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EFFECTS OF THE UTILIZATION OF A READING COACH FOR

PROFESSIONAL DEVELOPMENT ON PENNSYLVANIA ELEMENTARY

STUDENTS' READING ACHIEVEMENT

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Marilyn L. Freeman Carter

Indiana University of Pennsylvania

December 2007

Indiana University of Pennsylvania
The School of Graduate Studies and Research
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Title: Effects of the Utilization of a Reading Coach for Professional Development on Pennsylvania Elementary Students' Reading Achievement

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Recent studies have suggested that there is correlation between professional development and student achievement (Pritchard & Marshall, 2002; Showers & Joyce, 1996). The specific models for professional development are being evaluated for their effectiveness, as the educational community seeks effective reforms for improving student achievement. The purpose of this study was to delve into the assumptions related to the effectiveness of professional development opportunities and its correlations to student achievement. This study examined 48 high poverty and low performing elementary schools located in the Commonwealth of Pennsylvania. The archival data obtained from the Commonwealth of Pennsylvania Department of Education identified the twenty-two schools that did employ reading coaches and the twenty-six schools that did not employ reading coaches for the implementation of professional development exclusively for early reading instruction. The 2005 and 2006 Grade 3 Pennsylvania System of School Assessment reading scores for the schools with reading coaches and the schools without reading coaches were explored to determine the difference within the performance levels. In addition, ratings from a self perceived level of implementation effectiveness survey for communication and collaborative practices, instructional practices and materials, professional

development, and the reading coach were compared to the percentage of students scoring advanced or proficient on the PSSA reading subtest for the school that employed reading coaches. Quantitative analysis was performed and found significant differences regarding the reading performance overtime as per the 2005 and 2006 PSSA Grade 3 reading scores. In addition, surveys from 17 schools that employ reading coaches rated their level of effective implementation. No statistical significance differences between the percentage of students scoring advanced or proficient on the 2006 Grade 3 PSSA and the high ratings for the level of implementation in the following domains: communication/collaboration, instructional practices/materials, professional development, and the reading coach from the Fall 2005 survey were found. The study also found significant effects of percentages of poverty, class size, and regional location on schools that employ reading coaches and the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA. Further research is needed for the measuring of student achievement outcomes in relationship to the utilization of a reading coach as an innovation for professional development.

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I will be indebted to those who offered words of encouragement, shared their expertise, and talents so that I could pursue this scholarly endeavor with pride. Especially those of you and you know who you are that always reminded me not to question my faith but to question my doubts.

It not only takes a village to raise a child, it also takes a village to complete a dissertation. The first member of my village I would like to thank is my Mother, Louise Auston Freeman Terry, who clearly understood the empowerment that is association with obtaining a good education. I will be forever grateful to James Carter, my father-in-law, for always believing that I have the potential to excel beyond my dreams. My sister Stephanie, our Sunday evening conversations were a nice distraction and reminded me that laughter truly is good medicine.

Children are a gift from God. Sean, I know I promised you your own paragraph however, please forgive me and know that your willingness to help whenever I called is priceless. Christopher, I will always remember that day that I expressed my hopelessness and you immediately came to my rescue with those firm words and prayer. Sierra, I will never be able to thank you enough for allowing me to be a part of Maya's life. It was those few times when I questioned my sanity during the pursuance of this feat that I remembered the implications that my endurance will have on the legacy that I will leave behind.

Finally, to my best friend who just happens to be my husband. Jimmy, I can not adequately articulate the words to express my admiration and respect for the kindness and support you have offered me throughout this endeavor. You and I both know that this heartfelt dream would have not come to fruition without you being at my side. Thank you for being who you are.

DEDICATION

Maya Elise Carter this is my gift to you and any future descendants! Always, know that you are equipped for success and with hard work and supportive people you will conqueror the world. I love you!

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CHAPTER ONE: THE PROBLEM

Introduction

This chapter serves as an underpinning to this study of the effects of

coaching as an innovation for professional development on the teaching of early

reading skills and increased student achievement in low performing and high

poverty schools located in the Commonwealth of Pennsylvania. It commences

with examining the relationship between professional development and student

achievement. The relevance of this study and the research questions are then

addressed. Next, the importance of this study is explored and key terminology is

defined. Finally, a thorough explanation will reveal the limitations of the study.

Statement of the Problem

Historically, both urban and rural school districts have been challenged to

demonstrate an increase in student achievement. As we seek to increase student

achievement for all learners, the exploration of the influence of teacher learning

must be explored for its effectiveness. Guskey & Sparks (1996) document that,

in order for there to be evidence of high levels of improvement in student

learning, school personnel must acknowledge the complex relationship of staff

development to increased student achievement.

Title II of the No Child Left Behind Act of 2001 provides funding for states

to develop professional development programs. The majority of the Title II federal

dollars, totaling $2.9 billion in 2003, were earmarked for improvement of teacher

quality. The majority of the funding was to be utilized to provide a wide variety of

activities for teacher professional development embedded in scientifically- based

research for reading instruction (U.S. Department of Education, Office of the Secretary, & Office of Public Affairs, 2003).

The use of effective professional development strategies to improve the quality of teaching has become a critical aspect of school improvement initiatives across states (Wong & Nicotera, 2003). Pritchard & Marshall (2002) investigated professional development practices and school districts' philosophies in urban, rural, and small towns across the United States. This four year study on teacher – led professional development addressed the relationship between district health and student achievement. The findings concluded that a healthy professional culture yielded a higher level of student achievement, especially across grade levels and time.

School-based coaching is being identified in the United States as a professional development model that promises improvement of instructional practices, which should result in improved student achievement, especially in urban school districts. This strategy is utilized to improve the implementation of curriculum and instructional techniques (Showers & Joyce, 1996). It involves teachers who are experts in a set of teaching strategies collaboratively working with their peers who are assigned to classroom teaching positions. Although the concept of school-based coaching, (especially in literacy) has been historically documented as early as1920, it is still being perceived as a possible fad within the educational community.

Recent studies on coaching (Neufeld & Roper, 2003; Poglinco, Bach, Hoyde, Rosenblum, Saunders, & Supovitz, 2003) note that coaches may be

specialized full- or part-time staff developers, or they may be teachers making a career transition to coaching. Coaches frequently work one-on-one with a teacher directly in the classroom and meet with the teacher before or after a lesson. They may use student work as a springboard to talk about teaching strategies or as a help to plan next steps for instruction. Poglinco, et al. define coaching as "a form of inquiry-based learning characterized by collaboration between individual, or groups of, teachers and more accomplished peers". (Feger, Woleck, & Hickman, 2004, p.1).

     Professional development activities with a coaching component have been recognized in educational literature as the most effective training design and as having significant influence on student achievement. Dozier (2006), Kise (2006), & Bean (2006) write extensively about how coaching can assist with creating and sustaining purposeful change for improved student achievement in reading. The role of a school-based coach can vary not only in title but also in responsibilities. Therefore, information is provided for the reader to make the distinctions between the varied responsibilities.

     Professional development is a tool that contributes to a school's vitality. Successful schools utilized professional learning to build and strengthen a comprehensive approach to ongoing renewal. Professional development is not an isolated task, but complements thoughtful school improvement planning (Easton, 2004). Amidst the varying reform methods upon which a school district may engage is imperative that the innovations are evaluated for their strengths and challenges. Therefore it behooves every school community to assess their

professional development delivery model for its value based on increased

student learning. The researcher explored the utilization of a reading coach for

ongoing professional development and the effect of this innovation on student

achievement in early reading.

Purpose of the Study

The National Center for Children in Poverty has expressed the need for

additional research to determine the type, amount, and combination of education

and professional development training that leads to increased achievement for

low-income children (Klein & Knitzer, 2007). This quantitative study delved into

the assumptions related to the effectiveness of professional development

opportunities and its correlations to increased student achievement. The

exploration of the impact of coaching as a professional development model on

increased student achievement in 48 high poverty and low performing

elementary schools was completed by utilizing inferential statistics. Eighteen

Local Educational Agencies in Pennsylvania that are deemed high poverty and

low performing was identified as having more than 14.7% of students from low-

income families based on the 2002 census data or the percentage of free and

reduced lunches. In addition, the LEA, for this study, was required to have more

than 30% of the students scoring "Below Basic" on the reading assessment of

the 2002 Grade 5 Pennsylvania System of School Assessment. These criteria

were utilized for the selection of the sample population.

LEAs that submitted grant applications for Reading First Funding in

Pennsylvania informed the researcher of the LEAs with coaches that had

received a systematic training design for reading instruction and those LEAs without coaches and/or coaches who had not received the same quality of training.

Margaret Spellings, the United States Secretary of Education, deems annual testing in grades 3-8 as an integral part of the implementation of the No Child Left Behind Act (Robelen & Olson, 2005). The PSSA is the state evaluation system that is utilized to assist school districts in determining the degree to which programs are enabling students to attain proficiency on standards. Increased student achievement was measured by comparing the LEAs' 3rd Gr. PSSA reading scores in 2005 and 2006. Schools were considered successful if there is a reduction of the number of students scoring in the bottom quartile.

The published PSSA scores from these identified schools were reviewed to determine if there was a correlation between the implementation of school-based coaching as a professional development model for the teaching of reading and the increase in the number of students with proficient and advanced reading scores.

Questions to be Researched

The investigator examined the following questions in this causal-comparative study to utilize a statistical inference procedure to generalize findings from a sample to a defined population (Gall, Gall, & Borg, 1999). Creswell (1994) advocates that the researcher ask why and look for a comparison of groups or a relationship between variables with the intent of establishing an association, relationship, or cause and effect.

1. What is the relationship between the percentage of students scoring advanced or proficient as measured by comparing the schools' Grade 3 PSSA reading scores in 2005 and 2006 and a professional development model that includes a coaching component for reading instruction?

2. Is there a statistical difference between the 2006 Grade 3 PSSA reading scores of low performing and high poverty schools that utilized coaches that have been offered systematic research based training for the teaching of reading at both the state and regional levels from 2003 to 2006 and the 2006 Grade 3 PSSA scores of low performing and high poverty schools that do not utilized coaches as a professional development model for reading instruction?

3. Is there a statistical difference between the 2006 Grade 3 PSSA reading scores of low performing and high poverty schools based on varying percentage levels of poverty?

4. Is there a statistical difference between the 2006 Grade 3 PSSA reading scores of low performing and high poverty schools where the class size was less than twenty or more than twenty students prior to the school receiving the grant funding?

5. Which low performing and high poverty schools will yield the most increased student achievement on the 2006 Grade 3 PSSA

reading scores based on their selected professional development model?

6. Is there a statistical difference between increased student achievement on the 2006 Grade 3 PSSA reading scores based on the regional location of the Local Education Agency? The Commonwealth of Pennsylvania has strategically arranged Local Education Agencies by geographical location that are identified by an assigned numeral. Low performing and high poverty schools located in Region 1 Grade 3 PSSA scores will be compared to low performing and high poverty schools located in Region 7. Low performing and high poverty schools located in Region 2 Grade 3 PSSA scores will be compared to low performing and high poverty schools located in Region 8.

7. Do Grade 3 students in "self reporting" schools where it is perceived that high levels of implementation (e.g., rating numbers 3 and/or 4) on the *Perception of Levels of Implementation Effectiveness Survey* during the 2005-2006 school year in the domain of communication and collaboration, on an average, demonstrate a significant difference on 2006 Grade 3 PSSA reading scores when compared to Grade 3 students in "self reporting" schools where it is perceived that low levels of implementation (e.g., rating numbers of 1 and/or 2) on the *Perception of Levels of Implementation Effectiveness Survey*

during the 2005-2006 school year in the domain of communication and collaboration exists?

8. Do Grade 3 students in "self reporting" schools where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of instructional practices and materials, on an average, demonstrate significantly different 2006 Grade 3 PSSA reading scores when compared to Grade 3 students in "self-reporting" schools where it is perceived that low levels of implementation during the 2005-2006 school year in the domain of instructional practices and materials exists as per the *Perception of Levels of Implementation Effectiveness Survey*?

9. Do Grade 3 students in "self reporting" schools where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of professional development, on an average, demonstrate significantly different 2006 Grade 3 PSSA reading scores when compared to Grade 3 students in "self reporting" schools where it is perceived that low levels of implementation during the 2005-2006 school year in the domain of professional development exists as per the *Perception of Levels of Implementation Effectiveness Survey* ?

10. Do Grade 3 students in "self reporting" schools where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of the role of a reading coach, on

average; demonstrate significantly different 2006 Grade PSSA reading scores when compared to Grade 3 students in 'self reporting" schools where it is perceived that low levels of implementation during the 2005-2006 school year in the domain of the role of a reading coach exists as per the *Perception of Levels of Implementation Effectiveness Survey*?

Utilizing the reading scores from a state standardized assessment substantiated the major conclusions that were drawn from this correlational-comparative study regarding the effectiveness of school-based reading coaching as a strategy for professional development on student achievement in reading.

Significance of the Study

The countless studies on professional development have often relied on the classroom instructor's perception of the value of the training they received and do not validate the effectiveness of that training on the basis of the improvement of students' academic achievement performance (National Partnership for Teaching in At-Risk Schools, 2005). Beginning in 1980, several studies by Joyce and Showers reveal that the level of classroom application for training hovers around five percent, even after high quality professional development that integrates theory and demonstrations (Costa & Garmston, 2002). This conclusion is based on instructors often not having the skills or knowledge required for applying their new learning, coupled with not having access for support when they do attempt to implement the new approaches (Joyce & Showers, 1995) This figure increases a bit when staff development

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includes time for practice and nonjudgmental feedback and when the curriculum

is adapted for the innovation. When staff development includes coaching in the

training design, the level of application increases to ninety percent. With periodic

review of both the teaching model and the coaching skills- and with continued

coaching – classroom application of innovations remains at ninety percent (Costa

& Garmston, 2002).

Costa and Garmston (2002) state that few educational innovations

achieve the impact that a coaching component offers for increasing student

achievement. The two authors also remind us that those conventional

approaches to staff development (e.g., workshops, lectures, and demonstrations,

show little evidence of transfer to ongoing classroom practice.

Definition of Terms

Achievement Gap: In education this refers to the disparity in academic

performance between groups of children especially, racial/ethnic versus

Caucasian in addition to children of poverty versus children of middle/high

income. Many education reform efforts are influenced by student achievement

which displays itself especially in standardized-test scores, dropout rates, and

college-completion rates. (Education Week Editorial Projects in Education, 2007)

Coaching: one model of professional development that has shown

potential to improve the knowledge, skill, and practice of teachers, thus

enhancing student achievement (Coaching PA, retrieved November 4, 2006,

from http://www.pde.state.pa.us)

Cognitive Coaching: Cognitive Coaching[SM] is a supervisory/peer coaching

model that capitalizes upon and enhances cognitive processes. Costa and

Garmston, the founders of Cognitive Coaching[SM], define it as a set of strategies,

a way of thinking and a way of working that invites self and others to shape and

reshape their thinking and problem solving capacities. In other words, Cognitive

Coaching[SM] enables people to modify their capacity to modify themselves. The

metaphor of a stagecoach is one used to understand what a coach does--convey

a valued person from where s/he is to where s/he wants to be.

(http://www.cognitivecoaching.org)

Content –Focused Coaching: The goal of content-focused coaching is to

provide the classroom teacher with support from coaches who have a deep

content area knowledge as well as classroom experience in order to provide

"specific to the situation" customized coaching for teachers.

In-service education: This term is usually distinguished from pre-service

education simply by the time and sequence. In- service education is concerned

with much more limited tasks, namely the development of instructional staff

members as professional practitioners, in such ways as to have a reasonably

direct impact upon the quality of instruction offered in the school or college

(Harris & Bessent, 1969).

Literacy Coach: One model for literacy coaching, as it has been

introduced into Boston classrooms and elsewhere, is called Collaborative

Coaching and Learning (CCL) because a chief characteristic of the model

involves active participation by teachers who collaborate with their colleagues.

Coaches and teachers are carrying out CCL through practices that involve demonstration and observation, pre-conference meetings, lab-site activities, debriefings and classroom follow-up.

Low Performing School: Schools that have more than 30% of the students in the building scoring "below basic" on the 2002 Grade 5 Pennsylvania System of School Assessment.

Peer Coaching: In peer coaching, usually two teachers (though sometimes three or more) come together, share in conversations, and reflect on and refine their practice. Their relationship is built on confidentiality and trust in a non- threatening, secure environment in which they learn and grow together. Therefore, peer coaching is usually not part of an evaluative system.

