

ABSTRACT

Title of Dissertation: A STUDY OF THE RELATIONSHIP BETWEEN
PROFESSIONAL DEVELOPMENT EVALUATION
AND MIDDLE SCHOOL MATHEMATICS
ACHIEVEMENT

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As a result of poor student performance, professional development has emerged as a key strategy for improving instruction and achievement. In times of reduced resources and increased accountability, schools must evaluate their efforts in order to make sound decisions about policy and practice. This mixed method study was designed to investigate professional development evaluation practices and whether a relationship exists between professional development evaluation and math achievement in two groups of middle schools in one county school district. One group of middle schools met state standards in mathematics and the other group of schools did not meet state standards. The study sought to assess the perceptions of middle school principals, staff development teachers, and district level staff development instructional specialists/directors regarding the five levels of professional development evaluation: participant reactions, participant learning, organization support and change, participants'

use of new knowledge and skills, and impact on student learning outcomes. According to Guskey (2002), the levels of evaluation are sequential and hierarchical and in order to increase the chance for successful impact on student achievement, all levels must be carefully considered in planning professional development experiences for teachers.

These data were gathered through the use of a survey and focus group interviews . A survey instrument was designed to solicit perceptions of the levels of professional development evaluation in schools. There was no statistically significant difference between principals and staff development teachers in the schools that met state standards in mathematics and those who did not. The researcher conducted a one way analysis of variance of differences between the perceptions of professional development evaluation practices of principals, staff development teachers, and instructional specialists/directors in both met and non-met schools. Focus groups were held with principals, staff development teachers, and staff development instructional specialists/directors to identify the types and levels of professional development evaluation across middle schools.

This study has training, policy and practice implications for middle school principals and staff development teachers as they implement professional development evaluation efforts aimed at improving middle school mathematics. It is expected that this research will assist school systems in their school improvement efforts.

A STUDY OF THE RELATIONSHIP BETWEEN PROFESSIONAL DEVELOPMENT
EVALUATION AND MIDDLE SCHOOL MATHEMATICS ACHIEVEMENT

by

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DEDICATION

This dissertation is my second personal greatest accomplishment in life. It is dedicated in its entirety to my strongest emotional and spiritual supporter- Mona Minnich- my mother. You are whom I aspire to be like. Thank you for always being an excellent example of love, strength and scholarship for me. To my four gifts from God who are collectively, my personal best, my children -Daniel Jr., Kennedy, Dominic and Madison- this is for you! My message for you through my words and actions is that in our family we finish what we begin. It is my sincere hope and dream that I may always teach you by example. In addition to raising you to always do your best and contribute to our world in a meaningful way, my wish is for you to continue growing and developing into strong ladies and gentlemen of high moral character, strong work ethic, and high integrity. Fantastic four- always remember to exhibit fervent dedication and relentless follow-through in all that you choose to do! Thank you for your patience in allowing Mommy to work on school. You are my life and loves! I love you always and forever.

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CHAPTER I

INTRODUCTION

Background

Professional development for teachers is a key strategy for improving classroom instruction and student achievement (Cohen & Hill, 2000; Corcoran, Shields, & Zucker, 1998; Darling-Hammonds & McLaughlin, 1995; Elmore, 1997). With a firm belief in the potential positive impact of professional development on student achievement, school districts have endorsed and mandated school-based programs. Professional development efforts range from structural changes including form, duration, and participation to research-based scripted programs that explicitly teach discrete skills which may include effective questioning strategies, classroom management, technology use, and equitable based teaching strategies. Professional development may include courses, workshops, education conferences, seminars, degree programs, observation visits to other schools, participation in a network of teachers, individual research, collaborative research, mentoring, peer observation, coaching, reading professional literature and peer dialogue. Different schools are implementing different types of professional development programs and activities to varying extents.

The North Carolina Regional Educational Library (NCREL) has noted that “educators must pay attention to the results of professional development on job performance, organizational effectiveness, and the success of all students” (2012). They suggest that each professional development effort be accompanied by a well-designed evaluation plan for determining its effectiveness.

