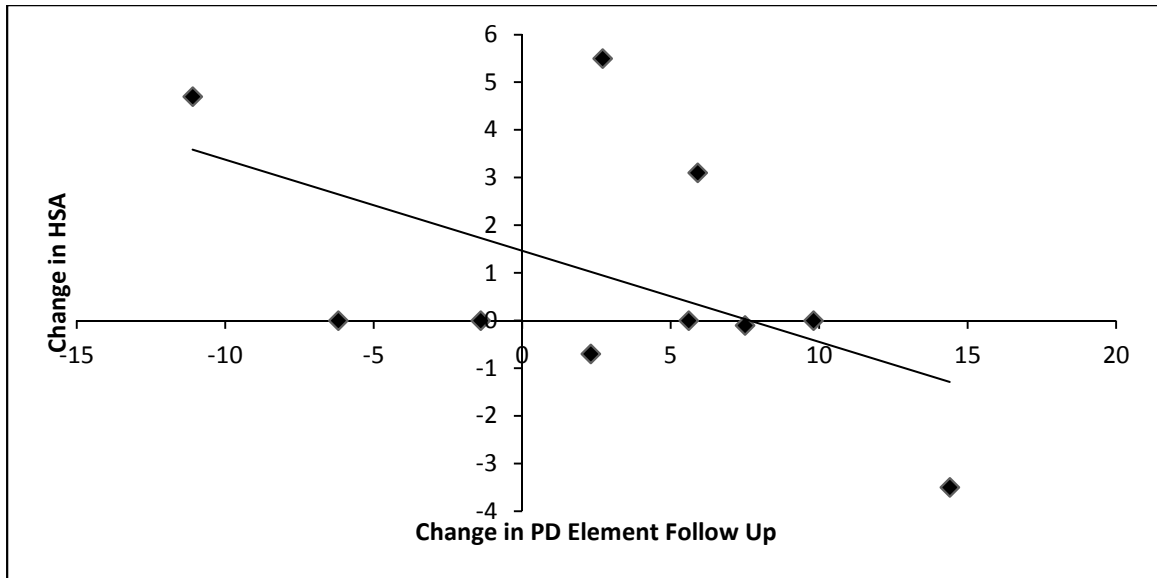


Figure 15. Southern Region professional development element, Follow Up, correlation. The linear position shows the Strong Negative, Pearson r -.531, correlation.

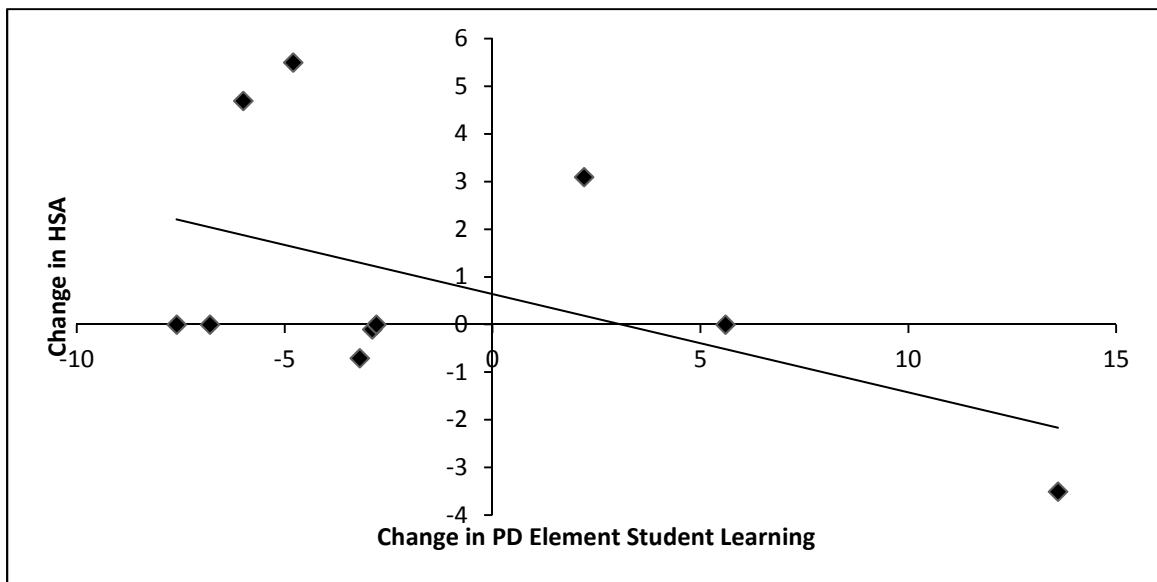


Figure 16. Southern Region professional development element, Student Learning, correlation. The linear position shows the Strong Negative, Pearson r -.502, correlation.

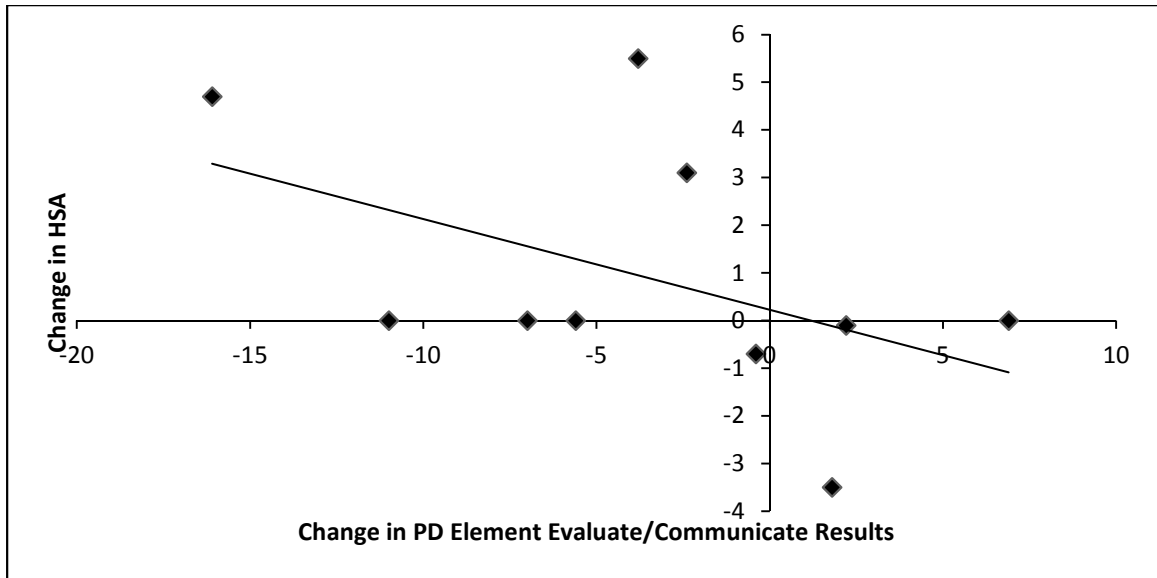


Figure 17. Southern Region professional development element, Evaluate/Communicate Results, correlation. The linear position shows the Strong Negative, Pearson r -.474, correlation.

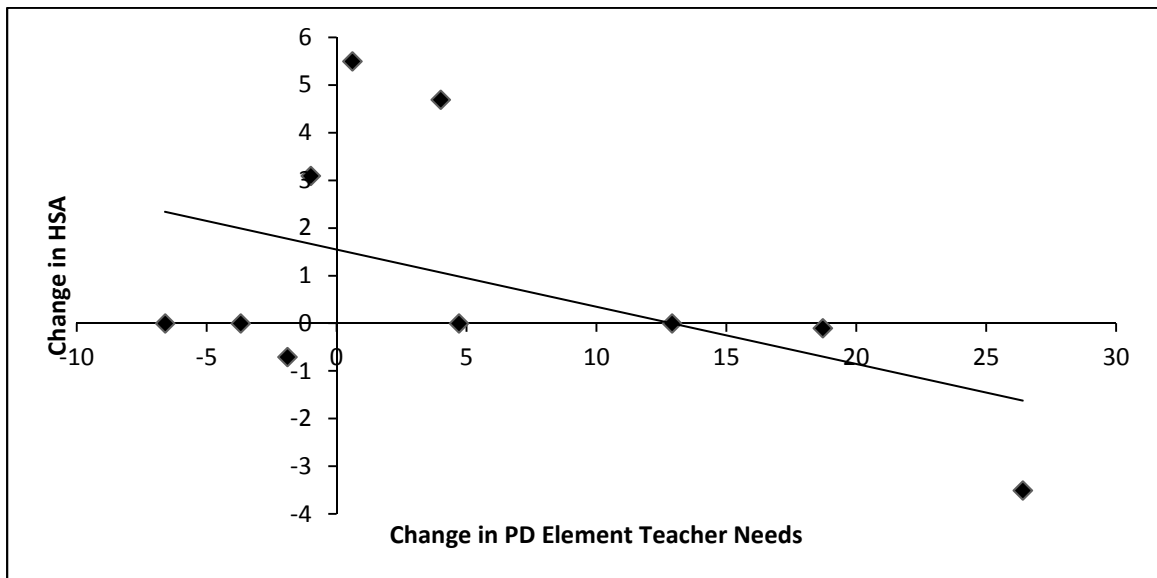


Figure 18. Southern Region professional development element, Teacher Needs, correlation. The linear position shows the Strong Negative, Pearson r -.470, correlation.

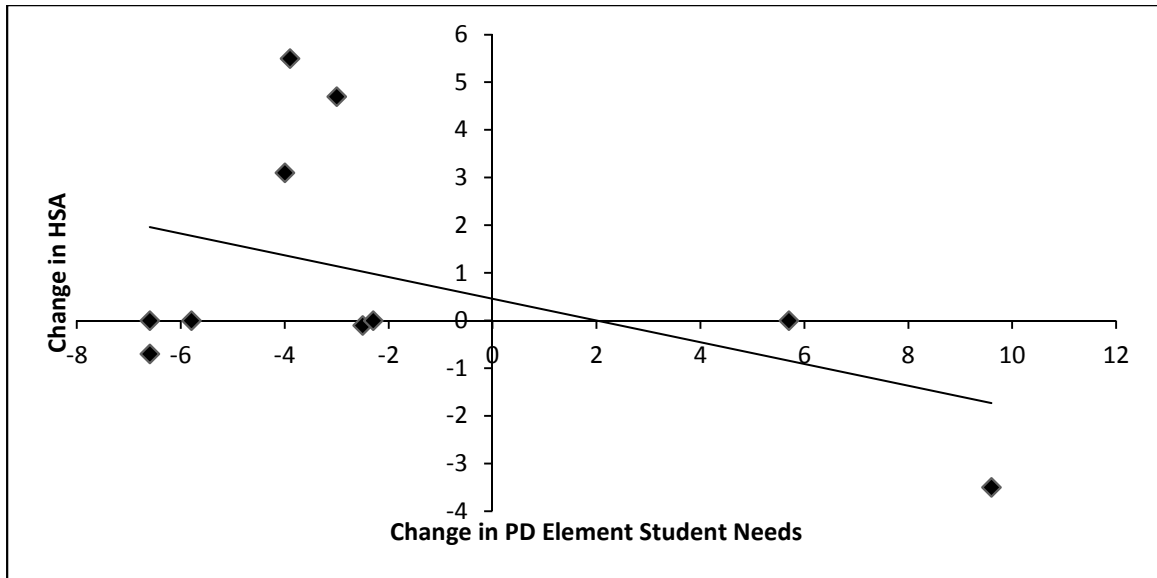


Figure 19. Southern Region professional development element, Student Needs, correlation. The linear position shows the Strong Negative, Pearson r -.450, correlation.