Poverty: At least 14.7% of the students in the building receiving reduced or free school lunches

Professional Development: a lifelong collaborative learning process that nourishes the growth of educators both individually and as members of a team to improve their skills and abilities (Speck & Knipe, 2001).

Professional Learning Communities: Teachers establish and teach a common and concise set of essential curricular standards on a consistent schedule utilizing student achievement data to inform instructional decisions. In addition, the teams of teachers meet bimonthly to collaborate solely on their teaching practices coupled with the implications (Little, 1990).

Pennsylvania System of School Assessment (PSSA): The annual Pennsylvania System of School Assessment (PSSA) is a standards- based

criterion-referenced assessment used to measure a student's attainment of the

academic standards while also determining the degree to which school programs

enable students to attain proficiency of the standards. Every Pennsylvania

student in grades 3 through 8 and grade 11 is assessed in reading and math.

Every Pennsylvania student in grades 5, 8 and 11 is assessed in writing.

(Commonwealth of Pennsylvania Department of Education)

Limitations of the Study

This study was limited to 18 LEAs out of 35 who met the selection criteria.

The criteria included the following details: schools that have been identified by

the No Child Left Behind Act of 2001 as being in need of improvement and have

implemented school-based coaching as a professional development model for at

least two school years. In addition, these 18 LEAs which are located in the

Commonwealth of Pennsylvania were identified as high poverty and low

performing schools to ensure a sense of consistency in regards to student

population and curricular expectations for reading in kindergarten through grade

3. However, it should be noted that, although these schools possess similar

attributes, they may be implementing different curricular initiatives based on their

obligations to satisfy approved educational grants from previous school years.

Therefore, yielding a small sample population could infer that this study will not

be a consideration for other groups. The various approaches to coaching

including the certification level, for example a Reading Specialist or an exemplary

classroom instructor for reading instruction, may skew the effects of coaching on

student achievement. There is also the risk of error due to one investigator collecting and interpreting the data.

Summary

Although there is a consensus among educational leaders that there is a direct correlation between increased student achievement and professional development , speculation still drives conversations regarding which model is most effective. The decision making process regarding professional development must also include the exploration of the strategies that will assist the adult in optimal learning (Easton, 2004).

The No Child Left Behind Act which is the current version of the Elementary and Secondary Education Act requires that every classroom possess a "highly qualified" instructor. However, the interpretation associated with the language within the law appears to require teachers to demonstrate subject matter competency to satisfy the definition of "highly qualified" (Robelen & Olsen, 2005). According to Loveless (2004), students will succeed when educators choose the best possible context for professional development, deliberately focus content on student improvement needs, and choose processes that help teachers learn to best address those needs.

The purpose of this quantitative research was to delve into the issues related to professional development and its influence on student achievement. The professional development design which includes a coaching component was explored for its effectiveness in the implementation of scientifically- based

reading research methods for reading instruction in high poverty and low performing school districts in the Commonwealth of Pennsylvania.

Chapter 2 will offer a review of scholarly literature to enhance and establish a foundational base that supports the implications for studying professional development and how it plays a significant role in effective reading instruction.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The focus as articulated in Chapter 1 was to explore the impact of professional development that includes a coaching component on closing the achievement gap in reading for low performing and high poverty schools in kindergarten through grade 3 in the Commonwealth of Pennsylvania. This chapter will develop a conceptual framework that frames this study and affords the reader an opportunity to explore various topics related to (1) the improvement of student achievement scores in reading for children of poverty, (2) the relationship between professional development and increased student achievement, and (3) the utilization of a coaching component as a professional development model for the teaching of reading.

The conceptual framework begins with a discussion of the theoretical principles associated with adult learners and collaborative practices which continue to resonate throughout the study to ensure a substantial theoretical foundation. To ensure the understanding of the impact of professional development for the teaching of reading and how it influences student achievement, we must direct our attention to the history of professional development for early reading instruction. A descriptive timeline will highlight the events associated with the character of professional development in general. The exploration of the timeline will lead us to an overview of professional development opportunities afforded educators and the implications for increased student achievement.

The next section addresses the issues related to the achievement gap, especially for children of poverty. The concluding section will render a description of the effects of professional development that includes a coaching component. Also, how this innovation could support adequate ongoing professional development that yields increased student achievement for high poverty and low performing schools for reading instruction will be explained.

Chapter 2 will provide a review of the scholarly literature to establish a foundational base for studying professional development and how it plays a significant role in increased student achievement for early reading instruction in high poverty and low performing schools.

Conceptual Framework

Harris and Bessent (1969, pp.15-16) acknowledge that in-service programs offer a unique contribution to the operation of the educational enterprise. These authors make the following four generalizations for creating change by utilizing in-service education:

1. In-service education is a process for change.

2. Changes through in-service education take place in an organizational context.

3. In-service education is a process for planned change.

4. In- service education is one of several organizational changes that take place through personnel development.

Richardson and Anders (1994) concluded in their study, which assessed teacher change utilizing the collaborative process, that, ideally the Practical Argument Staff Development process lead to a change orientation in reflective practice for teaching and learning. Fullan (2001) advises educators to remember that a culture of change consists of rapid and nonlinear events with potential for creative breakthroughs, although not without this transformation being deeply seeded in the state of messiness.   Although assessing professional development can be intertwined with threads of confusion, Larner (2004) invites the reader to consider a useful assessment design where the objective is a school improvement effort that begins with the student in mind and works backward through the teaching strategies that enabled the learners to be successful. All learners, including adults, must be assessed for application of their new learning.

However, adults as learners have unique requirements. Malcom Knowles (cited in Lieb, 1991, p. 3) identified the following characteristics of adult learners:

- Autonomous and self-directed

- Experienced and knowledgeable

- Goal-oriented

- Relevancy – oriented

- Practical

The adult learning theory (andragogy) is essential to a discussion of professional development for teachers. The philosophical underpinnings of this theory support the need for not only learning to problem solve, but also the

inclusion of relevancy to teachers' professional or private lives. The theory of

andragogy undergirds the inquiry model and stands as a foundational pillar for

problem-based learning (Peery, 2004). Underpinning the model of andragogy is

the idea that adults and children are different in the sense of choice between

differing types of goals (Houde, 2006).

There are several approaches to adult development that have implications

for instruction such as behavioral/mechanistic, psychological/cognitive,

contextual/socio-cultural, and integrated. Instructors who champion the

psychological/cognitive framework believe that knowledge is constructed and that

adults are active participants in their development (Baumgartner, 2001). Lieb

(1991) states the importance of recognizing that adults need to have an explicit

rationale for how what they are learning will be useful to their job. However, the

inquiry/ constructivist processes can be a daunting task at the district level due to

determining how to support or mandate the inquiry approach and the release of

decision making to other stakeholders for change (Richardson, 2003).

The Character of Professional Development Opportunities in the Public Schools:
The Historical Perspective

> The history of education reveals numerous attempts to ensure that
> all teachers have learned to use certain innovations. What is less
> certain is the depth of that learning, whether learning was even
> remotely connected to student growth – the ostensible intent of
> education and efforts to improve it. (Schmoker, 1996, p.25)

Upon conception of the establishment of public schools, one of the

primary responsibilities for schools in the United States has been to create

literate citizens.   It is well noted that if we utilized a period of time which extends

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from the 1800s, thousands of individuals were hired to teach in elementary

schools with little or no formal training (Tyler, 1971).

Grant, Young, and Montibrand (2001 pp. 8 – 11) state that, although the

responsibility remains the same, the roles of the teacher, the nature of literacy

instruction, and the character of professional development have evolved since

the early days. The historical timeline includes the following events:

1. Teaching emerged as a profession at the turn of the 19th

   century with the training of teachers being corrective in

   nature (p.8).

2. The first wave of school reform of the 20th century was

   influenced by the launching of the Russian satellite Sputnik

   in 1957. The revisiting of academic content led to

   professional development activities for English education

   and other content areas utilizing workshops (p.8). As a

   response to the launching of Sputnik in 1958, Congress

   passed the National Defense Education Act under the

   auspices of assuring highly qualified and competent

   Americans to serve as competitors to those in the scientific

   and technical fields in the former Soviet Union (ED. Gov,

   2006).

3. Lyndon Johnson's War on Poverty in the 1960s initiated

   several educational programs that gave attention to children

   of poverty. In this decade, the authorization of the

Elementary and Secondary Act created a funding source for

compensatory programs, which contributed to the quality

and quantity of in-service education (pp. 8-9).

4. Behaviorist principles developed by B. F. Skinner, Public

   Law 90-142, and The Right-to-Read Program in the 1970s

   led to commercially packaged curricula for the teaching of

   reading, the provision of free public education for all children,

   and funding for teacher training, respectively (p. 9). This era

   also is noted for "aware" level learning, exclusion of ongoing

   professional development and a "make-take" mentality for

   the improvement of teaching and learning (p.9).

The initial results from a three year implementation of a "research into

practice" professional development model conducted by Little and Houston

(2003) revealed that educational change can occur when the following

observable behaviors are exhibited:

1. change is directly related to issues to be solved within the

   classroom;

2. support is provided for quality implementation;

3. scientifically based instructional practices are introduced utilizing

   principles of adult learning theory; and

4. change is directly related to student achievement.

The conceptual framework is influenced by these theories for the consideration of the role they play in understanding the implementation of effective professional development models based on increased student achievement data. Since the inception of the delivery models for professional development, they have varied in characteristics.

In the 1980s, staff development mainly consisted of conferences, workshops, articles, books, and research reports. Nonetheless, state legislators and central office administrators viewed staff development as vital to student learning and a staple for ensuring school improvement (Sparks & Loucks-Horsley, 2003). The Commission for a Nation at Risk (1983) clearly articulated their concerns about the inadequacies associated with the United States' educational process, specifically, regarding their findings on teaching. The Commission cited many ills which included noting that the professional working lives of teachers collectively were unacceptable coupled with a reduced amount of time provided for subject matter courses in the teacher preparation curriculum (*A Nation at Risk*- April 1983). These admonitions led to implications for reform efforts to address the quality of teacher education.

Although A *Nation at Risk* directed attention to issues related to secondary education, many stakeholders began reform efforts which included early childhood education, including policymakers' funding of in-service training (Gordon, 2006). The commission concluded that the restructuring efforts must lend themselves to supporting high quality teaching and learning (Darling-Hammond, 1996). In order to ensure the ongoing improvement of teaching,

attention must be given to the evaluation of effective models for professional development.

The delivery models of professional development designs include series of workshops and seminars as well as coaching and feedback demonstrations and practice. In addition, it is important to note that the term professional development replaced staff development as a way to distinguish the nature of the new strategies.

The National Staff Development Council developed their original standards for quality professional learning in 1995. The revisions to the NSDC original standards place emphasis not only on knowledge and skill but also the importance of being results-driven, standards-based, and job-embedded (NSDC, 2007). This non-profit professional association is committed to increased student achievement for all students via continuous quality staff development and school improvement (NSDC, 2007). Hirsh (2006) writes that one of the benefits associated with the No Child Left Behind Act is how it has served to spotlight the importance of educators' learning.

The No Child Left Behind Act of 2001 (ESEA, Title II) provides federal funding to states and districts, especially those with a high percentage of children in poverty, to support teacher professional development which is grounded in scientifically- based research (U. S. Department of Education, 2003). No Child Left Behind broke new ground by requiring states to define academic standards for learning by what students know and can do at appropriate ages, to conduct annual testing for the measurement of achievement, and to focus attention on the

academic achievement of students who live in poverty with consequences for low performing schools (Hershberg, 2005).

Even at the beginning of the 21st century, according to Corcoran, McVay, & Riordan (2003), most classroom instructors in the United States are not afforded adequate opportunities for the improvement of their understanding of pedagogy. This discerning observation is disturbing in a climate of high-stakes accountability and thus encourages the quest for insight into how national, state, and local policies affect decisions related to professional development opportunities for teachers of early grades.

It is quite clear that throughout this historical timeline a theme of funding and governmental politics emerges that dictates what drives instruction in our schools and ultimately crafts the priorities of the professional development opportunities. We, in the educational community, must begin to grapple with these issues in a responsible manner and become advocates for ourselves as educators and our students as we all strive to become productive citizens and lifelong learners.

Coaching is being utilized as a catalyst for change. In the United States, school-based coaching was pioneered primarily in large districts like Boston and New York City and has been spreading quickly around the nation, particularly in urban schools (Russo, 2004). The trend to employ coaches in schools as an approach for improving classroom instruction is currently undergoing evaluation at both the national and state levels of government for its impact on student achievement (Bean, 2006).

The Correlation Between Professional Development Opportunities and Student Achievement

Teacher professional development is considered an important component for supporting educational improvement. The National Commission on Teaching and America's Future argued that next to family, what classroom instructors know and are capable of doing is influential to what students learn (Winograd, Flores-Duenas, & Arrington, 2003).

Guskey and Sparks (1996) state that there is an assumption that exists among educational researchers and leaders which suggests a strong correlation between professional development and the improvement of student learning even though clarification of the relationship remains open for exploration. The relationship between professional development and student learning is making the road unclear, thus indicating the need for strengthening the relationship between teacher and student learning (Sykes, 1999). Sparks (2000) utilizes the twenty-one recipients of the U.S. Department of Education's National Awards Program for Model Professional Development, who were recognized for their implementation of powerful forms of staff development and who demonstrated evidence of improved student learning, to substantiate the correlation between staff development and student achievement.

The end result of any professional development should be increased student achievement (Bean, 2004). On the other hand, Allen (1971) laments the fact that traditional practices for professional development were guided by in-service training as an upgrade of teachers' professionalism and classroom

performance or as a convenient method for accumulating credits or units which would influence an instructor's pay grade schedule.

In contrast, Sykes (1999) infers that, even though it is a complex process, schools and districts can create a culture of accountability by referencing both formative and summative evaluations of teacher professional development to student learning. If we consider how schools are being requested to educate the most diverse student body in our history to higher academic standards, then we must submit to the fact that we need schools that are organized to support continuous learning for the teaching staff (Darling-Hammond, 2003).

Taylor, Pearson, Clark, & Walpole (1999) state that there is nothing as important as documenting practices that assist classroom teachers in high poverty schools which scaffold student learning and achievement. The Urban Literacy Institute's collaborative efforts from 2001 to 2004 provided a process for teachers to improve literacy instruction for students who attended high- poverty and low performing schools by addressing their own professional development utilizing primarily study groups (Hollins, 2006). The Iowa Association of School Boards (2007) acknowledges the significance of a school board's role along with other stakeholders in supporting change for establishing a new model of professional development to improve student learning. One aspect of Bill Sanders' research, formerly at the University of Tennessee's Value-Added Research and Assessment Center, has addressed his concerns regarding the cumulative effect of a teacher's effectiveness on student achievement (Tucker &

Stronge, 2005). In other words, increased student achievement is dependent on a high quality teacher in every classroom.

The Annenberg Institute for School Reform at Brown University advocates the utilization of effective professional development strategies such as professional learning communities to improve student learning for both English Language Learners and students of poverty (Annenberg Institute for School Reform, n.d.). Schmoker (2006) also argues the benefits of the recent emergence of professional learning communities in schools and districts; especially for the emphasis on collaborative practices among teachers and the implications for adjusting instruction influenced by formative assessments. Communication and collaboration among the teaching staff regarding data analysis is an important practice for informing instructional decisions.

The 1998 Foundations for Success study's main goal was to extend the research of identifying the successful attributes of large urban schools with increased student achievement. The findings suggested several factors for consideration, including building a foundation for reform and developing instructional coherence, which highlighted the importance of extensive professional development as opposed to the distribution of professional development resources, and data driven decision making (Snipes, Doolittle& Herlihy, 2002).

It has been well documented that schools where students depict various types of diversity, especially poverty, are likely to receive instruction from adults who are not as diverse and this has implications for the effectiveness of teaching

and learning (Education Trust, 2003). The Center for the Improvement of Early Reading Achievement researchers successfully tested a hypothesis utilizing technology such as hypermedia environment to provide images of teachers interacting with students of diversity with an emphasis on children of poverty in both urban and rural environments (Hiebert & Pearson, 1999). They found that, from the analyses of the students' papers, those pre-service teachers that had access to the hypermedia cases that provided images of teachers engaging a diverse array of students utilized effective approaches for interactions with students during reading instruction than the pre-service teachers without access.