Professional development should be an integral component of effective school improvement plans; however, few studies have documented the stipulations, cost, and effects of professional development. There are demands from legislators, policy makers, funding agencies, and the general public for schools and districts to demonstrate the

positive results of professional development efforts. These stakeholders have an interest in whether professional development really makes a difference (Guskey, 1998).

Professional development must be evaluated in order to examine how specific professional development activities have changed teacher behaviors and impacted student achievement.

There is a rich body of literature linking high quality teaching and learning to increases in student achievement (Carey, 2004; Darling–Hammond, 2000; Goe & Stickler, 2008; Hightower, Delgado et al., 2011; Stronge, Ward, Tucker & Hindman, 2007). There are also studies that identify professional development (PD) as a means to improve teacher practice (Florida Department of Education, 2007; Heller, Daehler, Wong et al, 2012; McIntyre, Kyle, Chen , et al., 2010; Yoon, Duncan, Wen-Yu Lee et al., 2007). Hord (1997) avers that school improvement is directly dependent on teacher development and the improvement of teachers’ instructional capacity and practice. “Effective professional development helps teachers continue to enhance their knowledge and skills throughout their careers” (www.mdk12.org). Current studies, however, leave many gaps in an understanding of the evaluation of professional development and the impact on student learning.

With an increased emphasis on teacher performance comes a heightened awareness about the quality and effectiveness of professional development as a means to facilitate systemic change in education (Guskey, 1998; 2000). Teachers’ acquisition of skills and ability to effectively apply those skills and knowledge to make significant differences and improvements in the lives of students is the most critical purpose of professional development.

Evaluations are important to the improvement of teacher performance and student learning. Guskey (2000) asserts that professional development evaluation should focus on measuring impact in terms of change in knowledge, skills, attitudes, and beliefs of

teacher participants. Guskey further suggests that evaluations look at how to understand the influence of professional development on teachers and document its impact on student learning. Guskey provides a model for evaluating professional development, which includes five levels of information gathering that are arranged from simple to complex. Professional development evaluation is a useful tool for many disciplines. At the highest level of evaluation, Guskey maintains positive changes in student achievement will occur. As school districts explore ways to sustain student improvement on state and local assessments in math and reading, professional development evaluation must be explored.

Middle School Mathematics

Mastering middle school mathematics has become particularly important in the United States today. The U.S. Department of Education reports that students with a strong grasp of mathematics have an advantage in academics and in the job market. Grade eight has been identified as the critical point in mathematics education. U.S. Department of Education reports a strong correlation with grade eight mathematics performance and access to rigorous high school courses required for college entrance and labor force success. The results of the Third International Mathematics and Science Study (TIMSS) further substantiate the premise that middle school math is a weak link in the United States education system.

Boyer (2002) asserts that effective middle school mathematics instruction is the solution to making higher level mathematics courses accessible to all high school students. As recently as 2011, the New York Times reported American students' math achievement at a "mediocre level" compared with that of their peers worldwide. The National Mathematics Advisory panel's report (2008) indicated that schools must "prepare students for algebra {by providing a} curriculum that simultaneously develops conceptual understanding, computational fluency, and problem solving skills." One of the

recommendations of the national report is for more research and professional development on math teaching.

No Child Left Behind has increased accountability in the area of mathematics. The federal law requires annual standardized testing of all students in all schools that receive federal funds in the area of mathematics. Student scores are classified as advanced, proficient, or basic. The state where this study was done has middle school state standards in mathematics in addition to essential mathematics content that must be taught in line with national standards. There are also newly developed standards for mathematical processes for all middle grades.

Statement of the Problem

Although schools and districts regularly spend valuable time and resources on professional development for teachers and administrators, little is known about its impact on students. Noyce (2006) asserts, “professional development is expensive to provide, hard to find time for, and difficult to do well” (p.36). Noyce urges research, teaching, and funding communities to “start holding ourselves to a much higher standard of evidence about the effectiveness for enhancing student learning of professional interventions that we support” (p.36).