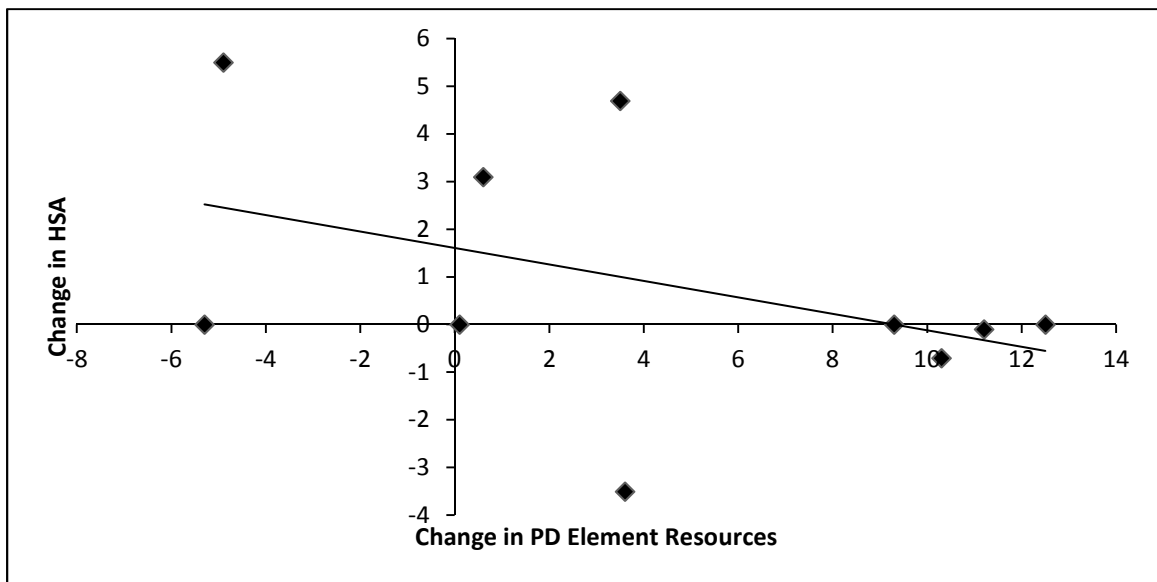


Figure 20. Southern Region professional development element, Resources, correlation. The linear position shows the Strong Negative, Pearson r -.415, correlation.

The professional development element of SIP produced a moderate correlation with student achievement and the professional development element of Data Driven produced a weak negative correlation with student achievement.

The Rural Maryland in Total and Comparison sections later in this chapter provide information in table, figure, and text form on the comparability of this region to others and to the state's total results.

Central Region

The Central Region was comprised of six counties (this includes Baltimore City), two of which were included in the studied sample because they were considered to be rural. These were the counties, also serving as LEAs, of Carroll and Harford. Twenty high schools met the criteria, for both of the studied years, of administering and reporting results of the TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, 17 of these schools met the specifications for inclusion in the final TELL Maryland Survey results. Therefore, 85%, 17 of 20, of the high schools in this region that met the original criteria, were part of the final, studied sample.

In this region's sample, 1293 teachers out of a possible 1701, 76%, completed the 2011 TELL Maryland Survey and 1055 out of a possible 1575, 67%, completed the 2013 TELL Maryland Survey. This was a 72% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do

not match the published percentages. Taking this into account, 1208 of 1339 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 92.31%. In 2013, 1920 of 2057 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 92.35%. The 0.04% change was used for the correlation value for the constant dependent variable.

Table 8 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the Central Region.

Table 8
Central Region Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	n/a	-.179	
Reflect	n/a	-.006	
Content Knowledge	Moderate Negative	-.315	.109
Data Driven	n/a	-.062	
SIP	Strong Negative	-.402	.055~
Teacher Needs	Weak Negative	-.247	.169
Evaluate/Communicate Results	n/a	-.132	
Follow Up	Weak Negative	-.266	.151
Student Needs	Weak Negative	-.207	.213
Resources	Weak Negative	-.292	.128
Time	Weak Negative	-.236	.181
Student Learning	Moderate Negative	-.320	.105

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Region) = 17. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on eight professional development elements increased in value and four decreased in value between 2011 and 2013 (Figure 21). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

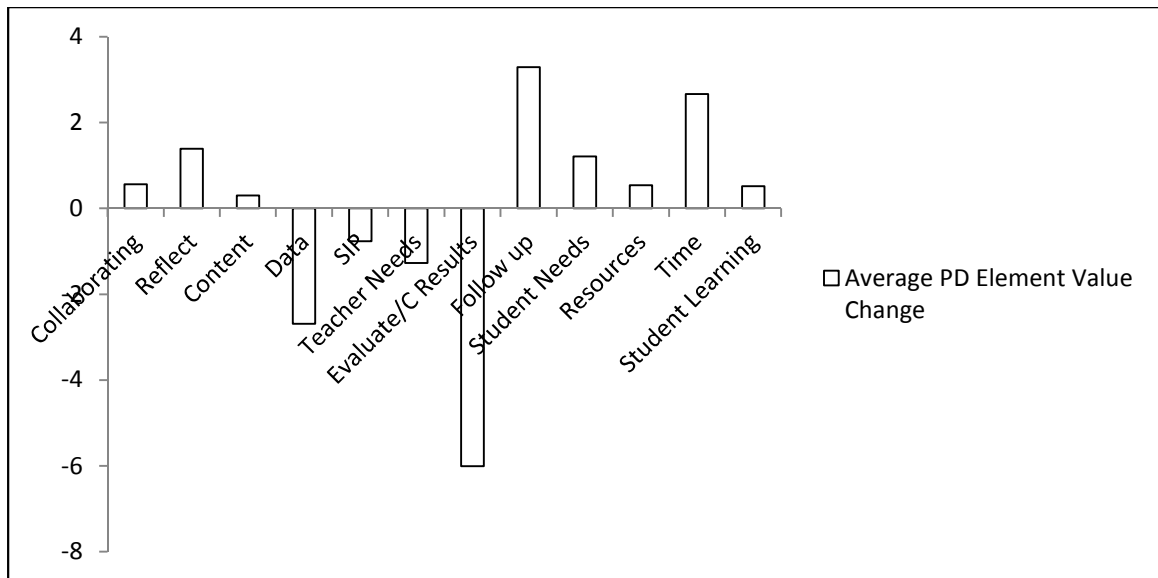


Figure 21. Average Central Region professional development element value change.

The correlation of SIP produced a strong negative relationship with student achievement as shown in Figure 22. This correlation resulted in a marginally significant p value. The correlations of Student Learning and Content Knowledge produced a moderate negative relationship with student achievement as shown in Figures 23 and 24, beginning with the largest correlation. None of these correlations resulted in a significant p value.

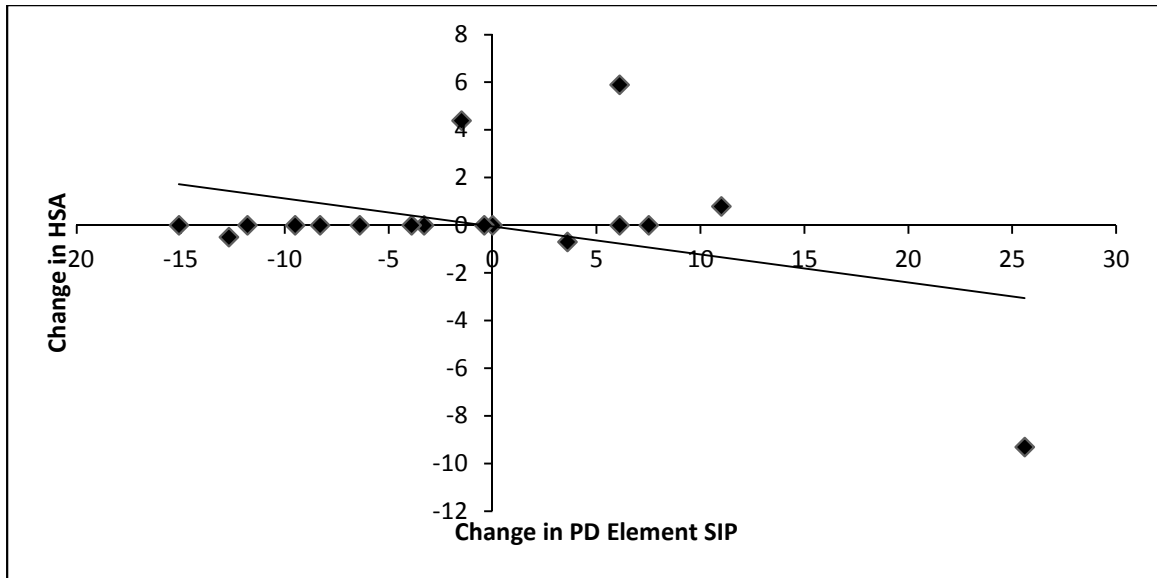


Figure 22. Central Region professional development element, SIP, correlation. The linear position shows the Strong Negative, Pearson r -.402, correlation.