Richardson (2001) expresses concerns regarding the relationship of the specific type of professional development model and student achievement. She clearly supports both the need for an inquiry approach and a mixed model of professional development. However, for the teaching of reading to low achieving students, the recommendation is a collective approach where a group of teachers solve a common challenge. Joyce and Showers' (2002) research and experiments that focused on the design of coaching as an innovation for professional development over the course of many years advocate that educators must determine the effectiveness of professional development based on the effects on students' learning.

The Achievement Gap

According to the Education Week Research Center's Editorial Projects in Education report (2007) entitled *Achievement Gap,* the term achievement gap refers to the disparity in academic performance between groups of students.

This document also informs us that this term is often associated with the performance gaps in academics between racial/ethnic groups and their Caucasian peers in addition to similar disparities among children of poverty and middle/upper income level families. When evaluating students for their preparedness to pursue postsecondary opportunities and entering the workforce, the achievement gap between groups is often utilized as a barometer to determine their level of success (Education Trust, 2003).

Schlechty (2001) reminds us that there still remain many assumptions within the educational community that high performing schools are located in affluent suburbs and low- performing schools are in the impoverished areas of cities. In addition, he offers the disputable thought that, in mainstream America, we still think that some ethic and racial groups are more apt to succeed in academic endeavors than others. Another complex aspect of the achievement gap is the relationship between the income gap and educational achievement (Nelson, 2006). Zurawsky (2004) advocates the notion that privileged students are apt to be offered a more rigorous curriculum than students of color, and that what students are taught is a powerful predictor of achievement test performance.

Poverty is known as a potential catalyst for depressing academic attainment (Goldenberg, 2004). There is an insurmountable amount of research which implies a sense of urgency for addressing the problem of students who are under- performing, especially, in the development of early literacy (Neuman & Dickinson, 2001).

The gap in achievement between low-income children and their middle-class peers is real and significant (Klein & Knitzer, 2007). A considerable amount of attention from national, state, and local government officials has been directed toward the challenges associated with educating children from families in poverty (Knapp & Shields, 1990). There is a plethora of literature that resonates with concern for children who are presently living in homes where their families are living below the poverty lines. In fact, Winograd, Flores-Duenas, & Arrington (2003) relate both the publication of *A Nation at Risk* and the passing of the No Child Left Behind Act as spurring our attention to the continued low academic achievement of African-American, Hispanic, Native American, inner – city and poor rural students coupled with low levels of academic achievement of America in general.

The United States Census (2000) reported that almost 12 million children are poor. Table 1 reveals the most current report by the *National Center for Children in Poverty on* demographic characteristics of low income and above low income children living in the United States of America, Pennsylvania, and the states neighboring Pennsylvania to depict the sense of urgency for addressing high poverty schools that are historically low performing.

Table 1:

Demographics Characteristics of Low Income and Above Low Income Children

Living in the United States of America, Pennsylvania, and the Neighboring States

of Pennsylvania

	Urban		Suburban		Rural	
	Low-income children	Above low-income children	Low-income children	Above low-income children	Low-income children	Above low-income children
National	9,642,313 (49%)	9,854,629 (51%)	9,624,029 (30%)	22,351,647 (70%)	5,052,018 (47%)	5,807,145 (53%)
Delaware	Not Available	Not Available	Not Available	Not Available	13,405 (41%)	19,466 (59%)
Maryland	96,020 (62%)	59,740 (38%)	232,578 (23%)	796,049 (77%)	12,539* (55%)	10,372* (45%)
New Jersey	62,201 (42%)	85,263 (58%)	364,051 (23%)	1,229,820 (77%)	Not Available	Not Available
New York	1,209,756 (56%)	936,413 (44%)	393,234 (23%)	1,284,683 (77%)	162,240 (43%)	212,633 (57%)
Ohio	360,249 (56%)	282,839 (44%)	416,843 (27%)	1,126,264 (73%)	189,601 (36%)	344,377 (64%)
Pennsylvania	238,605 (61%)	154,111 (39%)	350,541 (26%)	972,303 (74%)	203,733 (41%)	293,784 (59%)
West Virginia	3,080* (25%)	9,361* (75%)	18,746 (36%)	33,588 (64%)	96,037 (55%)	77,816 (45%)

*: This estimate should be used with caution. It may be unreliable due to a small sample size.
**: This estimate was not shown due to an extremely small sample size.

Sources *February 26, 2007 National Center for Children in Poverty*

State data were calculated from the Annual Social and Economic Supplement (the March supplement) of the Current Population Survey from 2004, 2005, and 2006, representing information from calendar years 2003, 2004, and 2005. NCCP averaged three years of data because of small sample sizes in less populated states. The national data were calculated from the 2006 data, representing information from the previous calendar year.

Truscott and Truscott (2005) strongly urge urban and rural communities to embrace their commonalities and join forces as a strategy for improving their schools. In addition, these two authors acknowledge several of the challenges faced by these populations with the emphasis on the negative impact of poverty on education. Suter (2000) ,from the National Science Foundation, writes about the link between student achievement and teaching practices while arguing that the 1966 Coleman report, which initially concluded that the home background was a more influential variable on student reading achievement when completing his review of scholarly literature on curriculum research regarding international studies.

In contrast, during the 1990s, the reading achievement gap between African Americans and White students had widened (Education Trust, 2003). Economist and director/faculty co-chair of the *Achievement Gap Institute* at Harvard University , Ronald Ferguson, has conducted research on achievement gaps and reveals during an interview for the Harvard Education Letter that significant progress was realized up to 1970, but not much since 1990 (Harvard Education Letter, 2006).

However, the U.S. Secretary of Education, Margaret Spellings, noted during a press release on the launching of *Building on Results: A Blueprint for Strengthening the No Child Left Behind Act,* that the achievement gaps in reading and mathematics between African American and Hispanic nine-year-olds and their White peers have fallen to all-time lows (ED.gov, 2007

The American Institutes for Research developed a comprehensive database for the United States Department of Education which the Education Trust analyzed to identify high academic achievement among low-income children in 2001. The analysis revealed a total of 4,577 schools nationwide in the year 2000 where at least fifty percent of low-income students' reading and/or math performance were in the top third among all the schools in their state at the same grade level (Jerald, 2001). The significance of this analysis suggests that there are effective educational reforms that yield increased student achievement for high poverty and low performing schools in the United States.

Darling-Hammond (2003) asserts that creating a profession of teaching where teachers are provided with an environment conducive for continual learning is essential if we care to inspire greater achievement for children for whom education is their vehicle to success. Wise (2004) asserts that the utilization of the dysfunctional organization of the 1900s "egg carton" organization of the factory model of education which has led to many negative consequences, including the achievement gap, must be replaced with both working in teams and the continuation of preparation of teachers.

Laitsch, Lewallen, and McCloskey (2005) offer an approach for development of a framework for education in the 21st century in the following domains: high-stakes testing, the achievement gap, health and learning, and the commitment to the whole child. These domains were adopted by the Association of Supervision and Curriculum Development Leadership Council in 2004. In addition, these three authors strongly urge policymakers to consider the

existence of a valid body of knowledge that is required for educators to obtain

adequate learning and that they are responsible for assuring reliable structures of

what are in place. A pervasive staff development system serves all stakeholders

by nourishing the professional growth of adults in the system and remembering

that the primary goal is increasing student learning. However, if considerations

for strengthening faculties are dismissed, then any improvement effort may be

construed as a failure (Joyce & Showers, 1995). As a result of the

ineffectiveness of conventional professional development efforts, many districts

have hired coaches who strive to improve morale and increase student

achievement on standardized test scores by demonstrating to classroom

instructors how and why certain strategies are beneficial for student learning

(Russo, 2004).

Coaching as an Innovation for Professional Development for Reading Instruction

If reading were natural, every human being would be doing it and we, as a

nation, would not be concerned about the high percentage of adults who are

functionally illiterate despite our best educational efforts (Wren, 2004). In 1997,

Congress requested the Director of the National Institute of Child Health and

Human Development, in consultation with the Secretary of Education, to

establish a national panel to assess the status of research-based knowledge and

the effectiveness of various approaches for teaching children to read (National

Reading Panel, 2000).

Russo (2004) lists examples of urban schools in New York City,

Philadelphia, and Dallas that have embarked upon a professional development

model which utilizes coaches to support reading, writing, and math programs.

Boston Public Schools are heralded for their commitment to this innovation

through the involvement of the Collaborative Coaching & Learning process which

has contributed to the promotion of a "healthy" culture where teachers in both the

corridors and lunchroom are talking about instruction (Richardson, 2004).

> The emphasis on professional development in Reading First, a part of the No Child Left Behind Act of 2001 (2002), is an indication of the importance of teachers and the instruction they provided, specifically for reading instruction to students in Kindergarten through third grades. Likewise, the emphasis on literacy coaches in schools in Reading First legislation helps recognize the need for school leaders to rethink the ways in which professional development is delivered to classroom instructors. (Cummins, 2006, p. 140)

"Coaches" were once found only on the athletic field, yet currently

coaching for effective instruction is rapidly increasing in elementary, middle, and

high schools across North America. Effective literacy coaches support teachers

in becoming more thoughtful and knowledgeable about their instruction and help

significantly improve student outcomes (www.ncte.org). According to Harwell-

Kee (1999) coaching provides a model of respectful collegial reflection about

instructional decisions which can end with the desired results of student learning

gains, increased teacher efficacy coupled with teacher satisfaction, and a

foundational base for the promotion of a collaborative culture.

At the elementary level, literacy coaches support teachers, those who

provide literacy intervention, and those who teach in other areas, such as English

Language Learners, English as a Second Language, and Learning Support in

day-to-day core reading instruction (Moxley & Taylor, 2006). Harwell-Kee (1999)

describes how coaching can take place in many situations, including one-on-one conversations between colleagues, planned conferences, classroom observations, and group sessions where coaches reflect on what they are learning and how they are extending their knowledge base.

Bean (2004) alludes to one major criticism of most professional development models that effective coaches can satisfy which is the absence of ongoing support for the implementation of instructional strategies and/or instructional approaches. Klein and Knitzer (2007) request that state and local policymakers, along with other stakeholders in the educational community, consider investing in training strategies that will offer direct feedback about instructional practices to classroom teachers through ongoing consultation, mentoring, or coaching as a method for improving student achievement. In addition, the National Center for Children in Poverty recommends that researchers conduct experimental studies across all early learning settings to test what content and delivery methods of training best assist teachers with improving their classroom practice (Klein & Knitzer, 2007).

Traditional staff development models may include one day of teacher training or a" one-size-fits-all" presentation with the absence of administrator participation and follow-up support (Robb, 2000). The "one-shot" in-service day is losing its appeal as staff development providers evaluate other models for improving teaching and learning in schools (Allen, 2004). Sparks and Loucks-Horsley (2003) identify the five following models of staff development for

teachers: Individually Guided Staff Development, Observation/Assessment, Involvement in a Development/Improvement Process, Training, and Inquiry.

Richardson (2003) reminds us that there is a body of research regarding effective attributes of professional development models which includes the inquiry approach even though we may not observe them being implemented in practice. Classroom visitations for the purpose of observing if new instructional strategies are being applied are often met with disappointment. As with most new learning, it takes time and often additional ongoing support for evidence of successful for classroom application. Robb (2000) joins forces with those like Joyce and Showers in regards to the constructivist view of ongoing teacher training, inquiry, study sessions and professional reading for the creation of growth and change.

It is commonplace to observe that teaching is an occupation where there is little opportunity for collegial support (Schlechty, 1990). Darling-Hammond (1997) encourages teachers to move beyond their previous experiences and entertain the idea of learning by studying, doing, and reflecting. She regales classroom instructors to consider the need for collaboration with colleagues and the initiation of a careful analysis of both student work and teaching practices to inform instruction. Time and support is essential for ongoing collaborative staff research and development where there is the continual investigation of evaluating and adjusting instruction influenced by student achievement data (Wiggins & McTighe, 2006).

Collaborative growth has surfaced as a respectful strategy for supporting the promotion of lasting change in schools (Allen, 2004). Schmoker (2006) consistently offers the collaborative and inquiry models as viable options. As an example:

> Reading coaches have become an important part of professional development. They provide information and resources for teachers. Reading coaches model new teaching strategies within classrooms, and they discuss with teachers issues of concern and successful experiences. Coaches observe teachers trying new strategies and provide feedback for reflection. Coaches, who are typically master teachers, also provide ongoing support. (Morrow, 2003, p.6)

One of the major roles of a reading coach is assisting classroom instructors with planning appropriate reading instruction (Bean & Carroll, 2006). According to Moxley and Taylor (2006), another important role of a coach is to offer current, researched professional development in addition to other tasks which include feedback to their peers who implement the curriculum. In addition, Robb (2000) believes that the purpose of coaching classroom teachers is to move them beyond an individual star to improving the learning of all children. A suitable example is what Colwell and Alleman (2006) refer to as the train-the-trainers model in which the reading coach receives a day of professional development in conducting running records of students' oral reading patterns, then, in turn, the reading coach provides professional development to their colleagues on the same instructional practice, However, the reading coach supports the sustainability of the new instructional practice by meeting with the classroom instructor until there is evidence of successful implementation.

Richardson (2000), the director of publications for the National Staff Development Council, acknowledges specific attributes of exemplary professional development opportunities which include collaboration, peer coaching, data analysis, action research, and study groups. However, Richardson (2003) cites two dilemmas associated with professional development, such as how to support and mandate an inquiry approach to professional development coupled with embedding a constructivist process in coaching. The Joyce and Showers' model for coaching is influenced by two principles, the first being the evidence of the transference of new knowledge into the teaching practice and secondly, actively engaging teachers in an ongoing collaborative process (Robertson, 1992).

Although collaboration is rarely cited in the literature of the past decade that addresses effective schools, there is accumulating evidence that it influences the accomplishments of both classroom instructors and their students (Smith & Scott, 1990). The collaborative practices associated with coaching are essential to the improvement of teaching and learning. The primary rationale is the instructional effectiveness that results when classroom instructors embrace and participate collegially in school improvement and their professional growth (Smith & Scott, 1990). Helterbran & Fennimore (2004) urge early childhood educators and administrators to consider the implementation of a professional development model which includes collaboration coupled with the theoretical underpinnings of action research to ensure increased student achievement.

Snell and Janney (2005) also encourage us to embrace collaboration when the credible feedback yields the desired results for self-improvement among the collaborative peers. Feedback can be observed in the following manner: providing positive feedback, providing constructive feedback for improvement, and receiving constructive feedback for improvement (Snell & Janney, 2005).

Ladson-Billings and Gomez (2001), two university researchers and primary elementary teachers, utilized a collaborative model in an attempt to improve the early literacy skills of children who were at risk of school failure and lived in communities of poverty. Evidence from their project, "Teachers Helping Teachers" persuaded them that attempting to improve teachers' knowledge and promote sustainable change would be both slow and painful. The report, "Trying to Beat the Clock", which was released by the U. S. Department of Education in the late 90s, examined the lives of American, German, & Japanese elementary teachers and revealed that, for teachers in the United States, the lack of time for professional activities contributed to the slow pace and success of educational initiatives (Stevenson, 1998).

The U. S. Department of Education and the National Staff Development Council are two national organizations that have developed guidelines and standards for a more comprehensive approach to professional development. The Learning First Alliance is a similar organization. However, it specifically undertakes the responsibility for improving reading achievement via professional development (Grant, Young, & Montbriand, 2001).

Most school districts in the Commonwealth of Pennsylvania participate in some form of coaching initiative. There are five statewide coaching initiatives which include the *Accountability Block Grant, Classrooms for the Future, Getting to One, Pennsylvania High School Coaching Initiative*, *and Reading First*. Other coaching related initiatives include *Keystones* and *Project 720*. There are 504 school districts in the Commonwealth of Pennsylvania with only 140 school districts that did not participate in some form of coaching initiative during the 2006 – 2007 school year. This 72% participation rate illustrates how both the Commonwealth of Pennsylvania Education Department and the Local Educational Agencies in the Commonwealth of Pennsylvania view coaching as an innovation worth consideration for the delivery of professional development.

Summary

Scholarly literature that addresses issues related to professional development supports the idea of the relationship between teachers' skills and student achievement. There are many factors that influence student achievement in low performing and high poverty schools. Professional development for classroom instructors is one element that merits examination. Emerging interest is surfacing through the educational community regarding the utilization of coaches as an innovation for professional development and its impact on student learning.