Middle school mathematics curriculum is important to study because of poor national results on state assessments. Research on middle school mathematics indicates that it has the potential for strong impact on the future of students' college entrance and work force preparation (U.S. Department of Education, 2002). The state where this county is located requires all students to demonstrate marked growth in mathematics annually. As schools approach this important goal, they must determine the effective use of resources. Professional development programs need to be evaluated. School districts, historically, have not been able to determine the impact of professional development on student achievement. This study hoped to add to the literature on the evaluation of

professional development programs. There is a need to clearly identify the current levels at which professional development programs are being evaluated and the relationship to student achievement. Despite the important studies of individual schools and their experiences with professional development by Dufour and Eaker (1998, 2003, 2006), Hall and Hord (1987, 2001, 2006), and others, little is known about the possible relationship between professional development evaluations and student achievement.

Purpose of the Study

The purpose of this mixed methods explanatory study was to examine middle school principals, staff development teachers, and district level staff development instructional specialists/directors' perceptions about professional development evaluation across schools in the Kennedy County Public School System¹. Using Guskey's (2000) five-level model (e.g., participants' reactions; participants' learning; organization support and change; participants' use of new knowledge and skills; and student learning outcomes) as the lens to view professional development evaluation, the researcher obtained quantitative results from a survey and then followed up with a purposeful selection of individuals to explore the results in more depth through the use of focus group interviews.

Information obtained from middle school principals and staff development teachers who typically lead professional development activities or assign teachers to PD activities is critical in developing a better understanding of how professional development evaluations are being used across middle schools in a mid-Atlantic school district.

¹ Kennedy County Public Schools is a pseudonym.

Significance of the Study

With diminishing fiscal resources and higher levels of monitoring and accountability for student achievement results, evidence is needed to support continued funding and expansion of teacher professional development activities. American public elementary and secondary schools spend approximately \$20 billion dollars a year on professional development efforts (Mathews, 2012). Surprisingly, little data are available on the evaluation of these efforts and benefits to students. The information gathered in this study will help to deepen the understanding of school districts facing similar problems.

This study sought to fill a gap in the literature by identifying middle school professional development evaluation practices that may affect student mathematics achievement. Many school districts invest considerable time, effort and resources in designing and implementing professional development opportunities for teachers based on the assumption that it will lead to improved student achievement. However, research suggests that there is generally little or no evidence to indicate effectiveness.

This study may significantly contribute to the underdeveloped area of research related to the level of professional development evaluation and how evaluation is related to student achievement. It may also help to formulate numerous questions that will guide future research. This study sought to obtain and provide in-depth information that may be useful for other suburban/ urban school districts.

Synopsis of Research Design

Johnson and Onwuegbuzie (2004) present mixed-method research as the third paradigm in educational research, aside from quantitative and qualitative methods. However, they hold both quantitative and qualitative research are important and useful. The goal of mixed methods research is not to replace either approach, but rather to draw on the strengths and minimize the weaknesses of both types.

This mixed-methods study employed both quantitative and qualitative research methods as a means to provide relevant insights and potential solutions to the research questions. A mixed-methods sequential explanatory design allows the researcher to use the results from the quantitative data to inform the work with the qualitative methods which include the development/refinement of questions, data collection, and analysis. Using a sequential model allowed the researcher to use the qualitative data to confirm or refute the findings of the quantitative data and provide detailed explanations (Creswell, 2003).

The researcher utilized Guskey's Five Levels of Professional Development Evaluation model as a conceptual framework to guide the survey. The Professional Development Evaluation Survey was used in the first phase of the study. Principals, staff development teachers, and district level staff development instructional specialists/directors responded to the same version of the survey. The second phase of the study included two focus groups. The research participants for one focus group were principals and the other focus group included staff development teachers and district level staff development instructional specialists/directors. An open-ended semi-structured moderator guide was used to facilitate the discussion. The sessions were audio recorded, transcribed, and coded for themes. Transcriptions were shared with focus group participants to check for accuracy. The researcher did not identify names of persons or individual schools during reporting of the focus group material.