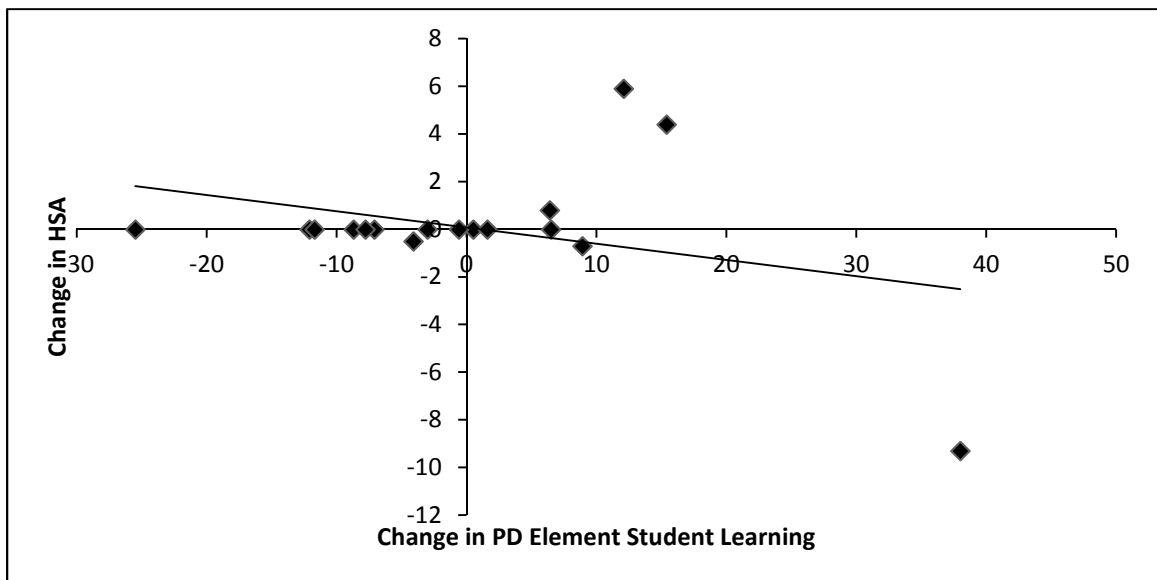


Figure 23. Central Region professional development element, Student Learning, correlation. The linear position shows the Moderate Negative, Pearson r -.320, correlation.

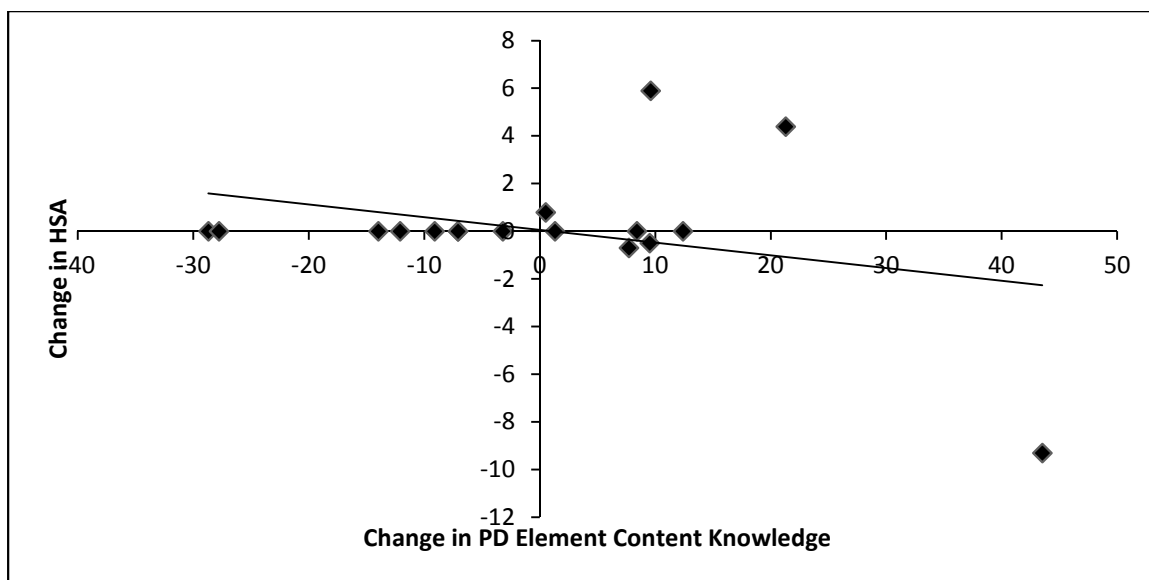


Figure 24. Central Region professional development element, Content Knowledge, correlation. The linear position shows the Moderate Negative, Pearson r -.315, correlation.

Four of the correlations: Resources, Teacher Needs, Time, and Student Needs produced weak negative correlations with student achievement.

The Rural Maryland in Total and Comparison sections later in this chapter provide information in table, figure, and text form on the comparability of this region to others and to the state's total results.

Eastern Region

The Eastern Region was comprised of nine counties, all nine of which were included in the studied sample because they were considered to be rural. These were the counties, also serving as LEAs, of Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester. Twenty-three high schools met the criteria, for both of the studied years, of administering and reporting results of the TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, 17 of these schools met the specifications for inclusion in the

final TELL Maryland Survey results. Therefore, 74%, 17 of 23, of the high schools in this region that met the original criteria, were part of the final, studied sample.

In this region's sample, 1014 teachers out of a possible 1373, 74%, completed the 2011 TELL Maryland Survey and 1179 out of a possible 1451, 81%, completed the 2013 TELL Maryland Survey. This was a 78% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do not match the published percentages. Taking this into account, 5508 of 6097 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 87.74%. In 2013, 1820 of 2071 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 88.26%. The 0.53% change was used for the correlation value for the constant dependent variable.

Table 9 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the Eastern Region.

Table 9
Eastern Region Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	n/a	.085	
Reflect	n/a	.185	
Content Knowledge	n/a	.103	
Data Driven	n/a	-.003	
SIP	n/a	-.146	
Teacher Needs	Moderate Positive	.356	.080~
Evaluate/Communicate Results	n/a	-.144	
Follow Up	n/a	.028	
Student Needs	n/a	-.067	
Resources	n/a	-.098	
Time	n/a	.152	
Student Learning	n/a	-.080	

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Region) = 17. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on nine professional development elements increased in value and three decreased in value between 2011 and 2013 (Figure 25). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

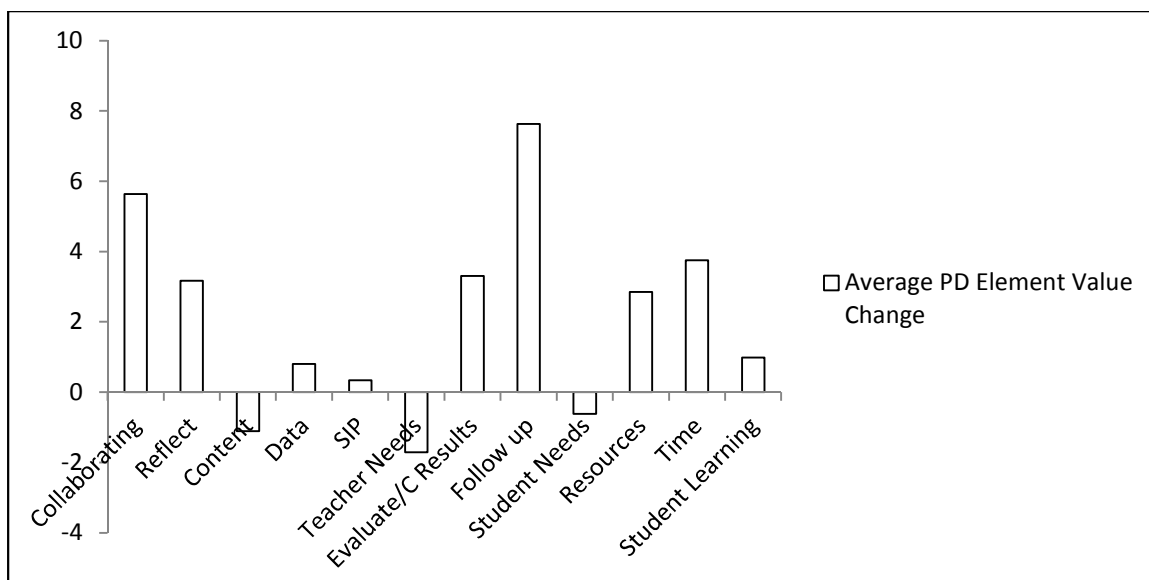


Figure 25. Average Eastern Region professional development element value change.

The correlation of Teacher Needs produced a moderate positive relationship with student achievement as shown in Table 26. This correlation resulted in a marginally significant p value.

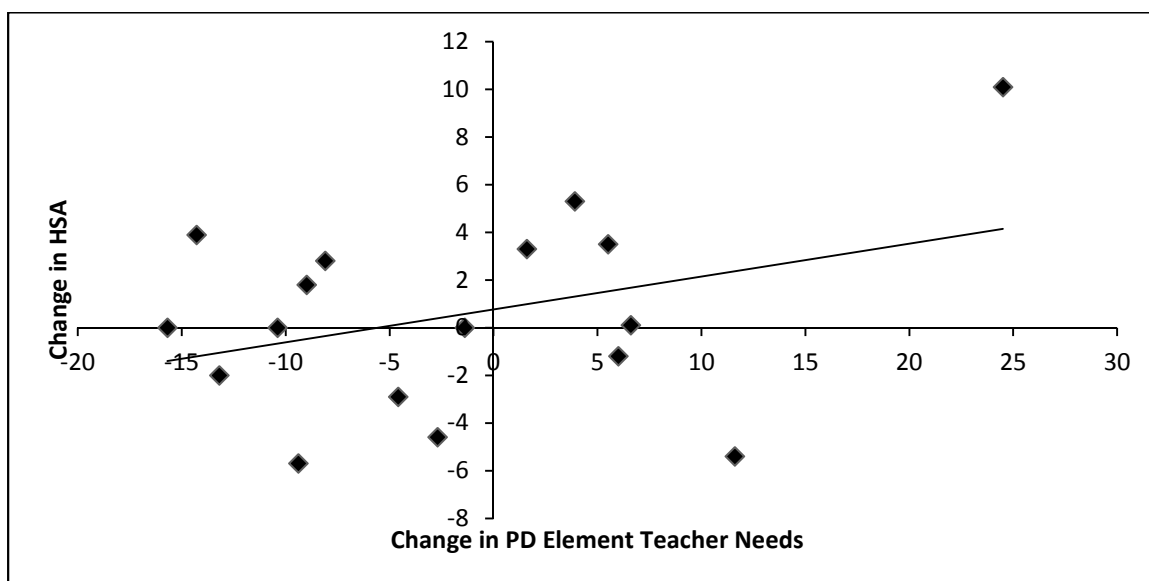


Figure 26. Eastern Region professional development element, Teacher Needs, correlation. The linear position shows the Moderate Positive, Pearson r .356, correlation.