Although the existence of research regarding teachers' perceptions and satisfaction of their professional development experiences has been explored extensively, there remains the absence of research on the effects of a specific

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professional development model which can produce the kinds of changes in

pedagogical practices that will support student learning. In an era in which

schools are aiming to assist every child in the United States to become a

competent and confident fluent reader by the end of third grade, it is here in

which the focus of this study offers potential insights for the Commonwealth of

Pennsylvania.

CHAPTER THREE: METHODOLOGY

Introduction

This chapter will offer the rationale for the selection of a quantitative approach. The discussion will reveal the research design and also includes the procedures utilized for analyzing the data to establish the credibility of this study.

This study identified a potentially effective delivery model for professional development that would ensure increased student achievement in early reading for students who attend low performing and high poverty schools. For the purpose of this research, low performing and high poverty schools are defined as having more than 30% of the students in the building scoring "below basic" on the 2002 Grade 5 Pennsylvania System of School Assessment and at least 14.7% of the students in the building receiving reduced or free school lunches. The schools were first compared for increased student achievement by utilizing the Local Educational Agency's 2005 and 2006 Grade 3 PSSA reading scores to determine if there was any evidence of growth. Then, an analysis was conducted to derive a conclusion regarding the effects of a coaching initiative on student achievement based on classroom teachers' beliefs and understanding coupled with the school's overall perception of their level for effective implementation of professional development, collaborative practices, instruction, and utilization of a reading coach.

Research Design

The recognition of the philosophical differences associated with the quantitative-qualitative paradigm wars among the research community must be

cited according to Chatterji (2004). It is a search for convergence of the information on a common finding or concept (Wiersma, 2000). Therefore the researcher did analyze the data from a building level self-reporting evaluation tool for a rating of their perceived implementation in the following domains: communication/collaboration, instructional practices/materials, professional development, and reading coach.

This study's research design included quantitative research design to enable the researcher to make interpretations through comparisons and partitioning of numbers (Wireman, 2000). The Pennsylvania System of School Assessment contains items that represent the content that the test is designed to measure (Gall, teal. 1999) therefore providing evidence of content validity. This test allows individual school districts and specific grade level student achievement to be compared with the performance of other students and also tell how well students are mastering skills in specific content areas.

In 1999, Pennsylvania adopted academic standards for Reading, Writing, Speaking and Listening and Mathematics. These standards identify what a student should know and be able to do at varying grade levels. School districts possess the freedom to design curriculum and instruction to ensure that students meet or exceed the standards' expectations. The annual Pennsylvania System of School Assessment (PSSA) is a standard- based criterion-referenced assessment used to measure a student's attainment of the academic standards while also determining the degree to which school programs enable students to attain proficiency of the standards.

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Every Pennsylvania student in 3rd, 5th, 8th, and 11th grade is assessed in reading, math and writing. These individual student scores, provided only to their respective schools, can be used to assist teachers in identifying students who may be in need of additional educational opportunities, and the school scores also provide information to schools and districts for curriculum and instruction improvement discussions and planning. (http://www.pde.edu)

Data Sources

The application of mixed-method approaches in research and evaluation practice cited by Greene & Caracalla (1997) suggest that establishing construct validity through convergence findings from multiple sources is achieved by combining methods so that the researcher obtains a more complete picture of the innovation being researched. Chatter (2004) notes that a pragmatic stance to utilizing mixed methods would entail a choice of methods guided by the research questions and the issues surrounding a study.

The methods utilized for collecting data for this study included a self-reporting evaluative tool for rating the level of perceived implementation of an initiative associated with the teaching of reading. Although qualitative and quantitative data may compatibly occupy the same house (Leedey, 1993), the quantitative approach for this study was utilized through the comparison analysis of the 2006 Grade 3 Pennsylvania System of School Assessment Reading scores and the responses from the self- reporting evaluative tool for implementation effectiveness for communication/collaboration, instructional materials, professional development, and the tasks related to a reading coach.

This study was comprised of existing public and archival data which is reported to the Commonwealth of Pennsylvania Department of Education as per both federal and state mandates. The Commonwealth of Pennsylvania Department of Education requires all LEAs to administer the PSSA for reading to all students in grades 3 and 5. The law under Part B-Student Reading Skills Improvement Grants, Subpart 1 provides state assistance to Leas for the teaching of reading to K-3 students who attend schools that are deemed low achieving and high poverty per self reporting to the Commonwealth of Pennsylvania Department of Education.

In addition, those LEAs who receive grant funding are required to submit documentation which includes responses from classroom instructors and building level personnel regarding their perception of the effectiveness of implementing specific tasks in the following domains: communication/collaboration, instructional practices/materials, professional development, and reading coach. This documentation is submitted to the Commonwealth of Pennsylvania Department of Education yearly to substantiate the level of implementation as one of many evaluative tools.

The information from the archival data pertaining to the implementation of a coaching initiative (e.g., evaluative tools) obtained from the Commonwealth of Pennsylvania Department of Education will be scrutinized against the Grade 3 Pennsylvania System of School Assessment reading scores to determine if the utilization of a coaching component for professional development for the teaching of reading did in fact correlate with increased student achievement.

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Two main sources of data were utilized: (1) student achievement data from the state standards-based assessments as per the requirement of the No Child Left Behind Law and (2) implementation checklist data. Both the questionnaire and checklist were obtained from archival data from the Commonwealth of Pennsylvania Department of Education.

This study used a quantitative methodology approach of inquiry to explore the effects of the utilization of a reading coach as an innovation for professional development and begin my quest for the research participants.

Data Analyses

This study was comprised of existing public and archival data, which is reported to the Commonwealth of Pennsylvania Department of Education as per both federal and state mandates. The Commonwealth of Pennsylvania Department of Education requires all Local Educational Agencies to administer the PSSA for reading to all students in grades 3 and 5. The law under Part B-Student Reading Skills Improvement Grants, Subpart 1 provides state assistance to Local Education Agencies for the teaching of reading to K-3 students who attend schools that are deemed low achieving and high poverty per self reporting to the Commonwealth of Pennsylvania Department of Education. In addition, those LEA's who receive grant funding are required to submit documentation which includes the responses from classroom instructors and building level personnel to the Commonwealth of Pennsylvania Department of Education annually to substantiate the implementation of their reading initiatives for evaluation.

The Commonwealth of Pennsylvania Department of Education in 2002 identified 161 underachieving elementary schools based on level of poverty, minorities, English Language Learners, end of the year standardized achievement measures, and the third grade PSSA in both urban and rural school settings. The kindergarten through third grade instructors of these identified schools were provided with ongoing professional development opportunities regarding reading instruction coupled with the support of an assigned reading coach. The remaining underachieving elementary schools in Pennsylvania are required to submit their professional development plan. However, these schools did not have access to a reading coach that has received extensive systematic training by national, state, and local experts in the field of early literacy skills that are associated with scientifically based reading research.

This study examined only 18 of those LEAs that submitted the 2002-2003 *Reading First* grant application (Project No. 023-03-0498) to the Commonwealth of Pennsylvania Department of Education and that may or may not have received written notification of approval from the Bureau Director as per the archival documentation. All 18 of these LEAs had more than 30% of the students in their buildings who scored "below basic" on the 2002 Grade 5 Pennsylvania System of School Assessment and at least 14.7 % of their students received reduced and free school lunches. Nine of these school districts had reading coaches that had received extensive training from national, state, and local experts in the field of early literacy. The remaining nine school districts did not utilize a coaching initiative to support professional development for kindergarten through grade 3

instructors for the teaching of reading as reported to the Commonwealth of Pennsylvania Department of Education.

The research question was answered utilizing the following design: The 18 LEAs in Pennsylvania that were deemed low performing and high poverty was identified as having more than 14.7% of students from low-income families based on the 2002 census data coupled with more than 30% of the students scoring Below Basic on the reading assessment of the 2002 Grade 5 Pennsylvania System of School Assessment. LEAs that submitted grant applications for Reading First Funding in Pennsylvania also informed the researcher of the LEAs with coaches that had received a systematic training design for reading instruction and those LEAs without coaches and/or coaches not receiving the same quality of training.

The 2005 -2006 *Pennsylvania Reading First Implementation Checklist's* Fall 2005 (Appendix A) rate of degree of implementation was reviewed in the following domains: Communication/Collaboration, Item 2, Instructional Practices/Materials, Items 1, 2, and 7, Professional Development, Item 1 and 2, and Reading Coach, Items, 2, 3, 5, 6, and 7 designed by the Reading First External Evaluation Team from the archives of the Commonwealth of Pennsylvania Department of Education. These data were utilized to determine the relationship between student achievement on the 2006 Grade 3 PSSA reading scores and the district's perceived level of implementation responses from each Local Educational Agencies that employ reading coaches. Each item has a value of 1 = No evidence of implementation, 2 = scant evidence

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implementation and/or just beginning to implement, 3 = Partial/some evidence of

implementation and/or inconsistent implementation, or 4 = Fully implemented

and/or sustained to indicate the level of implementation. The scored value was

compared to 2006 Grade 3 PSSA reading scores to determine whether or not a

relationship exists between these two variables.

Increased student achievement was measured by comparing the LEAs

Grade 3 PSSA reading scores in 2005 and 2006. The PSSA is the state

evaluation system that is utilized to assist school districts in determining the

degree to which programs are enabling students to attain proficiency on

standards. Growth in student achievement was measured by the comparison of

the Grade 3 PSSA reading scores in Spring 2005 and Spring 2006

The researcher computed the mean score for both groups of LEAs' 2006

Grade 3 PSSA percentage of students scoring advanced and proficient.

Inferential statistics was utilized to determine whether any differences between

the means are statistically significant. The t-test and ANOVA determined a

statistical significance between the professional development model with a

coaching component and without a coaching component and the 2006 Grade 3

PSSA reading scores. An analysis of covariance was utilized to permit

adjustments to the post-treatment mean scores of the LEA on increased student

achievement to compensate for the LEA's differences on variables related to

student achievement (Gall, Gall, & Borg, 1999).

Data Analysis Methods

The ANOVA or independent *t*-tests were conducted as follows:

➢ The mean Grade 3 PSSA scores of low performing and high poverty schools that utilized a coach for professional development in reading instruction that has been offered systematic research based training at regional or state levels for reading instruction compared to the mean Grade 3 PSSA scores of low performing and high poverty schools that do not utilize a coach for professional development in reading instruction that has not been offered systematic research based training at regional or state levels for reading instruction.

➢ The mean Grade 3 PSSA scores of low performing and high poverty schools where the percentage of poverty is below fifty percent compared to the mean Grade 3 PSSA scores of low performing and high poverty schools where the percentage of poverty exceeds fifty percent.

➢ The mean Grade 3 PSSA scores of low performing and high poverty schools where the class size is limited to twenty or less students prior to the school receiving grant funding for coaches compared to the mean Grade 3 PSSA scores of low performing and high poverty schools where the class size exceeds twenty students prior to the school receiving grant funding for coaches.

➢ The mean Grade 3 PSSA scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of communication and collaboration, on an average, demonstrate significantly different on the Grade 3 PSSA in reading when compared to Grade 3 PSSA reading scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that low levels of implementation were reported during the 2005-2006 school year in the domain of communication and collaboration?

➢ The mean Grade 3 PSSA scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of instructional practices and materials, on an average, demonstrate significantly different on the Grade 3 PSSA in reading when compared to Grade 3 PSSA reading scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that low levels of implementation were reported during the 2005-2006 school year in the domain of instructional practices and materials?

➢ The mean Grade 3 PSSA scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of professional development, on an average, demonstrate significantly different on the Grade 3 PSSA in reading when compared to Grade 3 PSSA reading scores of low performing and high poverty "self reporting"

schools with coaches where it is perceived that low levels of implementation were reported during the 2005-2006 school year in the domain of professional development?

➤ The mean Grade 3 PSSA scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that high levels of implementation during the 2005-2006 school year in the domain of role of the reading coach, on an average, demonstrate significantly different on the Grade 3 PSSA in reading when compared to Grade 3 PSSA reading scores of low performing and high poverty "self reporting" schools with coaches where it is perceived that low levels of implementation were reported during the 2005-2006 school year in the domain of role of the reading coach?

➤ The mean Grade 3 PSSA scores of low performing and high poverty schools located in Region 1 compared to low performing and high poverty schools located in Region 7.

➤ The mean Grade 3 PSSA scores of low performing and high poverty schools located in Region 2 compared to low performing and high poverty schools located in Region 8.

The statistical significance for each comparison was accepted by the researcher if the p value is less than .05. Whether or not a significant result has occurred is the key focus of this study.

Summary

This causal-comparative research study explored the cause and effect

relationships between the utilization of the professional development model that

included coaching and student achievement based on the 2006 Grade 3

Pennsylvania System of School Assessment test scores in reading. The following

considerations for the research design were to identify how and when the student

assessment was administered, inform the reader of when the various measures

and treatments that were administered and their duration and the description of

the experimental treatment (coach) for replication of this study (Gall, et.al., 1999).

This chapter made provisions for a foundation and understanding for the

selection and attributes of the selected scientific methodology. The

establishment for reliability and validity were stated for this study's credibility.

Chapter 4 will reveal to the reader the snapshots of the participants with the intent of creating a photo album for concluding thoughts.

CHAPTER FOUR: FINDINGS

The following chapter is a summary of the results from data analysis. First, the general findings regarding the subjects from the 2002-2003 *Reading First* grant application (Project No. 023-03-0498) are presented. Finally, results of the testing of hypotheses and other statistical analyses are revealed to suggest the effects of the utilization of a reading coach for professional development on students' early reading achievement.

This study was designed to assess the impact of a professional development model for reading instruction that utilizes a coaching component for increased student achievement as per the 2005 and 2006 Grade 3 Pennsylvania School System Assessment reading scores in high poverty and low performing schools in Pennsylvania. In addition, the study investigated whether teachers' beliefs and understanding, collaborative practices with the reading coach coupled with the schools' perceived levels of effectiveness for implementation were closely related to increased student achievement. Also, data regarding the school poverty rate and class size were examined for its effects on student achievement. Two sources of data were analyzed: (1) student achievement data from state standards-based assessments as per the requirement of the No Child Left Behind Act and (2) implementation checklist assessment data. Descriptive statistics were computed such as frequencies, percentages, and means. The student achievement data is scored based on four performance levels: Advanced, Proficient, Basic, and Below Basic. The rating of levels for the implementation survey was based on the perceptions of the various

stakeholders. The availability of the implementation effectiveness survey (See Appendix A) responses was 17 from the 22 schools that employed site based reading coaches. The surveys were obtained from the archival documentation located at the Commonwealth of Pennsylvania Department of Education.

Descriptions of Participating Schools

The main objective of this study was to offer a model of professional development for consideration that yields increased student achievement in early reading for at risk populations. Demographic data were collected from the 2002-2003 grant applications for Reading First funds acquired from the Commonwealth of Pennsylvania Department of Education. These data included the school's percentage of Grade 5 students scoring below the proficient level in reading on the Spring 2002 Grade 5 Pennsylvania System of School Assessment Reading subtest, school poverty rate, an official letter of approval for the 2002-2003 Reading First Grant application, the number of K-grade 3 students and the number of K-Grade 3 classroom instructors.

A major way in which states utilize their allocated Reading First funds is to organize a scientifically based professional development program for all kindergarten through grade 3 teachers (U.S. Department of Education, 2003). LEAs can also earmark their funds for the hiring of site based reading coaches. Reading coaches' job descriptions include the delivery of ongoing professional development for the teaching of early reading skills.

 The LEAs that were eligible for "Rounds One and Two" federal funding for their individual schools met the following criteria: more than 14.7% of the student

population was from low income families based on the 2002 Census data however the grant application specifically requested the school poverty rate, more than 30% of the students scored "Below Basic" on the reading assessment of the 2002 Grade 5 Pennsylvania School System Assessment and their schools were identified as School Improvement through state empowerment. It is clear that the poorest and neediest elementary schools in the Commonwealth of Pennsylvania need an effective instructional intervention to impact increased student achievement.

The high poverty and low performing schools in the Commonwealth are more diverse in the sense that there are 71.9% minority students compared to 36.3% in other Pennsylvania Elementary Schools. In addition, these high poverty and low performing schools have 79.5% versus 23.9% statewide of students eligible for free or reduced lunches and 10.5 % versus 2.7% statewide enrollment of English Language Learners (Reading First in Pennsylvania 2003 to 2006).

The total number of LEAs in this study is 18 and the sum of the number for the high poverty and low performing schools is 48 (n= 48). Of the 9 LEAs receiving funding, individual schools (n= 22) were selected as the experimental group based on the number of individual buildings and the location of their assigned Intermediate Units in the Commonwealth of Pennsylvania. An additional 9 LEAs with individual schools (n=26) that met the criteria and submitted a 2002-2003 grant application for the Reading First funding but did not receive funding were identified as the control group.