Research Questions and Hypotheses

The following research questions guided this study.

Research Question 1

From the perspectives of middle school principals, are there differences in the mean perceptions regarding the utilization of professional development evaluation

according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 1

From the perspectives of middle school principals, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

Research Question 2

From the perspective of staff development teachers, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 2

From the perspective of staff development teachers, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

Research Question 3

From the perspective of middle school principals, staff development teachers, and instructional specialists/directors, are there differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)?

Hypothesis 3

From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, there are no statistically significant differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes).

Research Question 4

What types and levels of professional development evaluation are occurring in middle schools in Kennedy County?

Conceptual/Theoretical Framework

This study sought to help educators develop a better understanding of how professional development evaluations are being used across middle schools and explored the possible relationship between student achievement in middle school math and evaluation level. Both phases of this study—quantitative and qualitative—were based on Guskey's Five-Level Model for Professional Development Evaluation conceptual framework.

Guskey's model was developed specifically for the field of education as a result of his experience with teachers and testing. As Guskey observed teaching and

professional development program implementation, he noted that many programs were failing at the school level. Guskey maintained that a critical level of professional development evaluation for educators must be organizational support and change. With that in mind, Guskey developed a five-level evaluation model influenced by the work of Donald Kirkpatrick. The Guskey model is widely accepted and used in professional development. Guskey's model identifies five critical stages to consider. Guskey maintains that five levels must be investigated when measuring the success of professional development. Level 1 is participant reaction. It measures the level of satisfaction that participants experience with the professional development. Level 2 is participant learning. This level aims to measure the acquisition of intended knowledge and skills from the professional development. Level 3 evaluation measures organization support and change. The impact on the learning organization to include school and district and implementation are examined at this stage. Participants' use of new knowledge and skills is Level 4. Effective application of new knowledge and skills acquired during the training are examined. Lastly, Level 5 evaluation is student learning outcomes. It is focused on the impact of professional development on student learning. The components work together to make up a network. The network suggests a relationship between and among the five levels. Each level provides information that can be used in formative and summative ways. Guskey (2006) asserts that each level is important in its own right. Formatively, it is important to determine what has been done correctly and what areas can be improved. As a summative measure, the effectiveness and worth of the professional development must be examined.

The Guskey Model is sequential. Each level builds on the preceding level. Guskey holds participants must be positively satisfied with the PD experience at level 1 before they can learn or apply any of the principles. In order to increase the chance for success,

all levels must be carefully considered in planning professional development experiences for teachers.

The final argument in Guskey's model is that educators should begin at level 5 in planning. The most important aspect in professional development is student impact. Effective professional development planning will carefully consider the intended impact on student achievement and backwards design a plan that leads to improved results.

Guskey's five levels of professional development include specific questions, methods to gather information, assessments, and recommended uses for the information. Table 1 outlines the framework of Guskey's model that was used in this study.

Table 1

Guskey's Five Levels of Professional Development Evaluation

Evaluation Level	What Questions are addressed?	How will Information be gathered?	What is measured or assessed?	How will information be used?
Participants' Reactions	Did they like it? Was their time well spent? Will it be useful? Was the leader knowledgeable and helpful?	Questionnaires administered at the end of the session	Initial satisfaction with the experience	To improve program design and delivery
Participants' Learning	Did participants acquire the intended knowledge and skills?	Paper and pencil instruments; simulations; demonstrations; participant reflections and portfolios	New knowledge and skills of participants	To improve program, content, format and organization
Organization Support and Change	What was the impact on the organization? Did it affect organizational climate and procedures? Were sufficient resources made available?	District and school records minutes from follow-up meetings; questionnaires; structured interviews with participants and administrators	The organization's advocacy, support, accommodation, facilitation and recognition	To document and improve organizational support; to inform future change efforts
Participants' Use of New Knowledge and Skills	Did participants effectively apply the new knowledge and skills?	Questionnaires; structured interviews with participants and their supervisors; participant reflections and portfolios; direct observations	Degree and quality of implementation	To document and improve the implementation of program content
Student Learning Outcomes	What was the impact on students? Did it affect student performance or achievement?	Student records; school records; questionnaires; structured interviews with students, teachers, administrators, parents	Student learning outcomes	To focus and improve all aspects of program design, implementation, and follow-up; To demonstrate the overall impact of professional development on student achievement

Definitions

For the purpose of this study, the following definitions were used:

Adequate Yearly Progress (AYP) – A provision of the No Child Left Behind Act that categorizes the annual academic performance in mathematics and reading for all schools that receive federal funds. According to this law, all students must be proficient by the 2013-2014 school year.