Other than Teacher Needs, all of the other 11 professional development elements produced no or negligible correlations with student achievement.

The Rural Maryland in Total and Comparison sections later in this chapter provide information in table, figure, and text form on the comparability of this region to others and to the state's total results.

Rural Maryland in Total

The rural Maryland sample was comprised of 24 counties (this includes Baltimore City), 18 of which were included in the studied sample because they were considered to be rural. These were the counties, also serving as LEAs, of Allegany, Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Kent, Queen Anne's, Somerset, St. Mary's, Talbot, Washington, Wicomico, and Worcester. Seventy-nine high schools met the criteria, for both of the studied years, of administering and reporting results of the TELL Maryland Survey, as well as administering HSA and reporting senior exit exam data. For both of the studied years, 63 of these schools met the specifications for inclusion in the final TELL Maryland Survey results. Therefore, 80%, 63 of 79, of the high schools in the rural areas of the state that met the original criteria, were part of the final, studied sample.

In this state's sample, 5614 teachers out of a possible 7481, 75%, completed the 2011 TELL Maryland Survey and 5751 out of a possible 6887, 84%, completed the 2013 TELL Maryland Survey. This was a 79% average completion over the two studied years (Table C). Tables A1 and A2 show the percentages of agreement for all 12 of the professional development elements rated by the survey participants, for both studied years, as well as the change percentage over the period from 2011 to 2013, which was

used for the correlation value for each of the 12 corresponding independent variables.

Senior exit exams, reported by the individual schools, included actual numbers of students only if the success rate was $< 95\%$. If the success rate was $\geq 95\%$, only the percentage was reported at a consistent 95%. Therefore, actual numbers of students do not match the published percentages. Taking this into account, 8954 of 9916 students had successful senior exit exam scores based on HSA reporting criteria in 2011, with a published, more accurate exit percentage of 91.63%. In 2013, 5529 of 6096 students had successful exit exam scores based on HSA reporting criteria, with a published, more accurate exit percentage of 91.98%. The 0.35% change was used for the correlation value for the constant dependent variable.

Table 10 presents the 12 correlation relationship results, the Pearson r values, and the p values (level of significance) for the state of Maryland in total.

Table 10

Rural Maryland Correlation Results

PD Element	Relationship	Value of r	Value of p^a
Collaborating	n/a	.058	
Reflect	n/a	.153	
Content Knowledge	n/a	-.030	
Data Driven	n/a	.035	
SIP	n/a	-.152	
Teacher Needs	n/a	-.000	
Evaluate/Communicate Results	n/a	-.021	
Follow Up	n/a	-.049	
Student Needs	n/a	-.048	
Resources	n/a	-.148	
Time	n/a	.026	
Student Learning	n/a	-.096	

Note. Relationship based on commonly recognized Pearson's r Correlation values.

^aValue of p represents one-tailed testing and is marginally significant at $\sim p \leq .10$, significant at $*p \leq .05$, and highly significant at $**p \leq .01$. n (Number of Schools in Rural Maryland Sample) = 63. n/a represents a no or negligible relationship based on r value; therefore, significant testing was not necessary.

Teacher perceptions on six development elements increased in value and six decreased in value between 2011 and 2013 (Figure 27). Tables A1 and A2 provide more detailed information on all of the elements as well as the percentage change value used for correlation with student achievement data.

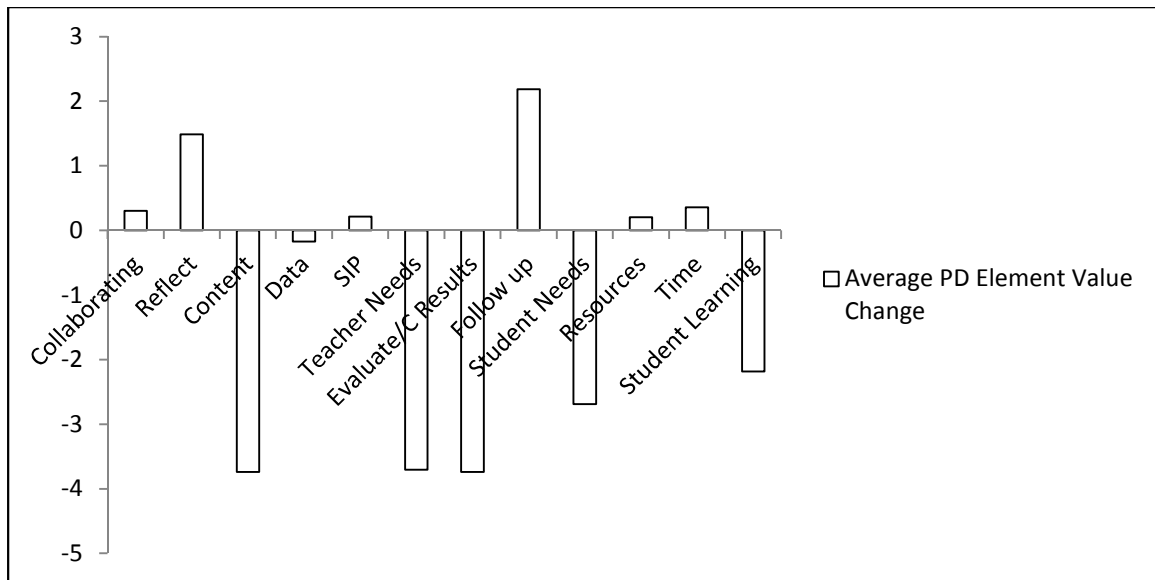


Figure 27. Average Rural Maryland in Total professional development element value change.

The correlation of Reflect (Figure 28) produced the most positive correlation, but it was a no relationship or negligible relationship. The correlation of SIP (Figure 29) produced the most negative correlation, but it was a no relationship or negligible relationship. Looking at the statewide analysis based on the other 10 professional development elements, all produced no or negligible correlations with student achievement.

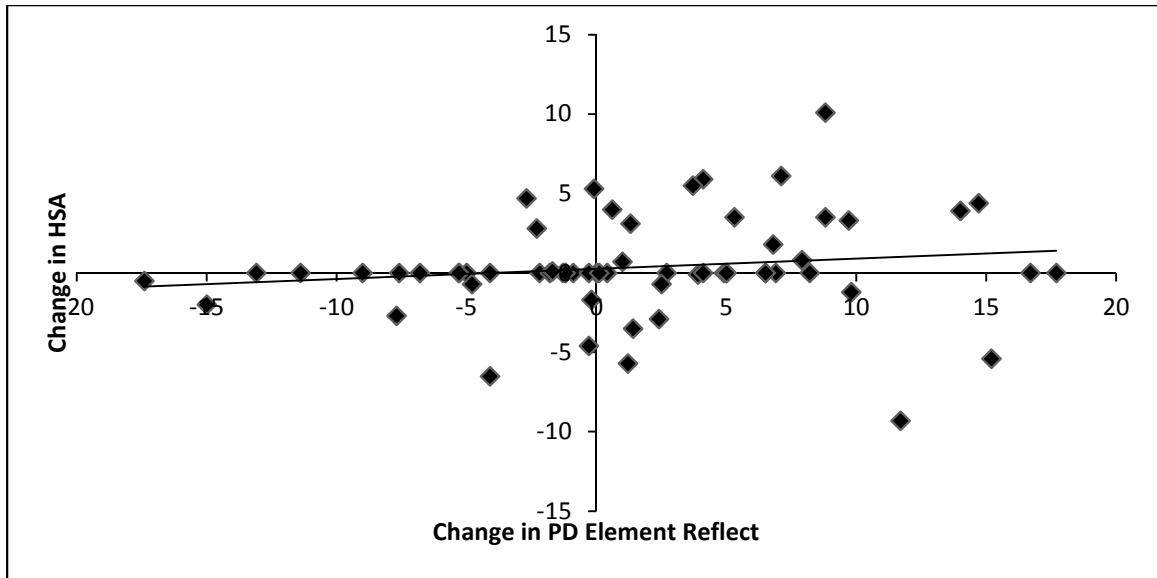


Figure 28. Rural Maryland in Total professional development element, Reflect, correlation. The linear position shows the no relationship or negligible relationship, Pearson r .153, correlation.

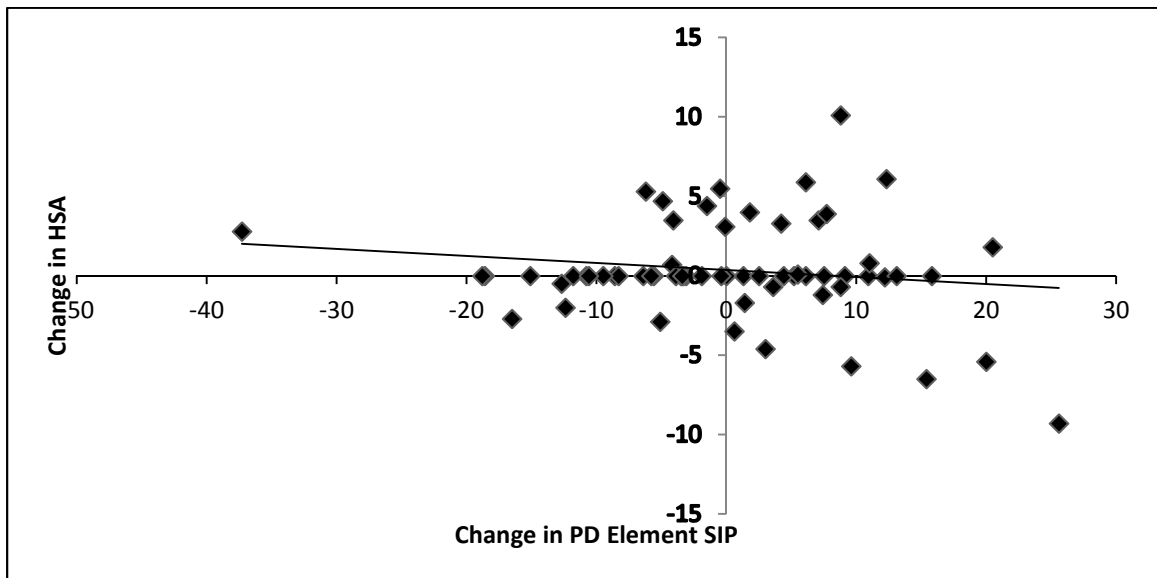


Figure 29. Rural Maryland in Total professional development element, SIP, correlation. The linear position shows the no relationship or negligible relationship, Pearson r -.153, correlation.