Testing of Major Hypotheses

The Effects of Coaching on Student Achievement

1. What is the relationship between increased student achievement as measured by comparing the schools' Grade 3 PSSA percentage of students obtaining Advanced, Proficient, Basic, and Below Basic performance levels for reading in 2005 and 2006 and a professional development model that includes a coaching component for reading instruction?

This research question addresses the effect of the utilization of a coach as an innovation for continuous professional development in reading instruction and student achievement for reading in Grade 3. Descriptive Statistics were utilized for graphing to describe the quantitative information and then contrasted with the analyses of causal relations (Vogt, 2005). Percentages were utilized to compute a mean by assigning values of 4, 3, 2, and 1 to Advanced, Proficient, Basic, and Below Basic, respectively. The mean difference across the two years for one school was much lower than all the other schools, so that school was not included in the analysis because the statistical method assumed that there are no outliers in the data.

Reading Results

Table 2

Descriptive Statistics of Reading Performance Over Time as Per the 2005 and 2006 PSSA Grade 3 Reading Scores for the Two Comparison Groups

Academic Year	N	Minimum	Maximum	Mean	SD
2004-2005	47	148.00	327.00	234.15	38.40
2005-2006	47	172.00	309.00	245.98	34.94
Difference (0506-0405)	47	-33.00	76.00	11.83	25.06

Table 2 provides the descriptive statistics for the high poverty and low performing schools that applied for funding to hire site- based reading coaches as an innovation for professional development in early reading skills and the mean of the percentage of students scoring advanced and proficient on the 2005 and 2006 Grade 3 PSSA reading subtest. The mean difference across the two years for one school was much lower than the remaining schools, thus that individual school was removed from the analysis resulting in n = 47.

The mean score for the sum of grade 3 students scoring advanced and proficient on the 2005 PSSA reading subtest for the 47 schools was 234.15 with a standard deviation of 38.40. This was paired with the mean score for the sum of Grade 3 students scoring advanced and proficient on the 2006 PSSA reading subtests. The mean score for the sum of grade 3 students scoring advanced and proficient on the 2006 PSSA reading subtest for the 47 schools was 245.98 with

a standard deviation of 34.94. The results indicate that most students did demonstrate improvement (234.15 versus 245.98) when the reading scores from the 2005 Grade 3 PSSA reading subtest were compared to the reading scores from the 2006 Grade 3 PSSA reading subtest among the sample population.

The examination of this table indicates that the majority of the schools' Grade 3 students did demonstrate improvement on the reading subtest between the 2005 and 2006 school year due to the difference in means > 0. However, it is important to note that this is not a longitudinal sample; hence it does not represent a case of schools sustaining increased student achievement from 2003 to 2006, which would ultimately indicate success.

Table 3

Summary of Independent- Samples t-Test Results on Reading Performance Over Time as Per the 2005 and 2006 PSSA Grade 3 Reading Scores for the Two Comparison Groups

| | t | df | Mean dif | 95% Confidence Interval | |
				Lower	Upper
Difference in means (0506-0405)	3.24	46	11.83*	4.47	19.19

Note. *p < .05

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An independent- samples t test was utilized to determine if a significant difference was found in the percentage of students scoring advanced and proficient on the 2005 and 2006 Grade 3 PSSA reading scores from the comparison groups (n= 47). With an alpha level of .05, the percentage of students scoring advanced and proficient on the 2005 and 2006 Grade 3 PSSA reading scores from the group that did employ reading coaches and the group that did not employ reading coaches revealed that the improvement was statistically significant, t (45) = -2.00, p=.002. This indicates that there is a difference in means between 04-05 and 05-06 with 05-06 being significantly higher than 04-05 (See Table 3).

The performance range was wide on both tests. However, the distribution of scores was shifted upward on the 2006 Grade 3 PSSA Reading subtest. Finally, the results indicate that the average amount of gain was 11.83 with some students performing at a lower level on the 2006 Grade 3 PSSA Reading subtest.

2. Is there a statistical difference between the 2006 Grade 3 PSSA Reading scores of low performing and high poverty schools that utilized coaches that have been offered systematic research based training for the teaching of Reading at both the state and regional levels from 2003 to 2006 and the 2006 Grade 3 PSSA scores of low performing and high poverty schools that did not utilize coaches as a professional development model for Reading instruction?

The second research question compares the 2005 and 2006 Grade 3 PSSA Reading subtest for the LEAs without reading coaches and the LEAs with reading coaches to determine the difference within the performance levels. The effects of the utilization of a coaching component as an innovation for early reading professional development on the 2006 Grade 3 PSSA scores was revealed by conducting the independent-samples t test.

Table 4

Descriptive Statistics of Reading Performance for the Overall Percentage Within the Comparison Groups Between 2004-05 and 2005-06

	N	Mean	SD	SEM
Difference in Means				
Control	25	15.36	28.94	5.79
Treatment	22	7.82	19.67	4.19
Difference in Percent (Adv+Prof)				
Control	25	6.52	12.37	2.47
Treatment	22	2.77	9.37	2.00

Table 4 depicts the data from the 2005 and 2006 Grade 3 PSSA Reading performance levels for the two comparison groups. The mean score for the Grade 3 students scoring advanced and proficient on the 2005 PSSA reading subtest for the 25 schools that did not employ reading coaches was 15.36 with a standard deviation of 28.94 versus the 22 schools that did employ reading

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coaches with the mean of 7.82 and standard deviation of 19.67.   Examining the

difference in the percentage of students who scored advanced and proficient in

the two groups resulted in the 25 schools without coaches having the mean of

6.52 and standard deviation of 12.37 versus the mean 2.77 with a standard

deviation of 9.37 for the 22 school that employ coaches. These results suggest

that the Grade 3 students of the 25 schools that did not employ coaches did

demonstrate a higher percentage of students scoring advanced or proficient than

the 22 schools that employed reading coaches for ongoing professional

development in early reading skills.

Table 5

Summary of Independent- Samples t-Test Results on Reading Performance for

the Overall Percentage Within the Comparison Groups

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Difference in Means									
Equal variances assumed	3.90	.06	1.03	45	0.31	7.54	7.32	-7.20	22.29
Equal variances not assumed			1.06	42.44	0.30	7.54	7.15	-6.88	21.96
Difference in Percent (Adv+Prof)									
Equal variances assumed	1.00	.32	1.16	45.00	0.25	3.75	3.24	-2.78	10.27
Equal variances not assumed			1.18	44.08	0.25	3.75	3.18	-2.66	10.16

Table 5 depicts the data from the 2005 and 2006 Grade 3 PSSA Reading performance levels. The independent –samples t test analysis indicated that there was no significant difference between the comparison groups for either variable. The mean was higher for the LEAs without reading coaches at 6.52 compared to the LEAs with reading coaches at 2.77. However, the t-test shows that the differences are probably due to chance. Assuming equal variances, the *p* value is 0.31 which is greater than the alpha level of 0.05, t (45) = 1.03, *p* .31. Furthermore, the percent difference between advanced and proficient levels is also probably due to chance. Assuming equal variances, the p value is 0.25 which is greater than the alpha level of 0.05, t (45) =1.16, p = .025.

Table 6

Descriptive Statistics of Reading Performance for the Comparison Groups and

Their Varying Percentages of Poverty

Class Size/Percentage of Poverty	N	Mean	SD
Control			
More than 20/Above 50	11	53.00	8.90
More than 20/At Most 50	1	72.00	--
At Most 20/Above 50	8	42.00	9.46
At Most 20/At Most 50	6	61.33	9.59
Treatment			
More than 20/Above 50	7	53.43	11.44
More than 20/At Most 50	3	74.33	1.53
At Most 20/Above 50	10	44.40	15.95
At Most 20/At Most 50	2	80.50	4.95
Total	48	53.35	14.83

Note. The values represent the percentage of students scoring advanced and proficient on the

PSSA.

Table 6 represents all of the schools (n= 48) and the effects of poverty on

the 2006 Grade 3 PSSA reading scores. For example, the mean score on the

2006 Grade 3 PSSA reading subtest for 11 schools in which the poverty rate was

above 50 percent and that did not employ reading coaches was 53.00 with a

standard deviation of 8.90 versus the mean score on the 2006 Grade 3 PSSA

reading subtest for 7 schools in which the poverty rate was above 50 percent and

did employ reading coaches having the mean of 53.43 with a standard deviation

of 11.44. However, due to lack of subjects and increasing large standard

deviations, these differences are probably due to chance.

A one-way ANOVA design was utilized to determine if a significant

difference existed in the percentage of students scoring advanced and proficient

on the 2006 Grade 3 PSSA reading scores and the poverty rate of the school.

Table 7

Summary of ANOVA Test Results on Reading Performance for the

Comparison Groups and Their Varying Percentages of Poverty

Source	Sum of Squares	df	Mean Square	F	p
Corrected Model	4766.82	2	2383.41	19.25**	.00
Intercept	123669.26	1	123669.26	998.74**	.00
Class Size	1015.26	1	1015.26	8.20**	.01
Poverty	4253.55	1	4253.55	34.35**	.00
Error	5572.16	45	123.83		
Total	146979.00	48			
Corrected Total	10338.98	47			

Note. R Squared = .461 (Adjusted R Squared = .437). **$p < .01$

The ANOVA test results reveal that there is a statistically significant, F (1, 45) = 34, 35, *p* < .01 for the poverty category. The percentage of poverty had a significant effect on the 2006 PSSA reading scores. The schools that reported having students with less than a 50 percent poverty rate had a higher percentage of students scoring advanced and proficient on the 2006 PSSA reading scores (M=72.00; M=61.33; M=74.33; M=80.50) than schools with greater than 50 percent poverty rate (M=53.00; M=42.00;M=53.43;M=44.50)

Class Size and Student Achievement

Table 8

Descriptive Statistics of Reading Performance for Comparison Groups and the Effects of Class Size and Poverty Status

Poverty Status	N	Mean	SD
Large Class			
High Poverty	18	53.17	9.64
Low Poverty	4	73.75	1.71
Small Class			
High Poverty	18	43.33	13.15
Low Poverty	8	66.13	12.16
Overall	48	53.35	14.83

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 8 presents the data from the percentage of students scoring advanced and proficient on the 2006 PSSA reading subtests and the class size for both the LEAs without reading coaches and the LEAs with reading coaches (n=48). The schools that reported having 20 or more students enrolled in kindergarten through grade 3 were identified as a large class size. The schools that reported having 20 or less students enrolled in kindergarten through grade 3 were identified as a small class size. The mean score for the sum of grade 3 students scoring advanced and proficient on the Grade 3 PSSA reading subtest for the 22 schools with 20 or more students assigned to classrooms in kindergarten through grade 3 was (n= 18) 53.17 and (n= 4) 73.75 with a standard deviation of (n= 18) 9.64 and (n= 4) 1.71 respectively. The mean score for the sum of grade 3 students scoring advanced and proficient on the Grade 3 PSSA reading subtest for the 26 schools with 20 or less students assigned to classrooms in kindergarten through grade 3 was (n= 18) 43.33 and (n= 8) 66.13 with a standard deviation of (n=18) 13.15 and (n= 8) 12.16. These results suggest that a large class size did affect student performance in reading as measured by the 2006 Grade 3 PSSA reading scores.

Table 9

Summary of One Way Analysis of Variance (ANOVA) Results on

Reading Performance for Comparison Groups and the Effects of Class

Size and Poverty Status

Source	Sum of Squares	df	Mean Square	F	p
Corrected Model	4766.82	2	2383.41	19.25**	.00
Intercept	123669.26	1	123669.26	998.74**	.00
Class Size	1015.26	1	1015.26	8.20**	.01
Poverty	4253.55	1	4253.55	34.35**	.00
Error	5572.16	45	123.83		
Total	146979.00	48			
Corrected Total	10338.98	47			

Note. R Squared = .461 (Adjusted R Squared = .437). **p<.01

Table 9 presents the analysis of a one-way ANOVA test which was utilized

to determine if a significant difference existed between class size prior to the LEA

receiving the funding source for the employment of reading coaches and the

percentage of students scoring advanced and proficient on the 2006 Grade 3

PSSA reading subtest. The results indicate that the larger class size led to a

higher percentage of students scoring at the Advanced or Proficient performance

levels, The ANOVA test results reveal that there is a statistically significant, F (1, 45) = 34, 35, *p* < .001.

Class size had a significant effect on the 2006 PSSA reading scores. The data results suggest that a larger class size leads to a higher percentage of students scoring advanced and proficient. However, it can be assumed that early childhood classrooms that exceed the enrollment of 20 or more students can obtain high performance levels on criterion based assessments.

3. Do results from the 2006 Grade 3 PSSA reading scores provide evidence that a specific type of professional development model can influence increased student achievement in low performing and high poverty schools?

This research question addresses the various considerations for the utilization of a coaching component for professional development. In addition, it specifically gives attention to the influence this specific type of professional development model has on the Grade 3 PSSA reading subtests in low performing and high poverty schools in the Commonwealth of Pennsylvania.

All the coaches in the Commonwealth of Pennsylvania were offered basically the same systematic and content related professional development opportunities. However on several occasions differentiation was required to meet the participants' unique needs for their regional location. A comparison of

regional location was explored for its effect on the percentage of students scoring

at the Advanced or Proficient levels on the 2006 Grade 3 PSSA reading scores.

Regional Location and Student Achievement

Table 10

Descriptive Statistics of Reading Performance for Schools with

Reading Coaches and the Effects of the Coaches' Regional Location

Regional Location	N	Mean	SD
1	4	63.75	5.74
2	9	40.33	14.11
3	3	66.67	14.47
7	1	51.00	--
8	5	66.60	17.44
Total	22	54.64	17.81

Note. The values represent the percentage of students scoring advanced and

proficient on the PSSA.

Table 10 provides the descriptive statistics for the regional location of 22

schools in the Commonwealth of Pennsylvania that employ reading coaches and

the mean of the percentage of students scoring advanced and proficient on the

2006 Grade 3 PSSA reading subtest. The mean score for the sum of Grade 3

students scoring advanced and proficient on the 2006 Grade 3 PSSA reading

subtest for the 4 schools in region 1 was 63.75 with a standard deviation of 5.74,

for the 9 schools in region 2 it was 40.33 with a standard deviation of 14.11, for

the 3 schools in region 3 it was 66.67 with a standard deviation of 14.47, for the1

school in region 7 it was 51.00, and for the 5 schools in region 8 it was 66.60 with

a standard deviation of 17.44.

This table shows how regions1 (M = 63.75, SD 5.74), 3 (M = 66.67, SD

14.47) and 8 (M = 66.60, SD = 17.81) scored relatively close when the standard

deviations are taken into account. Region 2 (M = 40.33, SD =14.11) had the

lowest score with respect to means of the percentage of students scoring

advanced or proficient on the 2006 PSSA reading subtest. These results indicate

that Region 2 may have a unique variable that is not included in Regions 1, 3,

and 8 which affects student performance in reading as measured by the 2006

Grade 3 PSSA reading subtest.

Table 11

Summary of One Way Analysis of Variance (ANOVA) Results on Reading

Performance for the Effects of the Coaches' Regional Location

Source	Sum of Squares	df	F	p
Between Groups	3336.47	4	4.26*	.01
Within Groups	33326.62	17		
Total	6663.09	21		

*p<.05. **p<.01

Table 11 above indicates that a coach's regional location does have a

statistically significant effect (*p* = 0.01) on the percentage of students scoring at

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the Advanced and/or Proficient performance levels on the 2006 Grade 3 PSSA reading scores. With an alpha level of .05, a coach's regional location in the Commonwealth of Pennsylvania and the percentage of students scoring at the Advanced and Proficient levels on the 2006 Grade 3 PSSA reading subtest was statistically significant, $F_{(4, 17)} = 4.26$, $p < 0.01$ This indicates that the regions had an effect on the means of the scores, where regions 1, 3, and 8 had similar scores and region 2 had the lowest score. It should be noted that the 9 schools in region 2 have a higher population of English Language learners than the other regions and experience a pattern of students migrating to their native countries for extended periods of time and then returning to these 9 schools through out their early childhood education.

The elementary buildings in each LEA completed an implementation checklist. The checklist is intended to serve as a self rating evaluation tool for assessing the level of implementation effectiveness during the 2005-2006 school year regarding early reading instruction in Kindergarten through Grade 3. The following information pertains to the Fall 2005 ratings for communication and collaboration, instructional practices and materials, professional development, and the reading coach.