Evaluation – systematic investigation of merit and worth; Professional development evaluation is a multi-faceted process that typically includes a wide array of activities and procedures that require an appraisal of quality and judgments of value based on the best evidence provided (Guskey, 2000).

Professional Development – the terms professional development and staff development will be used interchangeably throughout this study. “...those processes and activities designed to enhance the professional, knowledge, skills and attitudes of educators so that they might in turn improve the learning of students” (Guskey, 2000, p.16).

Staff Development Instructional Specialist- Under direction, provides a wide variety of supports to meet the needs of individual schools related to system wide goals, priorities and initiatives; assists in training and coaching staff development teachers and school leadership teams in the knowledge and skills related to teacher and school leadership.

Staff Development Teacher – An instructional leader who fosters development and growth of professional learning communities and facilitates job-embedded staff development. In collaboration with the principal, leadership team and stakeholders, the staff development teacher supports the goal of building staff capacity to meet system and local goals and initiatives to increase student learning.

Assumptions

For the purposes of this study, the extent to which the following assumptions are supported by the findings will be examined. They are:

1. Districts across mid-Atlantic states are in support of the State Department of Education's charge to embrace high quality professional development.
2. Millions of dollars are being spent on professional development, but little information is known on return on investments (ROI) in terms of skills, knowledge, classroom instruction and student learning.
3. Districts and schools within districts see and understand the value of evaluation and are engaging in professional development activity evaluation at some level.
4. High quality professional development can lead to change in teacher behaviors which will result in higher student achievement.

Limitations of the Study

1. The findings of this study are limited to one county in a mid-Atlantic state where the study will take place.
2. The findings of the study are limited to the principals and staff developers who participated in the study.
3. This study is limited to secondary schools only.
4. The data of this study will be based upon respondents' ability to self-report. Respondents' willingness to be honest and their ability to accurately describe their evaluation practices will limit the reliability of their responses.
5. This study is bound to the evaluation practices detailed in the conceptual framework. Therefore, this study will offer one perspective on professional development evaluation.

6. This study will focus solely on the evaluation practices at the secondary school level. It will not focus on elementary schools, special schools, or non-public schools.
7. The researcher is a middle school principal in the district where this study is proposed. There is a high level of trust and appreciation placed on the honest and open feedback. The researcher will report all data in an anonymous way and utilize multiple methods for data collection including the utilization of an independent educational consultant to lead the focus groups.

Summary

This study is organized into five chapters. The first chapter presents an introduction to the study, significance of the study, statement of the problem and research questions. Chapter one also includes limitations of the study, delimitations and definitions of key terms. The second chapter contains a review of the literature including a discussion of the major themes relevant to this study. Chapter three describes the design, procedures, and proposed analysis of results.

The fourth chapter includes a restatement of the problem, summary of the data collection, and presents the quantitative and qualitative findings for the study. The findings were organized based on the research questions throughout the chapter. The fifth chapter includes a research summary, findings of the study, and conclusions based on the results of the study. Implications for practice as well as recommendations for further research are provided.

CHAPTER II

REVIEW OF LITERATURE

This study examined the extent to which approaches designed to evaluate teacher professional development in a sample of middle schools in a district within a mid-Atlantic state addressed the elements and standards that best practices in research suggest are important. It investigated whether the practices in middle schools identified as meeting state standards in mathematics differ from those in schools identified as not meeting state standards. Like other states, this state requires school districts to implement programs and strategies to help schools increase student academic performance. In an effort to raise student achievement results at a rate that satisfies the requirements of the federal No Child Left Behind Act (NCLB), state standards for professional development have been created.