Rural Maryland in Comparison

After a five-region and statewide analysis, it was discovered that three

professional development elements had more positive correlations and nine had more negative correlations, not taking the strength of the relationship or the significance into account (Figure 30). Those that correlated most positively with student achievement were Collaboration, Reflect(ion), and Time. Those that correlated most negatively with student achievement were Content, Data, SIP, Teacher Needs, Evaluate/Communicate Results, Follow Up, Student Needs, Resources, and Student Learning.

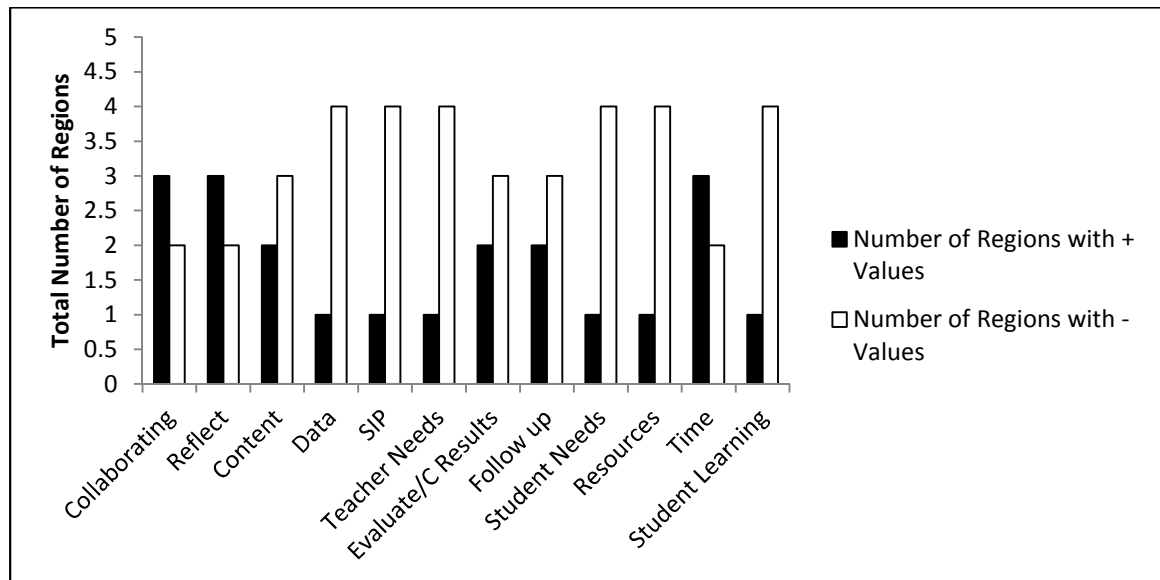


Figure 30. Comparison of five Maryland regions between 2011 and 2013 by r value. For comparison purposes only, r value does not assume any significant relationship. During the same time-period, statewide HSA results increased and had a + value.

Table 11 presents the 12 correlation relationship results represented by the Pearson r values regardless of significance based on p values (level of significance) for the state of Maryland in total.

Table 11
Correlation Summary

PD Element	Western	Capital	Southern	Central	Eastern	Rural Maryland
Collaborating	W-	S+	Na+	Na-	Na+	Na+
Reflect	W+	S+	Na+	Na-	Na+	Na+
Content Knowledge	Mod-	VS+	Na-	Mod-	Na+	Na-
Data Driven	Na-	VS+	W-	Na-	Na-	Na+
SIP	Na-	VS+	Mod-	S-	Na-	Na-
Teacher Needs	Mod-	S-	S-	W-	Mod+	Na-
Evaluate/Communicate Results	Na+	VS+	S-	Na-	Na-	Na-
Follow Up	Na-	VS+	S-	W-	Na+	Na-
Student Needs	Na-	W+	S-	W-	Na-	Na-
Resources	Mod-	Na+	S-	W-	Na-	Na-
Time	Mod-	S+	Na+	W-	Na+	Na+
Student Learning	Na+	Na-	S-	Mod-	Na-	Na-

Note. Abbreviations based on Pearson correlation r value as relationship: Very Strong Positive (VS+), Very Strong Negative (VS-), Strong Positive (S+), Strong Negative (S-), Moderate Positive (Mod+), Moderate Negative (Mod-), Weak Positive (W+), Weak Negative (W-), No or Negligible Positive (Na+), No or Negligible Negative (Na-). For correlations, only the Western Region had a – HSA value.

Hypotheses Determinations

In keeping with the methodology outlined in Chapter 3 and taking into account the results of only the statewide data, not including any of the region-specific data, none of the 12 null hypotheses was rejected. The correlations did not have strong statewide relationships or significance. According to McMillan (2008), “[i]n exploratory studies low correlations may indicate a need for further study” (p. 201).

Conclusion

Looking at the results and the analysis of the five regions and the state in total, predictions could be possible for professional development planners and future researchers. According to Creswell (2008), “correlational studies do not ‘prove’ relationships, rather, they indicate an association...in which the investigator seeks to explain the association...” (p. 376).

The literature review, that was the focus of Chapter 2, can help explain the association that the three professional development elements with the overall strongest positive correlation and the nine with the overall strongest negative correlation had with student achievement.

Chapter 5 – Conclusions and Implications

Conclusions

Is there a relationship between teacher perceptions of professional development and student achievement in rural Maryland? This investigation provides evidence which may be useful to assist rural Maryland school systems with preparations for the newest federal, state, and local reforms of public education.

The study revealed teacher perceptions to 12 research questions that matched the professional development elements that were part of the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey of 2011 and 2013 (Appendix D). Improving student achievement through professional development was the focus of this study, due in part to the conceptual framework that stemmed from the 1986 work of Lee Shulman and the 1995 work of Stephen Brookfield. Both researchers advocated for the continual training of teachers in content and process/pedagogical knowledge. To address the research questions the change in TELL Maryland Survey teacher perceptions, from 79% of teachers in 80% of rural Maryland high schools meeting study criteria, were correlated with the change in student High School Assessment (HSA) senior exit exam results for the same time-period.

After a five-region and statewide analysis, it was discovered that three professional development elements had overall correlations that were positive and nine had correlations that were negative, regardless of significance. The region analysis provided information in a comparison/contrast format. The methodology called for a statewide determination of the hypotheses. None of the null hypotheses (H_0) was rejected after the analysis.

However, even though the relationships cannot be generalized to other samples or populations, some associations were discovered that warrant explanations by providing discussions and implications with recommendations for action and future research.

Professional Development Elements Discussion

The three professional development elements that correlated most positively with student achievement at a time when student achievement improved overall were Collaboration, Reflect(ion), and Time. Nine elements correlated negatively while increases occurred in student achievement. Six correlated most negatively: Data Driven, SIP, Teacher Needs, Student Needs, Resources, and Student Learning. The three that correlated overall negatively, but were positive in some Maryland regions, were Content Knowledge, Evaluate/Communicate Results, and Follow Up.

Positive values. Three elements had more positive values overall. Possible reasons for these results were found, in part, in the reexamination of the literature.

Collaborating. Focusing on the rural aspect specifically, research by Howley and Howley (2004) explained the importance of collaboration and its relationship to improving preparations to help student achievement: “Rural schools... [promote] cooperation among teachers, enabling them to improve instruction...within the context of their daily practice. This extends beyond professional development and takes conversations into the hallways and faculty rooms” (p. 4). The rural high schools had smaller numbers of teachers, according to the TELL Maryland Survey; and thus they may have had more interactions with a larger percentage of their colleagues on a daily basis. If this collaboration was truly occurring daily, it could explain why teachers rated this element more favorably.

Reflect. Student achievement could also have depended on teachers having opportunities to reflect. According to Killion (2012), there should be “team based support for transferring professional learning into practice and constructive feedback to refine and sustain practice” (p. 29). Professional Learning Community (PLC) configurations became commonplace in rural Maryland high schools and this could have provided the team based support. In PLC designs, teachers have support that is ongoing, not just during planned professional development sessions. This support could have assisted teachers with reflecting on their own practice and helped them to rate reflection more favorably on the TELL Maryland Survey.

Time. To create adequate time, Graham (2007) promoted configurations that could include common planning time with flexible instructional time. Smith (2012) and Henry (2005) exemplified this by discussing student early-release or late start days. These configurations have been utilized in rural Maryland high schools. The unique configurations could have been a reason for the favorable rating by teachers on the TELL Maryland Survey. Worthy to note, even though it was not in the studied time-period, two counties in the Western Region of this research recently instituted three-hour student delay schedules for not only weather-related issues, but also for professional development opportunities.

Negative values. Nine elements had more negative values overall. Possible reasons for these results were found, in part, in the reexamination of the literature.

Content knowledge. Morewood et al. (2012) found that teachers do not usually seek content assistance from others. With additional time being spent to become ready for reform, teacher satisfaction may have decreased because they may have been so involved

with reform issues during professional development times that they may have had less time to seek out content support relating to their individual instructional areas.

Data driven and SIP. Henry (2005) found that teachers may not be involving themselves fully into analyzing data because they have seen so many reform efforts come and go over the time that they have spent teaching. If this was the case, data may have been available, but teachers may have not felt compelled to take the opportunity to learn how to understand and utilize the data. The element relating to SIP could have decreased in satisfaction because the agendas of the schools chose too many strategies that “overwhelm[ed] and exhaust[d] staff” (MSDE, 2014c).

Evaluate/communicate results and follow up. ‘Hit and run’ workshops may not have given teachers the opportunity to evaluate professional development (Darling-Hammond, 1998). Even given the chance, teachers may not have had much say with evaluation, communication, and follow up. “Outside of education, there has been an erosion of trust in the people who are teaching our kids...they don’t trust us” (Wallace, 2012, p. 44). With the newest reform effort, a movement to more prescribed professional development could have further decreased opportunities for teacher input.

Student needs. Evidence supports that teachers are not ready upon college graduation with the skills to differentiate (O’Hara and Pritchard, 2008) and must develop these skills with the assistance of their school system (Dixon et al., 2014). Since this element decreased in teacher satisfaction, perhaps the school systems did not provide the opportunities for teachers to increase their knowledge of differentiation with students.

Resources. An additional obstacle in rural districts is that the limited availability of resources makes it very difficult to provide release time for teachers to engage in

professional development opportunities (Bingenheimer-Rendahal, 2006). With many rural school districts located great distances from the MSDE's headquarters in Baltimore, teacher representatives must travel for several hours to attend centrally located professional development opportunities while urban area teachers do not have as much of a sacrifice. It is much easier for the urban teachers to take advantage of these opportunities. Different means to reduce limitations like this may not have been utilized during the years of the study.