A School's Perception Level of Implementation and Student Achievement

In the current educational climate it is important for all the major stakeholders to assess the level of implementation of their initiatives for effectiveness based on student achievement data. To determine if a school's perception ratings for implementation had an impact on the student achievement

in this study, the researcher ran a means comparison to analyze the possibility that the ratings on the implementation checklist had a positive impact on student performance as measured on the 2006 Grade 3 PSSA reading scores. The results of the analyses are summarized in Tables 12 through 29. The data from the Fall 2005 school's perception level of implementation regarding communication/collaboration, instructional practices/materials, professional development, and reading coach were collected from the documentation retrieved from the Commonwealth of Pennsylvania Department of Education.

The mean values were defined as the percentage of students scoring advanced and proficient in the subgroup of schools' rating of 1 = No evidence of implementation, 2 = Scant evidence of implementation, 3 = Some evidence of implementation, or 4 = Fully implemented on the self reporting evaluation for the level of implementation effectiveness.   A review of the results established no statistically significant difference between the 2006 Grade 3 PSSA reading scores and the ratings of the 17 schools with reading coaches level of implementation effectiveness in the various domains.

Table 12

Descriptive Statistics of Reading Performance for Schools with Reading

Coaches and the Schools' Perceived Level of Implementation Rating for the Fall

2005 Grade Level Meetings for Assessment Data Discussion

Level of Implementation	N	Mean	SD	SEM
High Degree	11	57.64	19.98	6.02
Low Degree	6	43.17	11.70	4.78

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 12 provides the descriptive statistics for communication and collaboration among the staff for discussion of assessment data at grade level team meetings for the monitoring of student progress toward reading benchmark goals and the mean of the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the 11 schools that rated this survey item as being partially implemented with some evidence of implementation and/or inconsistent implementation or fully implemented and/or can demonstrate sustainability was 57.67 with a standard deviation of 19.98. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the remaining 6 schools indicate that their level of effective implementation as being at the initial stage and that there was scant evidence or no evidence of

implementation to demonstrate their competence in this domain was 43.17 with a

standard deviation of 11.70. The 11 schools that reported a higher level rating of

effective implementation also had higher percentages of students scoring

advanced or proficient (M = 57.64, SD = 19.98) than the 6 schools that rated their

level of implementation as just beginning (M = 43.17, SD = 11.70). These results

indicate that a high rating level for implementation in this domain did not correlate

with a higher percentage of students scoring advanced and proficient as

measured by the 2006 Grade 3 PSSA reading subtest

Table 13

Summary of Independent – Samples t-Test Results on Reading Performance for

Schools with Reading Coaches and the Schools' Perceived Level of

Implementation Rating for the Fall 2005 Grade Level Meetings for Assessment

Data Discussion

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	1.70	.21	1.62	15	.13	14.47	8.96	-4.63	33.57
Equal variances not assumed			1.88	14.81	.08	14.47	7.69	-1.93	30.87

The self evaluation ratings that addressed the level of effectiveness for

the implementation of collaborative practices are provided in Table 13 above.

The Independent Samples t-Test was utilized to determine if a significant difference was found between the evaluation ratings and the percentage of students scoring advanced and proficient of the 2006 Grade 3 PSSA reading subtest. An alpha level of 0.05 and the *p*-value 0.13, showed that there is no significant difference between a high rating level of implementation for communication and collaboration and the percentage of students scoring Advanced or Proficient on the 2006 Grade PSSA reading scores.

Historically, core programs have been referred to as a basal reading program that served as the foundation for reading instruction. According to Simmons & Kame'enui (2003) from the University of Oregon, a core reading program is the primary instructional tool that teachers utilize to teach children to learn to read and ensure they reach reading levels that meet or exceed grade-level standards. In addition, these authors emphasize the importance of a core program addressing the instructional needs of the majority of the students in a respective school or district. Table 13 provides a comparison of the level of rating of implementation effectiveness of the reading program with fidelity and student achievement.

Table 14

Descriptive Statistics of Reading Performance for Schools with Reading Coaches

and the Schools'' Fall 2005 Perceived Level of Implementation Rating for

Implementing Programs and Materials With a High Level of Fidelity

Level of Implementation	N	Mean	SD	SEM
High Degree	7	59.14	19.54	7.39
Low Degree	10	47.90	17.25	5.45

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 14 provides the descriptive statistics for instructional practices and

materials and the mean of the percentage of students scoring advanced and

proficient on the 2006 Grade 3 PSSA reading subtest. Specifically, the classroom

instructor's utilizing a scientifically-based comprehensive core reading program

for reading instruction during an uninterrupted ninety minute reading block. The

mean score for the sum of grade 3 students scoring advanced and proficient on

the PSSA reading subtest for the 7 schools that rated this survey item as being

partially implemented or fully implemented was 59.14 with a standard deviation of

19.54. The mean score for the sum of grade 3 students scoring advanced and

proficient on the PSSA reading subtest for the remaining 10 schools indicated

that their level of effective implementation as being at the initial stage and that

there was scant evidence to demonstrate their competence in this area was

47.90 with a standard deviation of 17.25. The schools that reported a higher

rating level of effective implementation also have a higher percentage of students

scoring advanced or proficient (M = 59.14, SD = 19.54) than those schools

reporting scant evidence of implementation (M = 47.90, SD = 17.25). These

results indicate that a higher level of implementation effectiveness did not

correlate with a higher percentage of students performing well in reading as

measured by the 2006 Grade 3 PSSA.

Table 15

Summary of Independent – Samples t-Test Results on Reading Performance for

Schools with Reading Coaches and the Schools' Fall 2005 Perceived Level of

Implementation Rating for Programs and Materials

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.01	.76	1.25	15	.23	11.24	8.97	-7.87	30.36
Equal variances not assumed			1.23	11.96	.24	11.24	9.18	-8.77	31.25

The Independent Samples t-Test was utilized to determine if a significant

difference was found between the evaluation ratings and the percentage of

students scoring advanced and proficient for the 2006 Grade 3 PSSA reading

subtest. The t- test analysis indicates that 7 out of 17 schools had a mean of

59.1429 students scoring at the Advanced and Proficient levels on the 2006

Grade3 PSSA reading subtest. An alpha level of 0.05 and the significance level

of the one-tailed test is 0.23. There is not a significant difference between a high

rating level of implementation effectiveness of reading curricular resources with

fidelity and the percentage of students scoring Advanced or Proficient on the

2006 Grade PSSA reading scores.

Table 16

Descriptive Statistics of Reading Performance for Schools with Reading

Coaches and the Schools' Fall 2005 Rating for Having A Data Driven

Professional Development Plan in Place

Level of Implementation	N	Mean	SD	SEM
High Degree	7	55.86	19.21	7.26
Low Degree	10	50.20	18.68	5.91

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 16 provides the descriptive statistics for the schools that complete

data driven professional development influenced by student achievement from

multiple sources of formative assessments and the mean of the percentage of

students scoring advanced and proficient on the 2006 Grade 3 PSSA reading

subtest. The mean score for the sum of grade 3 students scoring advanced and

proficient on the PSSA reading subtest for the 7 schools that rated this survey

item as being partially implemented or fully implemented was 55.86 with a

standard deviation of 19.21. The mean score for the sum of grade 3 students

scoring advanced and proficient on the PSSA reading subtest for the remaining 10 schools that indicated that their level of effective implementation as being at the initial stage and that there was scant evidence to demonstrate their competence in this area was 50.20 with a standard deviation of 18.68. The schools that reported a higher rating level of effective implementation also had higher percentages of students scoring advanced and proficient (M= 55.86, SD = 19.21) than those that reported scant evidence of effective implementation (M = 50.20), SD = 18.68). These results indicate that a higher rating level of implementation did not correlate with a higher percentage of students performing well in reading as measured by the 2006 Grade 3 PSSA.

Table 17

Summary of Independent - Samples t-Test Results on Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for Having A Data Driven Professional Development Plan in Place

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.01	.92	.61	15	.55	5.66	9.31	-14.19	25.51
Equal variances not assumed			.60	12.83	.57	5.66	9.36	-14.60	25.91

Table 17 displays the results of the self-rating tool for the effectiveness of the professional development planning in each school. An alpha level of 0.05 and a *p*-value of 0.55 indicates that there is no significant difference between a high rating level of implementation effectiveness for the existence of a data driven professional development plan and the percentage of students scoring at the advanced or proficient levels on the 2006 Grade 3 PSSA reading subtest, t (15) = .61, *p*= .55.

Table 18

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for Having A Scientifically Based, Ongoing Professional Development Plan in Place

Level of Implementation	N	Mean	SD	SEM
High Degree	10	57.20	18.64	5.90
Low Degree	7	45.86	17.47	6.60

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 18 provides the descriptive statistics for the provision of an appropriate, scientifically-based and ongoing professional development for all kindergarten through grade 3 classroom instructors, reading coaches, K-12 Special Education instructors, building principals, and other educational specialists including leadership team members and assessment team members and the mean percentage of students scoring advanced and proficient on the

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2006 Grade 3 PSSA reading subtest. The mean score of the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the 10 schools that rated this survey item as being partially implemented or fully implemented was 57.20 with a standard deviation of 18.64. The mean score for the sum of grade 3 students scoring advanced or proficient on the PSSA reading subtest for the remaining 7 schools that indicated that their level of effective implementation as being at the initial stage and that there was scant evidence to demonstrate their competence in this area was 45.86 with a standard deviation of 17.47. The schools that reported a rating for a higher degree of effective implementation also had a higher percentage of students scoring advanced or proficient (M = 57.20, SD = 18.64) than the schools that rated the level of effective implementation (M = 45.86, SD = 17.47). These results indicate the more perceived levels of effective implementation did not affect the students' performance in reading as measured by the 2006 Grade 3 PSSA reading scores.

Table 19

Summary of Independent - Samples t-Test Results on Reading Performance for

Schools with Reading Coaches and the Schools' Fall 2005 Rating for Having A

Scientifically Based, Ongoing Professional Development Plan in Place

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.00	.97	1.27	15	.23	11.34	8.96	-7.75	30.44
Equal variances not assumed			1.28	13.61	.22	11.34	8.85	-7.69	30.38

In Table 19 above, a t-test was utilized to determine if a significant difference was found in the self-evaluation of professional development planning and the percentage of students scoring at the advanced and proficient performance levels on the 2006 Grade 3 PSSA reading subtest. With an alpha level of .05, the rating score for the planning of professional development was not statistically significant, $t(15) = 1.27$, $p = .23$.

Table 20

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for Providing ELL and K- Grade 12 Special Education Instructors with Professional Development in Research Based Strategies

Level of Implementation	N	Mean	SD	SEM
High Degree	5	58.00	23.16	10.36
Low Degree	12	50.25	16.87	4.87

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 20 provides the descriptive statistics for the implementation of professional development in research based strategies exclusively for English Language Learners and the kindergarten through grade 12 Special Education instructors and the mean of the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. The mean score for the sum of Grade 3 students scoring advanced and proficient on the PSSA reading subtest for the 5 schools that rated this survey item as being partially implemented or fully implemented was 58.00 with a standard deviation of 23.16. The mean score for the sum of Grade 3 students scoring advanced and proficient on the PSSA reading subtest for the remaining 12 schools that indicated that their level of effective implementation as being at the initial stage and that there was scant evidence to demonstrate their competence in this area was 50.25 with

a standard deviation of 16.87. The 5 schools that reported a higher rating of

implementation also had a higher percentage of students scoring advanced or

proficient on the 2006 Grade PSSA reading subtest (M = 58.00, SD 23.16) than

those that rated their perceived level of implementation as not having any

evidence or scant evidence of implementation (M = 50.25. SD 16.87). These

results indicate that a higher rating for effective implementation did not affect a

higher percentage of students scoring advanced and proficient levels as

measured by the 2006 Grade 3 PSSA reading scores

Table 21

Summary of Independent - Samples t- Test Results on Reading Performance

for Schools with Reading Coaches and the Schools' Fall 2005 Rating for

Providing ELL and K- Grade 12 Special Education Instructors with Professional

Development in Research Based Strategies

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.65	.43	.78	15	.45	7.75	9.99	-13.53	29.03
Equal variances not assumed			.68	5.86	.52	7.75	11.45	-20.42	35.92

Table 21 represents the rating level of implementation effectiveness for

professional development activities for staff who specifically provide instruction

for English Language Learners and students who required Special Education

services. A t-test was utilized to determine if a significant difference was found in the self-evaluation of professional development planning and the percentage of students scoring at the advanced and proficient performance levels on the 2006 Grade 3 PSSA reading subtest. With an alpha level of .05, the differences between the rating score for the planning of professional development and the percentage of students scoring advanced and proficient was not statistically significant, t (15) = .78, *p*= .45.

Table 22

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for Providing Differentiated Professional Development That Targets the Identified Needs for All Stakeholders

Level of Implementation	N	Mean	SD	SEM
High Degree	7	55.86	19.21	7.26
Low Degree	10	50.20	18.69	5.90

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 22 provides the descriptive statistics for the implementation of differentiated professional development that targets the identified needs for principals, reading coaches, instructors, and other staff such as paraprofessionals and the mean of the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA

reading subtest for the 7 schools that rated this survey item as being partially

implemented or fully implemented was 55.86 with a standard deviation of 19.21.

The mean score for the sum of grade 3 students scoring advanced and proficient

on the PSSA reading subtest for the remaining 10 schools that indicated that

their level of effective implementation as being at the initial stage and that there

was a scant of evidence to demonstrate their competence in this area was 50.20

with a standard deviation of 18.69. The 7 schools that reported a higher rating of

implementation also had a higher percentage of students scoring advanced or

proficient on the 2006 Grade PSSA reading subtest (M = 55.86, SD 18.69) than

those that rated their perceived level of implementation as not having any

evidence or scant evidence of implementation (M = 50.20. SD 18.69).

Table 23

Summary of Independent - Samples t- Test Results on Reading Performance

for Schools with Reading Coaches and the Schools' Fall 2005 Rating for

Providing Differentiated Professional Development That Targets the Identified

Needs for All Stakeholders

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.01	.92	.61	15	.55	5.66	9.31	-14.19	25.51
Equal variances not assumed			.60	12.83	.57	5.66	9.36	-14.60	25.91

Table 23 indicates that there is no significant difference between the high rating level of implementation effectiveness for differentiated professional development and the percentage of students scoring Advanced or Proficient on the 2006 Grade 3 PSSA reading scores. A t-test was utilized to determine if a significant difference was found in the self-evaluation of professional development planning and the percentage of students scoring at the advanced and proficient performance levels on the 2006 Grade 3 PSSA reading subtest. With an alpha level of .05, the differences between the rating score for the planning of professional development and the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA was not statistically significant, t (15) = .61, *p*= .55.

Table 24

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the Reading Coaches Working With and Supporting Kindergarten Through Grade 3 Instructors and Kindergarten Through Grade 12 Special Education Instructors

Level of Implementation	N	Mean	SD	SEM
High Degree	14	53.43	19.72	5.28
Low Degree	3	48.33	13.58	7.84

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 24 provides the descriptive statistics for the employment of a site based reading coach to work with and support kindergarten through grade 3 instructors and kindergarten through grade 12 special education instructors and the mean of the percentage of students scoring advanced and proficient on the 2006 grade 3 PSSA reading subtest. The mean score for the sum of grade 3 students scoring proficient and advanced on the PSSA reading subtest for the14 schools that rated this survey item as being partially implemented or fully implemented was 53.43 with a standard deviation of 19.72. The mean score for the sum of grade 3 students scoring proficient and advanced on the PSSA reading subtest for the remaining 3 schools that indicated that their level of effective implementation was at the initial stage, and that there was scant evidence to demonstrate their competence in this area at 48.33 with a standard deviation of 13.58. The schools that reported a higher degree of effective implementation also had a higher percentage of students scoring advanced and proficient (M = 53.43, SD =19.72 than those schools that reported having scant or no evidence of implementation (M= 48.33, SD = 13.58). These results indicate that the self reporting of effective implementation appears to correlate with a higher percentage of students scoring advance and proficient on the 2006 Grade 3 PSSA reading subtest.

Overall, the percentage of students scoring at the advanced or proficient level on the grade 3 PSSA reading subtest was not statistically influenced by the school's rating scores for their self perceived levels of implementation for the availability of a reading coach to support the instructional staff. This suggests that

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student achievement was not necessarily affected by the instructor having

support from the reading coach.