For many years, administrators, faculty, staff and students have worked diligently to raise academic achievement through several different types of measures. Early efforts focused on general school improvement activities and technology. As a result of little or sporadic improvement, more focused initiatives centered on research-based comprehensive school reform were put in place. As the standards and requirements for NCLB continue to increase annually, school districts continue to search for the specific innovation that will yield significant student improvement if implemented correctly.

Teachers and administrators often feel overwhelmed by the daunting task that they face. It is not good enough to make sure that some students have improved. The law sets measurable objectives to ensure that all students improve annually in mathematics. Schools have turned to research and each other for possible solutions. In studying schools that have made and continue to make a difference with all populations, collaborative professional development is a common theme. Dufour and Eaker (1998) contend that “the assumptions that have guided the operations of schools since the late nineteenth

century were based on the factory model and its reliance on centralization, standardization, hierarchical top-down management, a rigid sense of time, and accountability based on adherence to the system. That model is no longer valid in a postindustrial, knowledge based society" (p.45).

The theoretical framework of this study is based on the belief that the evaluation of teacher professional development programs influences the outcomes for students. In Guskey's (2006) framework there are five levels of gathering information that increase in complexity from level one: participants' reactions, to level five: student learning outcomes. This mixed method study sought to understand the evaluation practices of professional development in secondary schools.

This review of research is designed to report the literature related to professional development with a focus on evaluating its impact on improving mathematics instruction. The importance of middle school mathematics, effective professional development, the evaluation of training programs, specifically teacher professional development programs, and the impact on student math achievement will be discussed.

Middle School Mathematics

Student achievement in mathematics has been a focal concern in the United States for many years. The National Research Council's 2001 report and the 2008 report of the Mathematics Advisory Panel identify students' achievement in mathematics as an important aspect of teaching and learning. Both reports cite student successful completion of Algebra by the end of the grade eight as the main objective. Algebra has been recognized as a branch of mathematics used to solve problems and real-world situations (Reys, Chavez, & Reys, 2003). The benefits of taking algebra have also been documented in the National Educational Longitudinal Study. The study revealed that 83% of students who completed algebra and geometry enrolled in college within two years of their scheduled high school graduation. The same study showed that students from low-income

families who took algebra 1 and geometry were three times more likely to attend college than those who did not. The difference is significantly dramatic for high- income and middle-income families as well. Ninety-four percent and 84%, respectively, of the students who complete algebra 1 and geometry attend college. These studies encourage schools to offer higher level courses to middle school students in order to improve their access to rigorous courses in high school.

Secretary of Education Arne Duncan's remarks at the 2011 National Forum's Annual School to Watch Conference focused national attention on middle schools. He noted that "middle grades present the last, best opportunity for educators to reach all students...It's a time of great promise and great peril." As schools continue to work towards meeting the federal mandate of equipping all children as college and career ready, math performance is of extreme importance. Teachers need to know how to teach mathematic concepts to students in ways that develop conceptual understanding, computational fluency, and problem-solving skills. Professional development is the vehicle that equips teachers with the skills and strategies to improve instruction and student learning. As such, this study sought to explore the relationship between student mathematics achievement and professional development evaluation. No Child Left Behind focuses on student proficiency in math. In middle school, students are assessed every year. The United States Department of Education expects students in grades 6, 7, and 8 to demonstrate proficient or advanced status in grade level mathematics. The requirement for a middle school to be designated as making Adequate Yearly Progress/meeting standards requires all students in the aggregate and all student groups including all racial/ethnic groups, English Language Learners, students with disabilities, and students living in poverty to meet the published annual measurable objective (AMO).

Researchers have long studied the effects of professional development on improving mathematics achievement. Some studies focused on the teachers' capacity to

implement strategies and techniques taught through professional development, while others focused on the impact of various factors on student achievement scores. In an effort to try to determine whether teachers developed mathematical knowledge from professional development, Hill and Ball (2004) evaluated California's Mathematics Professional Development Institutes (MPDIs). Measures of knowledge for teaching math were used as the instrument. Results indicated that teacher participation in MPDIs led to improved performance. They also highlighted additional factors including program length, workshop focus, reasoning, and communication that predicted teachers' learning.