Teacher Needs. Unfortunately, "there are fewer [professional development] initiatives that focus on developing teachers once they enter the classroom" (Dounay & Christie, 2008, p. 1). Perhaps teachers felt that the professional development time was planned to meet only student achievement goals and not to personally meet the needs of teachers while helping improve student achievement.

Student Learning. "It is easy to get bogged down with the three deadly Cs: calendar, choices, and consequences...collaboration must be focused on student learning" (Henry, 2005, p. 2). Even though the element of Time did correlate with student achievement, perhaps that time was not spent solely on the focus of student achievement. Professional development time is limited and teachers may have felt that adequate time was not spent concentrating on student learning as a specific agenda item.

Implications

The findings of the research and the citations in the literature review aided in formulating and presenting the following recommendations for action and future research.

Recommendations for action. In light of the results, 12 suggestions for future action

are recommended for rural Maryland high schools to support professional development and student achievement. Some of these recommendations, based on the literature and the study results, are a call to strengthen what is already occurring and others involve new courses of action. The recommendations focus on the professional development elements of

- Collaborating: Collaboration should continue to be promoted not only during professional development opportunities, but also on a daily basis. Common planning time, where appropriate, can help support this action;
- Reflect: Team based support in PLC or similar configurations should continue;
- Content Knowledge: Professional development agendas should provide opportunities for teachers to receive content assistance and support from instructional leaders and mentors;
- Data Driven: Teachers should receive training in disaggregating and analyzing data specific to student achievement goals;
- SIP: School improvement agendas should be streamlined to include only those strategies that are necessary and achievable during the year in which the SIP is written for and in effect;
- Teacher Needs: Meeting needs of teachers during professional development time should be a main agenda goal along with the other initiatives that take this time;
- Evaluate/Communicate Results: Professional development planners should develop a culture of trust and ask teachers to evaluate professional development activities and provide feedback to school and district level planners in a timely fashion;

- Follow Up: Developing ongoing professional development opportunities with a coaching/mentoring component could offer more opportunities for follow up that would allow for that information to be used in subsequent sessions;
- Student Needs: Teachers should be provided with updated training on differentiation to help meet the needs of a more diverse student population;
- Resources: Different means of making use of scarce resources should be employed, such as the use of technology to bring state offerings closer to home;
- Time: Unique configuration experimentation, such as late starts and early release days, should continue to provide additional precious time for professional development;
- Student Learning: Professional development planners should ensure that agenda items related to student learning are a primary focus and that the temptation to stray from the central goal be minimized in the planning and the delivery of sessions.

During this era of federal, state, and local education reform, lessons learned from recent years, reported in this research, could help dramatically redesign professional development for the future.

Recommendations for further research. This quantitative study has generated questions for future research beyond the scope of the current research. These questions focus on two general areas: (a) data usage and (b) region issues related to the study of professional development elements.

Data usage. Data collection is concluding on the 2015 TELL Maryland Survey as this dissertation is nearing completion. The 12 professional development elements are the

same on the newest survey. An obvious recommendation is for a researcher to study the 2015 survey in the same manner as this study, comparing it to the 2013 survey and/or the 2011 survey.

During the spring of 2015, more than 5 million high school students in Maryland, Arkansas, Illinois, Mississippi, Ohio, and Rhode Island will be among the first to take the new Common Core assessments, the PARCC as end of course exams: approximately 30,000 students took exams the week of December 1, 2014, if they were on a semester schedule (PARCC, 2014). In Maryland, these PARCC exams will replace the Algebra/Data Analysis and English 10 HSA. As of Spring 2015, Government and Biology HSA continue as graduation requirements figuring into the student exit exam individual and composite scores (MSDE, 2015). For further research, a study of achievement on these new assessments, compared with professional development elements on the 2015 TELL Maryland Survey and the 2017 version, if given, could shed light on newer professional development preparations.

An additional topic for further research focuses on the professional development elements themselves. The original data from the Likert scale responses is converted to percentages of agreement for each element; these were the values used in this study. Taking those percentages, a researcher could compare percentages of agreement from one survey to a previous survey or surveys and analyze which elements are showing more agreement and less agreement, perhaps exclusive of student achievement. Furthermore, since the TELL Maryland Survey is given in other states by those state names; it is a possibility that a state-to-state comparison could provide unique information on professional development during this reform era.

Region issues. It is hoped for this study that the five-region state analysis will provide more information on the data available dealing with professional development issues. This region analysis did not figure into any hypotheses determinations, as the region distinction was not part of methodology originally outlined in Chapter 3. However, the results could allow a future researcher to look specifically at the regions in the state to conduct a region comparison and/or contrast. For example, the Capital Region's Frederick County had much more significant positive correlations than the other regions in the study.

Maryland is a state with unique differences. People in the western region of the state often more closely aligned with people in Pennsylvania and West Virginia than with residents along the Ocean City seashore. People in the eastern shore region of the state are often more closely aligned with people on the Delaware, Maryland, and Virginia (Delmarva) peninsula than with the residents of the much colder and mountainous western Maryland regions. Differences in professional development elements could be explored in the context of these unique differences.

Another difference that could be studied in the future deals with the urban and rural responses on the TELL Maryland Survey. This study looked at 80% of all rural high schools that met the survey criteria. In this sample, the TELL Maryland Survey response rate was an average of 79%. The urban response was significantly lower; many more high schools did not even achieve the 50% or higher participation rate to have the school data be included in the survey results. Trying to determine why the urban areas have a lower response rate and/or why the rural areas have a higher response rate could be a topic for future research.

During the data gathering phase, it was noted that a large percentage of rural high schools had fewer staff members qualified to take the 2013 TELL Maryland survey as compared to the 2011 survey. Did these schools have a loss of staff? A loss of staff members could mean that the remaining employees have had to take on more responsibility for improving student achievement in their respective schools. This issue could contribute to the pressure that teachers are already feeling during the current educational reform era. Could this be a regional issue, a rural issue, or perhaps a statewide issue? These topics could become a part of a future research study dealing with teacher perceptions of professional development during times when there is a loss of staff members and/or an increase in class sizes.

Utilizing the same or similar data to study the state of Maryland as a statewide, regional, or rural to urban comparison and/or contrast could add to the body of research on the topic of professional development and/or student achievement.

Summary

Educational reform in the United States is continuous and teachers have been adapting to these changes since the colonial settlement era. As outlined in Chapter 2, modern educational reform dates back to the post-World War II period under the presidency of Dwight D. Eisenhower. Discussions in Congress as of March 2015 include attempts to reauthorize the 2002 Elementary and Secondary Education Act (ESEA) that originally dates back to 1965. The work of Lee Shulman in 1986 and Stephen Brookfield in 1995 promoted the importance of continual learning for teachers, including those at the high school level in rural areas in Maryland. These teachers are stakeholders in the ongoing and ever-changing preparation and implementation process of educational

reform and can benefit from professional development opportunities designed to positively correlate with student achievement, regardless of the political climate or the particular aspects of the reform.

A policy brief of the TELL Maryland Survey creator, the New Teacher Center (2013), advocates the use of the survey to help study the relationship that professional development has with student achievement. Information that can be obtained from readily available instruments that are reliable and valid, coupled with opinions gathered from teachers themselves, via surveys such as the TELL Maryland Survey, can assist those involved with professional development make informed, economically mindful planning and implementation decisions.

Currently employed Maryland high school teachers and new hires will benefit from well-designed professional development while they learn about and adapt to numerous reform initiatives; one being the trend to move away from “professional development” as terminology towards the wording of teacher training as “professional learning.” In 2010, the MSDE approved and implemented guidelines that now allow alternative preparation programs to satisfy teacher certification requirements. These new guidelines are based on previous guidelines that came out of the Code of Maryland Regulations (COMAR) 13A.12.01.07 in 2005 (MSDE, 2010). Some newly hired teachers may be entering schools and classrooms with much less content and pedagogical preparation than those teachers coming out of traditional college teacher-preparation programs. In this case, on-the-job training, professional development, and professional learning become even more important. This scenario adds to the great need overall for quality teacher professional development that can assist teachers influence gains in

student achievement as Maryland high schools continue testing students with some traditional HSA and begin testing with the new PARCC exams.

When teachers and students are continually learning, everyone involved in education moves forward. At the high school level in rural Maryland, this is especially important in an era with emphasis on college and career readiness. In the words of Maya Angelou, “I did then what I knew how to do. Now that I know better, I do better” (Early Childhood Education Zone, 2015).

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Appendix A – Professional Development Elements

Table A1

PD Elements' Rounded Percentages of Agreement and Change Results, Table 1 of 2

PD Element	Western Region			Capital Region			Southern Region		
	2011	2013	Change	2011	2013	Change	2011	2013	Change
Collaborating	69	58	-11	64	72	8	65	68	3
Reflect	85	84	-1	88	93	5	85	86	1
Content Knowledge	60	47	-13	52	48	-4	58	57	-1
Data Driven	80	78	-2	76	79	3	75	78	3
SIP	84	83	-1	89	93	4	81	84	3
Teacher Needs	63	46	-17	66	66	0.24	54	59	5
Evaluate/ Communicate Results	55	44	-11	59	60	1	55	51	-4
Follow Up	65	60	-5	76	75	-1	56	59	3
Student Needs	78	66	-12	78	80	2	73	71	-2
Resources	80	75	-5	89	86	-3	74	78	4
Time	78	71	-7	79	81	2	68	69	1
Student Learning	78	67	-11	79	79	-0.18	75	74	-1

Note. Complete change values were used for calculating correlations as the independent variable; some were as long as 10 place values. TELL Maryland data for the 2011 and 2013 PD Elements' percentages adapted from "Historical," by TELL Maryland, 2014 (<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Table A2

PD Elements' Rounded Percentages of Agreement and Change Results, Table 2 of 2

PD Element	Central Region			Eastern Region			Rural Maryland in Total		
	2011	2013	Change	2011	2013	Change	2011	2013	Change
Collaborating	61	61	0.56	63	69	6	64	65	1
Reflect	85	86	1	84	87	3	85	86	1
Content Knowledge	45	45	0.3	52	51	-1	53	48	-5
Data Driven	77	74	-3	79	80	1	78	78	-0.17
SIP	84	83	-1	86	86	0.33	84	85	1
Teacher Needs	49	48	-1	52	50	-2	55	51	-4
Evaluate/ Communicate Results	49	43	-6	53	57	4	53	50	-3
Follow Up	53	56	3	61	69	8	60	62	2
Student Needs	66	67	1	72	72	-0.62	72	70	-2
Resources	73	74	0.54	70	73	3	75	75	0.20
Time	66	69	3	70	74	4	71	72	1
Student Learning	69	70	1	74	75	1	74	72	-2