Also, of great interest is the lower scale rating for levels of implementation

e.g., "just beginning" and "inconsistent implementation" surfacing in this domain

when the staff included kindergarten – grade 12 Special Education Instructors.

This phenomenon could have occurred due to the reading coaches being

assigned only to elementary school buildings to perform their daily tasks and only

being available to provide professional development to the middle and high

school staff a few times during the school year at the designated district –wide

training days.

Table 25

Summary of Independent - Samples t- Test Results on Reading Performance

for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the

Reading Coaches Working With and Supporting Kindergarten Through Grade 3

Instructors and Kindergarten Through Grade 12 Special Education Instructors

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.90	.36	.42	15	.68	5.10	12.10	-20.69	30.88
Equal variances not assumed			.54	4.09	.62	5.10	9.45	-20.91	31.10

Table 25 presents the analysis of the *Independent Samples Test* comparing the school's self- reporting rating level of implementation effectiveness for the hiring of a highly qualified site- based reading coach for the delivery of professional development and the percentage of students scoring Advanced or Proficient on the 2006 Grade 3 PSSA reading scores. With an alpha level of .05, the employment of a highly qualified site- based reading coach for the delivery of professional development and the percentage of students scoring advanced or proficient on the 2006 PSSA reading subtest was not statistically significant, t (15) = .42, *p* = .68. Overall, the percentage of students scoring at the advanced or proficient level on the Grade 3 PSSA reading subtest was not statistically influenced by the school's rating scores for their self-perceived levels of implementation for the availability of a reading coach to support the instructional staff. This suggests that student achievement was not necessarily affected by the instructor having support from the reading coach.

Table 26

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the Reading Coaches Developing and Maintaining a Schedule for Coaching Teachers

Level of Implementation	N	Mean	SD	SEM
High Degree	14	52.22	24.19	8.06
Low Degree	3	51.75	10.67	3.77

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 26 provides the descriptive statistics for the implementation rating level for the reading coach developing and maintaining a schedule for coaching teachers and the mean of the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. The mean score for the sum of Grade 3 students scoring advanced and proficient on the PSSA reading subtest for the 14 schools that rated this survey item as being partially implemented or fully implemented was 52.22 with a standard deviation of 24.19. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the remaining 3 schools that indicated that their level of effective implementation as being at the initial stage and that there was scant evidence to demonstrate their competence in this area was 51.75 with a standard deviation of 10.67. The 14 schools that reported a higher rating of implementation also had a higher percentage of students scoring advanced or proficient on the 2006 Grade PSSA reading subtest (M = 52.22, SD 24.19) than those that rated their perceived level of implementation as not having any evidence or scant evidence of implementation (M = 51.75. SD 10.67). These results indicate that a slightly higher rating for effective implementation appears to affect a higher percentage of students scoring advanced and proficient levels as measured by the 2006 Grade 3 PSSA reading scores

Table 27

Summary of Independent - Samples t-Test Results on Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the Reading Coaches Developing and Maintaining a Schedule for Coaching Teachers

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	8.99	.01*	.16	15	.88	1.47	9.29	-18.32	21.27
Equal variances not assumed			.17	11.27	.87	1.47	8.90	-18.07	21.01

*p<.01

Table 27 depicts the data from the self-reporting rating level of implementation effectiveness for the reading coach developing and maintaining a schedule for supporting classroom instructors with reading instruction and the percentage of students scoring Advanced or Proficient on the 2006 Grade 3 PSSA reading scores with an alpha level of 0.05 and a *p*-value of 0.88, the analysis reveals that there is no significant difference between a high rating level of implementation effectiveness and reading results, t (15) = .16, *p* = .88.

Table 28

Descriptive Statistics of Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the Reading Coache's Documentation of Assistance

Level of Implementation	N	Mean	SD	SEM
High Degree	14	52.14	19.91	5.32
Low Degree	3	54.33	12.70	7.33

Note. The values represent the percentage of students scoring advanced and proficient on the PSSA.

Table 28 provides the descriptive statistics for the implementation rating level for the reading coach documenting detailed descriptions of how she/he provides support to the instructional staff and the mean of the percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the 14 schools that rated this survey item as being partially implemented or fully implemented was 52.14 with a standard deviation of 19.91. The mean score for the sum of grade 3 students scoring advanced and proficient on the PSSA reading subtest for the remaining 3 schools that indicated that their level of effective implementation as being at the initial stage and the mean score demonstrating their competence in this area was 54.33 with a standard deviation of 12.70. The 3 schools that reported a lower rating of implementation unexpectedly had a higher percentage of students

scoring advanced or proficient on the 2006 Grade PSSA reading subtest (M = 54..33, SD 12.70) than those that rated their perceived level of implementation as being partially in place and fully in place (M = 52.14. SD 19.91).

Table 29

Summary of Independent - Samples t-Test Results on Reading Performance for Schools with Reading Coaches and the Schools' Fall 2005 Rating for the Reading Coaches' Documentation of Assistance

	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	Sig.	Mean diff	SED	Lower	Upper
Sum of Adv+Prof									
Equal variances assumed	.89	.36	-.16	15	.86	-2.19	12.16	-28.10	23.72
Equal variances not assumed			-.24	4.47	.82	-2.19	9.06	-26.34	21.96

Table 29 presents the 2006 Grade 3 PSSA percentage of students scoring at the performance levels of Advanced and Proficient in reading and a high rating level of implementation effectiveness for the reading coach documenting his/her work with instructors. A t-test was utilized to determine if a significant difference was found in the self-evaluation of the reading coach maintaining records that indicate how they work with instructors and the percentage of students scoring at the advanced and proficient performance levels on the 2006 Grade 3 PSSA reading subtest. With an alpha level of .05, the rating score for the effectiveness

of the reading coach documenting their work with instructors and the percentage

of students scoring advanced or proficient on the 2006 PSSA reading subtest

was not statistically significant, t (15) = -.18, p= .86.

Summary of Major Findings

The data suggest that evidence exists as per the 2006 Grade 3 PSSA that

shows there is increased student achievement in early reading in high poverty

and low performing schools in the Commonwealth of Pennsylvania. However, it

does not appear that a strong correlation exists between the utilization of a

reading coach and increased student achievement. In fact, the schools that did

not include reading coaches in their professional development model

demonstrated higher student achievement on the 2006 Grade 3 PSSA reading

subtest.

It is noted that the percentage level of poverty did have a significance

effect on the 2006 Grade 3 reading scores. The lower the level of poverty the

higher the performance levels were on the 2006 Grade 3 PSSA. Therefore,

suggesting that poverty influenced student achievement.

When addressing class size, the data results revealed that grade 3

classes that exceeded 20 students did better on the Grade 3 PSSA reading

subtests. Specifically, the larger class size was accompanied by a higher

percentage of students scoring Advanced or Proficient.

Finally, there was no significant difference between the self-reporting of a

districts' high rating level of implementation effectiveness in the domains of

communication and collaboration, instructional materials, professional

development, and the reading coach and the percentage of students scoring

Advanced or Proficient on the 2006 Grade 3 PSSA reading subtest.

The next chapter will present a discussion of these findings, additionally

the implications for practice and include suggestions for further research.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was conducted in order to evaluate the effectiveness of a specific professional development model designed to increased student achievement for early reading skills in forty-eight high poverty and low performing schools in the Commonwealth of Pennsylvania. This research study was designed to (1) determine whether the utilization of a reading coach for professional development affected student achievement in reading or grade 3 students (2) measure the schools' perception levels of implementation effectiveness in the following domains: communication and collaboration, instructional practices and materials, professional development, and task related behaviors of reading coaches to determine if a correlation exists between these variables and the percentage of grade 3 students scoring advanced and proficient on an annual standards-based criterion reference assessment for reading.

The researcher selected 18 Local Educational Agencies in the Commonwealth of Pennsylvania that had 48 schools that were deemed high poverty and low performing in 2003 as per the archival data obtained from the Commonwealth of Pennsylvania Department of Education. The documentation also revealed the 22 individual schools that did employ reading coaches and the 26 schools that did not obtain reading coaches for the implementation of professional development exclusively for early reading instruction. The 2005 and 2006 Grade 3 PSSA reading scores for the schools with reading coaches and the

schools without reading coaches were explored to determine the difference within the performance levels.

The 22 schools chosen for this study employ a ratio of one reading coach for every twenty-four classroom instructors in kindergarten through grade 3. The reading coaches have been available to support instructors from 2003 to 2006 in high poverty and low performing schools throughout the Commonwealth of Pennsylvania.

During this period of time reading coaches have been offered state and regional professional development that addressed strategies for utilizing scientifically based reading instruction for early reading skills. The primary role of the reading coach is to provide ongoing job- embedded professional development for early reading skills to classroom instructors in the early grades.

Guskey and Sparks (1996) state there is an assumption that exists among educational researchers and leaders which suggests a strong correlation between professional development and the improvement of student learning although clarification of the relationship remains open for exploration. This study explores the utilization of a reading coach as an innovation for professional development and student achievement on the Grade 3 PSSA reading scores.

Based on current knowledge of professional development models, it was hypothesized that a professional development model which included a coaching component for ongoing site- based professional development for early reading instruction will yield increase student achievement in high poverty and low performing schools in the Commonwealth of Pennsylvania. Ladson-Billings and

Gomez (2001), two university researchers and primary elementary teachers attempted to improve the early literacy skills of children who were at risk of school failure and lived in communities of poverty utilizing a collaborative model. Evidence from their project, "Teachers Helping Teachers" persuaded them that attempting to improve teachers' knowledge and promote sustainable change would be both slow and painful. In continuation of their prior work, this study was designed to determine the impact of a specific professional development model that did indeed improve student learning in reading.

This study was focused on correlating the utilization of a reading coach for professional development with student achievement results on early reading skills for grade3 students in high poverty and low performing schools. The demographic factors derived from the 2002-2003 *Reading First* grant application (Project No. 023-03-0498).

Statistical procedures were performed initially to obtain data to determine if any of the 48 high poverty and low performing schools from the 18 LEAs demonstrated increased student achievement on the 2006 Grade 3 PSSA reading subtests by comparing the mean scores from the 2005 Grade 3 PSSA reading subtests and the mean scores from the 2006 Grade 3 PSSA reading subtests. It is essential to note that the mean difference across the two years for one school was much lower than the remaining schools thus that individual school was removed from the analysis resulting in 47 schools out of a possible 48. Twenty-nine (29) out of the forty-seven (47) schools demonstrated improvement on the 2006 Grade 3 PSSA reading subtest. A high percentage of

poverty did have a significant effect on increased student achievement whereas class size did not.

The comparison groups' students' 2005 and 2006 Grade 3 PSSA Grade 3 reading scores were compared to determine the effects of the utilization of a coaching component as an innovation for professional development regarding the teaching of early reading skills on student achievement. The analysis indicated that there was no significant difference between the comparison groups for either variable. In fact, several of the schools without reading coaches in the sample exhibited more improvement than the schools with reading coaches.

However, there was a statistically significant relationship between the percentages of poverty and increased student achievement on the 2006 Grade 3 PSSA Reading subtest. The lower the percentage of poverty resulted in a higher percentage of students scoring advanced and proficient on the 2006 Grade 3 PSSA reading subtest. Poverty is known as a potential catalyst for depressing academic attainment (Goldenberg, 2004). There is an insurmountable amount of research and efforts that implies an awareness of the sense of urgency for addressing students who are under performing especially in the development of early literacy (Neuman & Dickinson, 2001). The National Center for Children in Poverty recommends that researchers conduct experimental studies across all early learning settings to test what content and delivery methods of training best assist teachers with improving their classroom practice (Klein & Knitzer, 2007). The data from this study support the important need for quality instruction in early

reading and the sustainability of effective educational reforms in high poverty and low performing schools.

Although, the statistical data indicated that a coach's regional location did not have a significant effect on student achievement, it did reveal that schools located in Region 2 had the lowest 2006 Grade 3 PSSA reading scores. When investigating this regional location the demographics of the student population revealed that Region 2 had the highest percentage of English Language Learners. It should also be noted that at least 20% of the student population that attend the schools in Region 2 have moved within the past six years across state or country lines with a migrant parent or guardian, for the adult to obtain temporary or seasonal employment in an agricultural activity

Sykes (1999) infers that even though complex, schools and districts can create a culture of accountability by referencing both formative and summative evaluation of teacher professional development to student learning. Seventeen (17) schools out of the 22 schools that employ reading coaches' completed the 2005-2006 Implementation Checklists. The self-reporting of the levels of implementation effectiveness rated communication/collaboration, instructional practices/materials, professional development, and the reading coach.

The various stakeholders from the schools that employed reading coaches completed an implementation checklist which revealed the perception levels of implementation effectiveness for the 2005-2006 school year. The responses from this documentation were compared to the 2006 Grade 3 PSSA reading scores.

While it can be noted that the majority of schools (29 of 47) demonstrated improvement on the 2006 Grade 3 PSSA Reading subtest when compared to the 2005 Grade 3 PSSA Reading subtest, the results of this study also indicate that there was no statistical significance when correlating 2006 Grade 3 PSSA Reading scores of the 17 schools that employed reading coaches for ongoing professional development in early reading skills and completed the *Perception of Levels of Implementation Effectiveness Survey 2005-2006* with the following independent variables:

1. The school's self-reporting perception level of implementation for communication and collaborative practices,

2. The school's self-reporting perception level of implementation for instructional practices and materials,

3. The school's self-reporting perception level of implementation for professional development, or

4. The school's self-reporting perception level of implementation for the reading coach.

Communication and collaboration between the reading coach and classroom instructor are essential for this innovation for professional development to have an effective impact on student achievement. Richardson and Anders (1994) concluded in their study, which assessed teacher change utilizing the collaborative process, that, ideally, the Practical Argument Staff Development process leads to a change orientation of a reflective practice for teaching and learning. The expectation that all teachers would work

collaboratively with reading coaches has been a speculation among both state and local leadership. This study included each school's rating for their perception level of implementation effectiveness for communication /collaboration and the percentage of students scoring at Advanced and Proficient levels on the 2006 Grade 3 PSSA reading subtests. The schools reporting a higher percentage of statement agreement also had a higher percentage of Grade 3 students scoring at Advanced and Proficient levels on the PSSA reading subtest.

Schmoker (2006) argues the benefits of the recent emergence of professional learning communities in schools and districts especially for the emphasis on collaborative practices among teachers and the implications for adjusting instruction influenced by formative assessments. There was no significant difference between a high self- evaluation rating that addressed the level of effectiveness for the implementation of collaborative practices for this study and the percentage of students scoring Advanced or Proficient on the 2006 Grade 3 PSSA reading subtest which is a summative assessment.

The schools' high ratings for instructional practices and materials indicated full implementation and/or the demonstration of sustainability for all kindergarten through Grade 3 classroom instructors utilizing a scientifically- based comprehensive core reading program for reading instruction during an uninterrupted ninety minute reading block, having sufficient scientifically instructional materials to implement the core reading program, and that all programs and materials were implemented with a high level of fidelity.

In the domain of professional development, self- reporting ratings ranged from partial/some evidence of implementation and/or inconsistent implementation to fully implemented and/or a demonstration of sustainability for having a data driven professional development plan which included a professional development calendar and identifying the needs for principals, reading coaches, instructors, and staff. However, when schools self rated their level of implementation effectiveness for providing appropriate scientifically based ongoing professional development for all kindergarten – grade 3 classroom instructors, reading coaches, k- 12 special education instructors, English Language Learners instructors, building principals, and other educational specialists as well as the leadership team members and the assessment team members, the ratings ranged from partially in place to just beginning.

At the elementary level, literacy coaches support teachers in day-to-day core reading instruction, teachers who provide literacy intervention, and those who teach other areas, such as English Language Learner, English as a Second Language and Learning Support (Moxley & Taylor, 2006). Harwell-Kee (1999) describes how coaching can take place in many situations, including one-on-one conversations between colleagues, planned conferences, classroom observations, and group sessions where coaches reflect on what they are learning and how they are extending their knowledge base. Data retrieved regarding the reading coach being perceived as a highly qualified site based employee that works with and support Kindergarten through Grade 3 instructors and Kindergarten through Grade 12 special education instructors was evaluated

as being partially or inconsistent in implementation to fully implement and/or there being evidence of demonstrated sustainability.