Note. Complete change values were used for calculating correlations as the independent variable; some were as long as 10 place values. TELL Maryland data for the 2011 and 2013 PD Elements' percentages adapted from "Historical," by TELL Maryland, 2014

(<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Appendix B – High School Assessments

Table B
High School Assessment (HSA) Results

Region	2011 HSA Percentage of Student Success for Exit Data	2013 HSA Percentage of Student Success for Exit Data	2011-2013 Change Percentage	2011 HSA Reported Number of Student Success and Number Tested	2013 HSA Reported Number of Student Success and Number Tested
Western	94.01	93.57	-0.44	874/954	864/948
Capital	93.06	94.98	1.92	359/399	224/236
Southern	93.05	93.95	0.9	1005/1127	701/784
Central	92.31	92.35	0.04	1208/1339	1920/2057
Eastern	87.74	88.26	0.53	5508/6097	1820/2071
Rural Maryland in Total	91.63	91.98	0.35	8954/9916	5529/6096

Note. Percentages are rounded; some were as long as 10 place values. Complete change percentage values used for correlations as the dependent variable. Number values are not fully accurate as schools with HSA success $\geq 95\%$ did not (and do not have to) report actual student numbers. Test data adapted from “2014 Maryland Report Card,” by Maryland State Department of Education, 2014 (<http://msp2014.msde.state.md.us/>). Copyright 1998-2015 by Maryland State Department of Education.

Appendix C – TELL Maryland Survey

Table C
TELL Maryland Survey Results

Region	2011 Number of Survey Takers and Number Possible in Studied Schools	2011 Percentage of Survey Takers	2013 Number of Survey Takers and Number Possible in Studied Schools	2013 Percentage of Survey Takers	Average Percentage of Survey Takers For Both Studied Years	Number of Schools Meeting TELL MD Criteria for Both Survey Years	Percentage of Schools Meeting all Criteria for Both Years of Study Inclusion
Western	810/1019	79.5	807/921	87.6	84	14/14	100
Capital	340/508	67	336/438	77	72	5/9	56
Southern	1107/1327	83	1114/1289	86	85	10/13	83.33
Central	1293/1701	76	1055/1575	67	72	17/20	85
Eastern	1014/1373	74	1179/1451	81	78	17/23	74
Rural Maryland in Total	5614/7481	75	5751/6887	84	79 ^a	63/79	80 ^a

Note. For inclusion in number and percentage of high schools that met TELL Maryland Survey reporting criteria, schools must have first met HSA criteria; this included schools that gave all four tests and reported student exit data.

^aData were included in study from 79% of teachers in 80% (63 of 79) of all rural high schools meeting inclusion criteria. Test data adapted from “2014 Maryland Report Card,” by the Maryland State Department of Education, 2014 (<http://msp2014.msde.state.md.us/>). Copyright 1998-2015 by Maryland State Department of Education. TELL Maryland data adapted from “Historical,” by TELL Maryland, 2014 (<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Appendix D – TELL Maryland Survey Questions

Table D

TELL Maryland Survey Professional Development Questions 2011 and 2013

Q8.1	Please rate how strongly you agree or disagree with statements about professional development in your school.
	Strongly disagree Disagree Agree Strongly agree
	a. Sufficient resources are available for professional development in my school.
	b. An appropriate amount of time is provided for professional development.
	c. Professional development offerings are data driven.
	d. Professional learning opportunities are aligned with the school's improvement plan.
	e. Professional development is differentiated to meet the needs of individual teachers.
	f. Professional development deepens teachers' content knowledge.
	g. Teachers are encouraged to reflect on their own practice.
	h. In this school, follow up is provided from professional development.
	i. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.
	j. Professional development is evaluated and results are communicated to teachers.
	k. Professional development enhances teachers' ability to implement instructional strategies that meet diverse student learning needs.
	l. Professional development enhances teachers' abilities to improve student learning.

Note. Original Likert scale was converted by the New Teacher Center to percentage of agreement for publication and reporting purposed. This was the percentage used for this study. Complete change values were used for calculating correlations as the independent variable; some were as long as 10 place values. Adapted from “Historical,” by TELL Maryland, 2014 (<http://www.tellmaryland.org/historical>). Copyright 2015 by the New Teacher Center.

Appendix E – IRB



FROSTBURG STATE UNIVERSITY Institutional Review Board (IRB)

APPLICATION FOR INITIAL REVIEW OF RESEARCH USING HUMAN PARTICIPANTS

Name of Principal Investigator: Kay Roché Sheehe

Department: Educational Professions

Tel.: 301-687-4294

Name of Co-PI:

Department:

Tel.:

Project Title: INVESTIGATING TEACHER PERCEPTIONS OF PROFESSIONAL
DEVELOPMENT AND STUDENT ACHIEVEMENT IN RURAL MARYLAND

Funding Agency (if applicable):

Project Duration (mo/yr – mo/yr): December 2014-May 2015

**Please send completed applications to the Office of Research and Sponsored
Programs, 511 Ort Library.**

A. Research:

“a systematic investigation designed to contribute to generalizable knowledge”

Is this project more than an instructional exercise?

Yes ☒ No

If so, what is its purpose?

This correlational research will serve as partial fulfillment of my doctoral work. It will be my dissertation.

Will the results ever be published or presented?

Yes ☒ No

If so, where?

This work/dissertation will be presented to and published by Frostburg State University.

(Will the results contribute to generalizable knowledge?)

These results will contribute to generalizable knowledge about professional development perceptions of high school teachers in rural Maryland and the correlation to student achievement over the same time-period in the same high schools, measured as a change over the two studied years.

If you answered “no” to both these questions, stop.

Your project does not need to be reviewed by the IRB.

Please note that if the project does not need to be approved by the IRB, then the instructor is responsible and liable for the appropriateness of the activities.

B. Human Participants:

“a living individual about whom an investigator obtains (a) data through intervention or interaction or (b) identifiable private information”

Will you collect data about living individuals?

Yes ☒ No

If so, who are the participants (check all that might apply)?

FSU Students

General Public
(Adults)

Prisoners

Pregnant Women

Other ☒ High School teachers' summary perceptions in 15 of 18 rural
Maryland Counties

Children or Minors ☒

Will you interact with the participants in any way? Yes No ☒

(On-line information gathering is considered interaction.

Simple observation is not.)

Will you use private information that could identify individuals?

Yes No ☒

If you answered “no” to two or more of these questions, stop. Your project does not need to be reviewed by the IRB.

Please note that if the project does not need to be approved by the IRB, then the instructor is responsible and liable for the appropriateness of the activities.

C. Information for Review

Please provide the following information, taking care to communicate in a manner that will be intelligible to educated persons who are not specialists in your field.

1. Abstract: Provide an abstract of the research proposed (maximum 200 words).

This dissertation will answer twelve specific questions related to an overall question: Is there a relationship between teacher perceptions of professional development elements and student achievement in rural Maryland? Twelve elements relating to professional development are found on the Teaching, Empowering, Leading, and Learning (TELL) Maryland Survey of 2011 and 2013. These TELL Maryland Survey teacher perceptions will be correlated, separately, with student Maryland High School Assessment (HSA) results of the same corresponding time-period.

2. Participant selection: Who will be the participants? On what basis will the participants be selected? How will you enlist their participation? If you plan to advertise for participants, please include a copy of the advertisement.

Maryland, at the time of research, has 244 high schools divided into Local Education Agencies (LEAs) of 24 counties that include Baltimore City. Eighteen counties are designated as rural by the Annotated Code of Maryland (Rural Maryland Council, 2014). Rural counties will be studied at the school level to obtain a county-wide composite and a state-wide composite, taking into account only high schools reporting on the TELL Maryland Survey and administering HSA, both for the two years being studied for the research. To be a reporting school for the TELL Maryland Survey, 50% or more of the teachers in the school must have completed the survey (TELL Maryland, 2011, 2013). Therefore, meeting those criteria, the research will provide information on 63 of 79 rural high schools, a percentage of 80% of all of the rural high schools in Maryland. Note: In 12 of the 18 LEAs in the research, 100% of the high schools reported at the 50% or higher required level pre-determined by the TELL Maryland Survey designers.

3. Procedures: What precisely will be done to the participants? Explain in detail your methods and procedures in terms of what will be done to participants. If you are using a questionnaire or handout, please include a copy with each copied set of application documents.

The data regarding State survey participants' ratings will come from the publically available Tell Maryland Survey ratings from the survey years of 2011 and 2013 of the 12 professional development elements, represented as percentages of "agree" as opposed to "disagree" compiled for the state of Maryland, each county, and school after the survey participants rated each item on a Lickert scale (New Teacher Center, 2013). The HSA data will come from the publically available Maryland Report Card, reported first by the LEAs, as 12th grade student pass-rate exit-exam data percentages, representative of the same years of the Tell Maryland Survey. Maryland public school data determines the pass rate percentage of senior students on all HSA, reported as passing scores on all tests

separately, or as a combined score option (Algebra II, Biology, English, and Government). This 12th grade pass-rate data is what is determined to be reliable and valid by the creators of the test for the state of Maryland (ETS “Research” 2013). Data of alternative tests, including Maryland Bridge projects, will not be used for this research because it does not have the same validity and reliability rating (Maryland Report Card, 2013).

4. Risks and Benefits: Are there any risks to the participants? If so, what are these risks? What potential benefits will accrue to justify taking such risks? How do you propose to minimize these risks?

No rural high schools in Maryland, investigated in this study, will be publically named in any documentation associated with data. By not utilizing the specific data set from the TELL Maryland Survey, no particular identifiers attributable to individuals will be available for any part of the research. Additionally, the HSA senior pass rate percentages offer no student reports on individuals. All data, from the TELL Maryland Survey and the HSA, come from public, readily available sources.

5. Confidentiality: Adequate provisions must be made to protect the privacy of participants and to maintain confidentiality of identifiable information. Explain how your procedures accomplish this objective, such as means of data storage, data location and duration, description of persons with access to the data, and method of destroying the data when completed.