Student achievement on the 2006 Grade 3 PSSA reading subtest did not vary significantly by the schools' self-reporting ratings for levels of effective implementation regarding communication and collaboration, instructional practices/materials, professional development, and the reading coach. In summary, the percentage of students scoring advanced and proficient varied between the comparison groups. The data results indicated that the majority of schools had students that did demonstrate improvement on the 2006 Grade 3 PSSA reading subtest. However, when comparing the 2005 and 2006 scores to reveal increased student achievement and difference in the percentages of students scoring Advanced and Proficient there was no significant differences between the comparison groups for either variable.

There was no positive relationship between the self-reporting evaluation of level of implementation effectiveness related to the reading coach and student achievement. According to Harwell-Kee (1999) coaching provides a model of respectful collegial reflection about instructional decisions which can end with the desired results of student learning gains, increased teacher efficacy coupled with teacher satisfaction and a foundational base for the promotion of a collaborative culture. Bean (2004) alludes to one major criticism of most professional development models, that effective coaches can satisfy is the absence of ongoing support for the implementation of instructional strategies and/or instructional approaches.

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Conclusions

The following question was raised at the beginning of this study: What effect does a professional development model that includes reading coaches have on increased student achievement for reading in high poverty and low performing schools? The purpose of this study has been to document the effectiveness of a specific professional development effort as it relates to student achievement in reading.

The results indicate the significance of this study. There were schools where the percentage of grade 3 students' scores of Advanced and Proficient continued to increase more than others in the study. The schools' PSSA test results from the 2005 and 2006 Grade 3 reading subtests varied among the comparison groups.

Schools that continue to be identified as low performing must identify and address the culture that exists regarding professional learning in their buildings. A positive culture for learning begins with all stakeholders identifying themselves as lifelong learners coupled with a healthy sense of efficacy. These stakeholders must seize every opportunity for reflection on their practices, along with creating an environment conducive for professional collaboration and participating as active learners in different types of professional development models.

The study provided data that addressed the effects of the utilization of a reading coach for professional development on student achievement in reading. A knowledge base was explored to enlighten the reader of the relationship between professional development for staff and improvements in student

learning. There are several models of professional development worthy of consideration. However, this study carefully explored the inclusion of a coaching component for ongoing professional development. Even though statistical significant differences were not seen between the schools' 2006 Grade 3 PSSA reading scores, there is evidence of increase in student achievement in reading among the schools in the Commonwealth of Pennsylvania that were deemed high poverty and low performing schools as per their 2002 Grade 5 PSSA scores and school poverty rate. This implies hope for this underserved student population.

Although the relationship between improving student learning and professional development is complex, the long-term impact of the utilization of reading coaches as an innovation for professional learning did not appear to be totally ineffective. In many situations it appeared to have a viable semblance.

Joyce and Showers (2002) research and experiments that focused on the design of coaching as an innovation for professional development over the course of many years advocate that educators must determine the effectiveness based on the effects on students' learning. This study did not affirm the value of employing a reading coach as an innovation for the delivery of professional development in early reading instruction.

The 2005-2006 *Perception of Levels of Implementation Effectiveness* Survey (See Appendix A) responses clearly provides evidence that communication/collaboration and instructional practices/materials are perceived as being fully in place in each building among the 17 schools that employ reading

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coaches. These domains were carefully evaluated for how regularly the stakeholders discussed the assessment data at grade level meetings for the monitoring of progress toward benchmark goals and the utilization of a scientifically-based comprehensive reading program. Nonetheless, the school's self reporting of high rating levels of implementation effectiveness did not positively effect the percentage of students attaining Advanced and Proficient levels on the 2006 Grade 2 PSSA.

Implications

Schools need to embrace the reflective practice of assessing the effectiveness of their implementation of reform initiatives. Their perceived level of success should be evidence-based and documented by student performance based on a variety of data sources and not merely based on a consensus of opinions. This practice should be ongoing and adjustments in the areas that require improvement should be a priority. Also, it is essential for school leaders to recognize the important of utilizing student achievement data to evaluate the impact and inform decisions about the content and context of the delivery of their staff's professional learning activities.

Communication and collaboration among leadership in this research study, for regularly discussing assessment data to monitor progress toward benchmark goals, were reported as being partially to fully in place for the 2005-2006 school year. Recognizing factors influencing this relationship can assist school leaders in offering explanations as to why those results occurred (Guskey & Sparks, 1996). This practice has significant implications for highly effective

staff development efforts that will create a culture that is truly focused on the desired learning outcomes for both adults and children in all schools. Through this evaluation, state and local educational agencies can understand that the commitment to optimal learning opportunities for the instructional staff and students must continually be assessed for effectiveness in high poverty and low performing schools.

Recommendations

This study involved 22 out of a possible 147 high poverty and low performing elementary schools in the Commonwealth of Pennsylvania who employed reading coaches as an innovation for ongoing professional development in early reading skills. Although all 22 schools were expected to rate their perceived level of implementation effectiveness for communication and collaboration, instructional practices, professional development, and the reading coach only 17 surveys were available, which is a reason why the findings may lack adequate generalizations

The conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and their applications to other situations include (a) the number of schools responding to the survey, (b) the survey is a self-reporting instrument and (c) the external variables that influence standardized test scores.

It is further recommended that additional research is needed that measures student achievement outcomes in relationship to the utilization of a reading coach as an innovation for professional development. Expansion of this

study to include intermediate grade levels is recommended for the continuation of collecting evidence to develop an understanding for how to effectively utilize reading coaches across the various content areas.

The consideration of a longitudinal study that addresses the effects of professional development models and student achievement would benefit the educational community for making informed decisions regarding their staff's professional trainings.   Also, school districts could earmark their funding sources towards professional development activities that have been documented as having premium benefits. .

The relationship between the coach and classroom instructors for collegiality warrants further research. The attribute of teachers' resistance to developing a trusting relationship may impact the effectiveness of this model of professional development.

The role and responsibilities of a reading coach can vary. Coaches can work with teachers in a number of ways to facilitate change, providing appropriate materials and resources to observing teachers and providing feedback about instruction. In other words, there is a continuum of activities that coaches can undertake (Bean & Carroll, 2006). A careful exploration of the tasks completed by a reading coach and their effects on student achievement should inform administrators of how to utilize them effectively.

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Perception of Levels of Implementation Effectiveness Survey 2005-2006
(Adapted from *Pennsylvania Reading First Implementation Checklist,* 9/15/05)

School Code Number_____

Rating Scale: 1= No evidence of implementation, 2= Scant of evidence of implementation and/or just beginning to implement, 3= Partial/some evidence of implementation and/or inconsistent implementation, 4 = Fully implemented and/or demonstrated sustainability.

Communication and Collaboration
1. Kindergarten – Grade 3 regularly discuss assessment data at grade level meetings to monitor progress toward benchmark goals.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

Instructional Practices and Materials
2. All Kindergarten-Grade 3 classroom instructors and instructional staff utilize a scientifically based comprehensive core reading program for reading instruction during an uninterrupted ninety minute reading block .(**X3)**

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

3. All Kindergarten –Grade 3 classroom instructors have sufficient scientifically instructional materials to implement the core reading program.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

4. Programs and materials are implemented with a high level of fidelity. (**X3**)

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

Professional Development

5. A data driven professional development plan, including a professional development "calendar" is in place.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

6. Appropriate, scientifically based, ongoing professional development is provided for all Kindergarten –Grade 3 classroom instructors, Reading Coaches, K-12 Special Education instructors, building principal(s) and other educational specialists as well as the leadership team members and the assessment team members.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

7. Professional development in research based strategies is provided for ELL and K-12 Special Education instructors.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

8. Differentiated professional development targets the identified needs for principals, Reading Coaches, instructors, and staff.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

Reading Coach

9. A highly qualified site based Reading Coach(es) has/have been hired to work with and support Kindergarten – Grade 3 instructors and Kindergarten – Grade 12 Special Education Instructors.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

10. The Reading Coach(es) develops and maintains a schedule for coaching teachers.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

11. The Reading Coach(es) documents the assistance he/she is providing.

Rating Scale	Fall Rating	Spring Rating	Grade 3 2006 PSSA Score
Not in Place			
Just Beginning			
Partially in Place			
Fully in Place			

Appendix B

April 30, 2007

University of Pittsburgh
Reading First External Evaluation Project
School of Education
5300 Wesley W. Posvar Hall
230 South Bouquet Street
Pittsburgh, PA 15260

Dear Drs. Rita Bean & Naomi Zigmond:

I am completing a doctoral dissertation at Indiana University of Pennsylvania. My dissertation is entitled, Effects of the Utilization of a Reading Coach for Professional Development on Pennsylvania Elementary Students' Reading Achievement. The underpinning driving force of this research study is to identify an effective delivery model for professional development that would ensure increased student achievement

It is essential to this study to explore the relationship between perceived levels of implementation related to professional development for reading instruction and the perceptions of the role of reading coaches as an innovation for increasing student achievement Therefore, I am requesting permission to peruse and utilize several of the responses from the self reporting documentation submitted by Local Educational Agencies that have been awarded funding via the Reading First Grant.

Specifically, as the Principal Investigator, I desire to utilize the 2004-2005 *Teacher's Questionnaire Part A: Beliefs and Understandings* and *Part C: Collaborative Practices Analysis of Results* designed by the Reading First External Evaluation Team from the archives of the Commonwealth of Pennsylvania Department of Education to determine the relationship between student achievement on the 2006 Grade 3 PSSA reading scores and the instructors' response from the Local Educational Agencies that employ reading coaches. In addition, the 2005 -2006 *Pennsylvania Reading First Implementation Checklist's* Spring 2006 rate of degree of implementation will be reviewed in the following domains: Communication/Collaboration, Instructional Practices/Materials, Professional Development and Reading Coach which was also designed by the Reading First External Evaluation Team to determine the relationship between student achievement on the 2006 Grade 3 PSSA reading scores and the district's perceived level of implementation responses from each Local Educational Agencies that employs reading coaches.

I would like to take this opportunity to once again express my gratitude for the informal response of approval to utilize the requested documentation via e-mail correspondence dated April 13, 2007. If you deem appropriate, I can be reached at (717) 566-4345 or mlfcarter@msn.com to further discuss any questions or related concerns regarding this request.

Sincerely,

Marilyn L. Carter, Doctoral Candidate
Curriculum and Instruction
Professional Studies in Education Department

Permission granted_____
                              Signature   Date

Appendix C

HI Marilyn, Naomi and I don't see any problem with your using several responses from the 2004-05 Reading First Questionnaire and checklist in your dissertation study. However, we are not certain what you mean by retrieving the documentation from the archival data at PDE. Rita Bean

---

From: Marilyn L. Carter [mailto:mlfcarter@msn.com]
Sent: Friday, April 13, 2007 8:05 AM
To: ritabean
Subject: Dissertation Data

Good morning, Dr. Bean:

I will make an attempt to be brief. I am requesting permission to include a few responses from both the 2004-2005 *Reading First Teacher Questionnaire* and the 2005-2006 *Reading First Implementation* checklist to embed within my research study. Please be advised that I would retrieve the documentation from the archival data at PDE.

Upon receiving your confirmation, I will craft a detailed letter regarding my methodology for the utilization of the specific items for your perusal and approval. Thank you in advance for your consideration.

Respectfully,
Marilyn Carter
IUP Doctoral Candidate
----- Original Message -----
From: Bean, Rita
To: Marilyn L. Carter
Sent: Wednesday, June 14, 2006 7:41 PM
Subject: RE: Study Replication

HI Marilyn, I don't think you would be replicating an existing study - we did not do a thorough analysis of why there were differences. All we did was do statistical tests to determine whether there were any significant differences in the reaidng achievement of RF schools - versus those who had applied but did not get a grant. You would be doing much more - and it would be a wonderful contribution to the literature. Best to you! Perhaps we can talk at the coaches institute. Rita Bean

_____

From: Marilyn L. Carter [mailto:mlfcarter@msn.com]
Sent: Tue 6/13/2006 11:01 AM
To: ritabean
Subject: Study Replication

Good morning, Dr. Bean:

You mentioned in your last email correspondence a comparison study that was completed by the Evaluation Team regarding "Non- Reading First" Schools verses" Reading First" Schools. Please confirm that my dissertation proposal is not replicating an existing study that has been completed by the University of Pittsburgh.

Also, I was wondering if it would be a plausible idea to consider replicating the existing study and then comparing the data results to see if there is a significant statistical difference between the schools now that the Reading First initiatives have been revisited for the "Mid- Grant" Review. Thank you in advance for your time.

Respectfully,
Marilyn

Marilyn L. Carter, M. Ed.
Pennsylvania Reading First
Technical Assistant
(Home) 717-566-4345
(Cell) 484-955-2843

Appendix D

May 1, 2007
Commonwealth of Pennsylvania
Department of Education
333 Market Street
Harrisburg, PA 17126-0333

Dear Ms. Angela Kirby-Wehr :

I am completing a doctoral dissertation at Indiana University of Pennsylvania. My dissertation is entitled, Effects of the Utilization of a Reading Coach for Professional Development on Pennsylvania Elementary Students' Reading Achievement. The underpinning driving force of this research study is to identify an effective delivery model for professional development that would ensure increased student achievement.

It is essential to this study to explore the relationship between perceived levels of implementation related to professional development for reading instruction and the perceptions of reading coaches as an innovation for increasing student achievement Therefore, I am requesting permission to peruse and utilize the self reporting documentation submitted by Local Educational Agencies that have been awarded funding via the Reading First Grant.

Specifically, as the Principal Investigator, I desire to utilize the 2004-2005 *Teacher's Questionnaire Part A: Beliefs and Understandings* and *Part C: Collaborative Practices Analysis of Results* designed by the Reading First External Evaluation Team from the archives of the Commonwealth of Pennsylvania Department of Education. This information will be examined to determine the relationship between student achievement on the 2006 Grade 3 PSSA reading scores and the instructors' response from the Local Educational Agencies that employ reading coaches. In addition, the 2005 -2006 *Pennsylvania Reading First Implementation Checklist's* Spring 2006 rate of degree of implementation will be reviewed in the following domains: Communication/Collaboration, Instructional Practices/Materials, Professional Development and Reading Coach which was also designed by the Reading First External Evaluation Team to determine the relationship between student achievement on the 2006 Grade 3 PSSA reading scores and the district's perceived level of implementation responses from each Local Educational Agencies that employs reading coaches.

Please be advised that I have received an informal response of approval to utilize the requested documentation via e-mail correspondence dated April 13, 2007 from Drs. Rita Bean and Naomi Zigmond, Co-Directors of External Evaluation Team from the University of Pittsburgh. I can be reached at (717) 566-4345 or mlfcarter@msn.com to further discuss any questions or related concerns regarding this request.

Sincerely,

Marilyn L. Carter, Doctoral Candidate
Curriculum and Instruction
Professional Studies in Education Department

Permission granted_____
                                  Signature   Date

Appendix E

<div align="right">August 17, 2006</div>

Commonwealth of Pennsylvania
Department of Education
333 Market Street
Harrisburg, PA 17126-0333

Dear Dr. Jane Daschbach:

I am completing a doctoral dissertation at Indiana University of Pennsylvania. My dissertation is entitled, Effects of the Utilization of a Reading Coach for Professional Development on Pennsylvania Elementary Students' Reading Achievement. The underpinning driving force of this research study is to identify an effective delivery model for professional development that would ensure increased student achievement. I will compare the 2005-2006 third grade PSSA reading scores of students that attended the Local Educational Agencies that did not receive the grant to the agencies that did receive the funding since the 2003-2004 school year to reveal if there is a statistically significant difference in the students' achievement on the 2005-2006 third grade PSSA reading scores when the LEA utilized a reading coach for professional development.

It is essential to this study to identify the elementary schools in Pennsylvania that were deemed high poverty and underachieving during the school year of 2002-2003. Specifically, those agencies that are utilizing reading coaches to provide professional development in reading instruction for instructors of kindergarten through grade 3 students.

Therefore, I am requesting permission to peruse the 2002-2003 Reading First Grant Applications. The information from the applications will enable the researcher to distinguish the high poverty and underachieving LEAs that have reading coaches for the delivery of professional development for reading instruction and those LEAs that do not have reading coaches for the delivery of professional development for reading instruction.

According, to Brown (2004), students will succeed when educators choose the best possible context for professional development, with deliberate focus on improving student academic needs, and choosing processes that help teachers learn to best address those needs. I would like to take this opportunity to express my deepest gratitude for your consideration regarding satisfying this request.

Sincerely,
Marilyn L. Carter, Doctoral Candidate
Curriculum and Instruction
Professional Studies in Education Department