In regards to HSA student data: The Maryland State Department of Education’s Division of Accountability, Assessment and Data Systems publishes a Maryland Student Records Manual. The 2011 Manual outlines the reporting of data by the State that requires compliance with the Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. 1232g) and its implementing regulations. Pertinent to my research, the regulations are the No Child Left Behind Act of 2001 (NCLB) and the Code of Maryland Regulations (COMAR) 13A.08.02, Student Records. Therefore, the student public data I will use has already met all of those guidelines, before the State made it publically available.

In regards to TELL Maryland Survey teacher data: The New Teacher Center publishes summary results that I will be using, on the TELLMaryland.org website. Additionally, I contacted the New Teacher Center and was informed by Keri Feibelman, Associate Director of the Teaching and Learning Conditions Initiative at the North Carolina Office, that anyone can have access to the data set after completing minimal paperwork. This is due in part to the fact that no individual teacher can be identified. Furthermore, the summary data that I am using negates the need to request the complete data set.

In regards to data storage: I will list by county name and high school name (at first), in an Excel spreadsheet, the TELL Maryland Survey teacher perceptions percentages for all of the 12 areas for each of the two studied years, along with the HSA student exit data results. While I am building this data set of the 63 high schools, I will be the only one to have access to this information on a home, password protected computer, through a

further, password protected back-up storage device. After the data set list is complete, before performing any correlations, I will create a new file, a clean file, by coding the school names, with random ID numbers, and will save this new file. Then, I will move the original data set, with the school names, to a locked file in the office of my dissertation chair, Dr. William J. AuMiller, in Frampton Hall, on the Frostburg State University main campus. I will use the second file, the clean file, which lists the schools by ID numbers, to perform and analyze the correlations. Therefore, no specific high school names will be used for anything other than the data gathering stage of the dissertation process. Only the specific county and state composites will be analyzed and reported. Following the completion of the dissertation, I will follow the same procedures with the clean file that I did with the original data set. After the second file is locked in Dr. AuMiller's file, I will delete the second file from my storage.

6. Information and Consent Forms:

State specifically what information will be provided to the participants about the investigation. State how the participants' informed consent will be obtained. Include a final draft of the consent form, which you propose to use.

FSU faculty, staff, and students must obtain the informed consent of any potential human participant before involving that person in research that is not determined by the IRB to be "exempt." Typically, you do this by providing the participants with an informed consent document written in simple, lay language. The IRB may waive the consent form requirement under federal regulation section 45 CFR 46.116 and 46.117

The following pertain to all consent forms:

General Language: The informed consent form should be written in simple, lay language. Consent documents are more understandable if they are written just as the clinical investigator would give an oral explanation to the subject, that is, the subject is addressed as 'you' and the clinical investigator as 'I/we.'

Purpose and Description: The opening paragraph should state that it is a research study and give sufficient details for participants to be informed of the purpose of the study along with such details as where the study will be conducted, its duration and dates, the nature of participant's participation, and the number of participants in the study.

Procedures: Describe the procedures to be followed, including any that are experimental, and any discomforts and risks. Specify the amount of time participation will take.

Participant Benefits: Describe any benefits, if any, to the person participating and, if significant, any available alternatives to obtaining these benefits. If there are not any benefits for participation, indicate this also. (Do not include benefits to society or benefits to the researcher.)

Participant Risks: Describe any risks--psychological, emotional, physical, etc.--however slight. Include a statement, if appropriate, that a particular treatment or procedure may involve risks to the participant (or to the embryo or fetus, if the participant is or may become pregnant) that are currently unforeseeable.

Voluntary Participation and Withdrawal: Include a statement that participation is voluntary and that participants can withdraw from the study at any time. Clearly state the consequences of withdrawing. For instance, if applicable, state that withdrawing from the study will or will not affect such things as medical treatment, employment, benefits, grades, payment, course credit, etc. If there will be no such consequences, say so.

Confidential or Anonymous: State if the study is confidential or anonymous. Note that it is impossible for it to be both. "Confidential" means that the information provided by the participants may be connected to the participants, but that identities will be protected.

"Anonymous" means that the information provided cannot be connected to the participant. For confidential research, explain how you will maintain confidentiality of records and data (e.g. by using coded responses or secure storage).

When Child Abuse May Be Uncovered: In all non-anonymous situations (that is, whenever the personal identifying information is collected, regardless of whether it is kept confidential or not), the following statement must be included: *"In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning (past or present) child abuse or neglect or potential harm to you or others."*

Contact Information: Include your name, address, and telephone number, as well as the following statement: "This research study has been reviewed and approved by the Institutional Review Board (IRB) of Frostburg State University. For research-related problems or questions regarding participants' rights, contact the IRB through the Director of the Office of Research and Sponsored Programs at 301-687-3101."

Final Statement: The final statements of the informed consent form should include the following: "I have read and understand the explanation provided to me and have been given a copy of this consent form. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study."

Signatures: The informed consent must be signed and dated by both the participant and the principal investigator or authorized representative.

Page Numbering: Consent forms with more than one page should be initialed and dated by the participant on each page and the pages should be numbered like this: "page 2 of 3"

Please see <http://www.frostburg.edu/admin/orsp/irb-informedconsent.htm> for other important required elements that pertain to specific situations.

7. Supporting Documents: Include all relevant supporting documents, such as consent forms, interview questions, surveys, letters sent to recruit participants, questionnaires completed by participants, and any other material germane to human subjects review.

SIGNATURE ASSURANCE SHEET

Principal Investigator/Student Assurance Statement

I understand Frostburg State University's policy concerning research involving human participants and I agree:

1. To obtain prior approval from the Institutional Review Board before beginning this research study;
2. To accept responsibility for the scientific and ethical conduct of this research study;
3. To obtain prior approval from the Institutional Review Board before amending or altering the research protocol or implementing changes in the approved consent form;
4. To immediately report to the IRB any adverse reactions and/or unanticipated effects on participants which may occur as a result of this study;
5. To complete, on request by the IRB, the Continuation/Final Review Forms.

SIGNATURE: Kay Roché Sheeche DATE: December 17, 2014

TYPED NAME: Kay Roché Sheeche

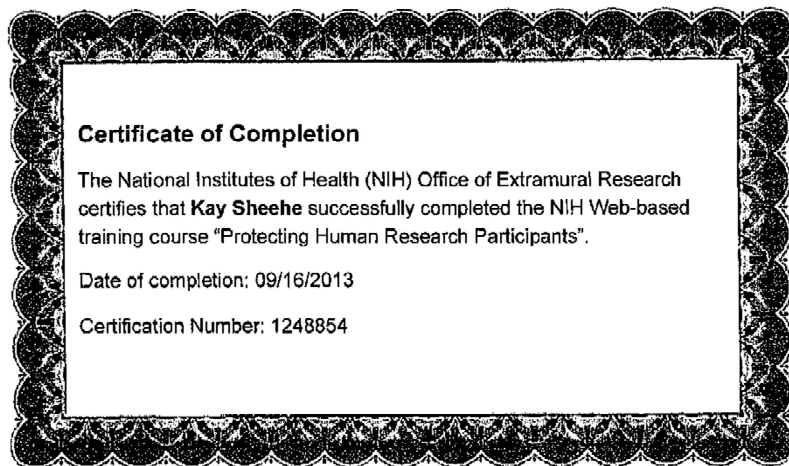
Faculty/Research Advisor's Assurance Statement:

I certify that I have read and agree with this proposal, that the P.I. has received adequate training to perform this research, and will receive adequate supervision while performing this research.

SIGNATURE: William J. AuMiller DATE: December 17, 2014

TYPED NAME: William J. AuMiller

***If the Principal Investigator is completing this project to meet the requirements of Frostburg State University academic program the student's faculty/research advisor must also sign the Signature Assurance Sheet.**





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CERTIFICATION OF COMPLETION OF DISSERTATION PROPOSAL

Date: Wednesday, December 17, 2014

To: Coordinator: Ed.D. Doctoral Program

From: William J. AuMiller, Ed.D, Chair

The undersigned members of the student's Doctoral Examination Committee hereby certify that the dissertation proposal written by



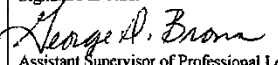
Sheehe, Kay, R.
Student's Name (Last, First, M.I.)

1517685
Student ID

with the title of:

INVESTIGATING TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT AND
STUDENT ACHIEVEMENT IN RURAL MARYLAND

has been defended and approved.

PROPOSAL APPROVAL SIGNATURES		
Please type and sign		
Dissertation Committee Chairperson: William J. AuMiller, Ed.D	Signature & Title:  Assistant Professor, Frostburg State University	Email address & Date of Signature wjaumiller@frostburg.edu 12/17/14
Dissertation Committee Member: Gary L. Hendrickson, Ed.D	Signature & Title:  Adjunct Professor, Frostburg State University	Email address & Date of Signature glhendrickson@frostburg.edu 12/17/14
Dissertation Committee Member: George D. Brown, Ed.D	Signature & Title:  Assistant Supervisor of Professional Learning, Allegany County Public Schools, Maryland	Email address & Date of Signature george.brown@acps.k12.md.us 12/17/14

Must have 2 committee members and 1 chair signature. Committee members and chair must be the same as the most recent approved Intent to Serve form filled with the Coordinator

Date of Proposal Defense: 12/17/2014



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INSTITUTIONAL REVIEW BOARD (IRB)
ORT LIBRARY
101 BRADDOCK ROAD
FROSTBURG, MD 21532-2303
T 301.687.7097
F 301.687.7098
E-MAIL: irb@frostburg.edu

To: Kay Sheehe
From: Beth Scarloss, IRB Chair
Date: Tuesday, February 10, 2015
Subject: Notice of Protocol Review

We have received your human research protocol application and reviewed it. Thank you for submitting this proposal in compliance with FSU and USM policy.

Title: INVESTIGATING TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT AND STUDENT ACHIEVEMENT IN RURAL MARYLAND

Number Assigned: H2015-016

Received on: 12/19/2014

The Institutional Review Board has determined that the research you describe in your application qualifies as research that is exempt from the Code of Federal Regulations (45 CFR 46) under §46.101(b). As long as you follow the protocol described in your submission, no further action on your part is necessary at this time. You will be reminded annually to submit a statement confirming that this research a) is ongoing or b) has been terminated.

If you make substantial changes to this project or begin another research project involving human participants, the IRB will be required to review that project, as well.

We greatly appreciate your cooperation with the IRB. If you have any questions or concerns, please feel free to contact us at IRB@Frostburg.edu.

Reviewer Comments:
(None)

FROSTBURG STATE UNIVERSITY IS A CONSTITUENT INSTITUTION OF THE UNIVERSITY SYSTEM OF MARYLAND