Byrnes and Ruby (2007) conducted a large-scale empirical study to compare mathematics achievement between K-8 schools and middle schools in the Philadelphia School District. Across 95 schools using 5 cohorts of more than 40,000 eighth grade students, K-8 schools performed statistically significantly better than middle schools. This study is significant because all of the schools in the district to be studied are traditional grades 6-8 middle schools. According to the results of Byrnes and Ruby's study, these traditional middle schools will face the challenges of transition and different expectations, in addition to the demands for rigorous mathematics achievement.

According to Becoats (2009), who examined the relationship between teacher effect data in middle school mathematics and a teacher's years of experience in relation to professional development, the difference was not statistically significant. Middle schools are staffed with teachers who have a wide range of experiences. Despite the variability, the potential for middle school teachers to have a strong, positive effect on student achievement exists. Student achievement in math is largely dependent on high-quality mathematics teachers who deliver rigorous and engaging lessons during first instruction.

History of Professional Development

Prior to the middle of the 19th century, most people were educated one-on-one or in small groups with a focus on trades. It wasn't until 1823 that the first normal school

was created to provide specific training in teaching methods to qualified teachers. As a result of the 1880's Progressive Education Movement, the purpose of schools changed from vocation for many and true education for the elite to providing basic training for all students who could attend school. John Dewey's ideas made attending school the norm for American children. There were relatively few changes to the focus of education until after World War II. The new times required teachers to be more highly trained in order to prepare students to be competitive. Education began to change the standards for educators between the 1950's and 2000. During this time, teacher education programs became required in most states. School districts also mandated professional development for new and veteran teachers in an effort to raise the standards and quality of teacher service. Differentiated pay scales based on the level of educational attainment became popular as well. The world of professional development remained calm and prescribed until the inception of the No Child Left Behind Act in 2001. The main objective of NCLB was to ensure that all students, regardless of race, socioeconomic status or disability, perform at or above proficient in the areas of reading and mathematics.

The federal government continues to place emphasis on statewide academic performance standards and the ability of students, schools, and school systems to achieve the standards. A key component for education reform detailed in NCLB is professional development. NCLB requires a commitment to sustained, high quality, effective professional development programs. Ideal professional development programs are targeted to the needs of both the teachers and their diverse student populations.

Given the importance that NCLB places on professional development as one of the major strategies to impact student achievement through improved teacher practice, this study examined the relationship between mathematics student achievement and professional development.

Effective Professional Development

Professional Development (PD) is important. It is the vehicle through which teachers attain valuable information that is vital to improved student achievement results. Skilled teachers have a significant impact on student learning. The mid-Atlantic state where this study was conducted asserts that “effective professional development helps teachers continue enhancing their knowledge and skills throughout their careers” (state website p.1-standard). The training and implementation of programs and innovations that are conveyed through professional development sessions are the keys to continuous school improvement. In response, the state has developed a set of clear goals related to the professional development standards and indicators with the intention of providing the highest quality PD to the state teachers.

The goals of PD are to:

- Provide a clear vision of high quality professional development that recognizes local needs, priorities, and resources;
- Guide planning, designing, implementing, and evaluating high-quality professional development including both professional development programs and an entire professional development agenda;
- Support alignment of professional development with goals for improving student learning and state, district, and school policies and priorities;
- Inform allocation of resources for professional development; and
- Define accountability for ensuring that professional development is of the highest quality and readily accessible to all teachers. (state website p.1-standard)

Experts have developed checklists and guidelines about what components should be included in high quality professional development programs for teachers. The most common features are: building teacher content knowledge, alignment with standards and curricula teachers are expected to teach, utilizing student data and enhancing teachers’

knowledge of teaching practice. PD programs are expected to be ongoing and job-embedded. They should be rooted in teacher collaboration, build leadership, and reflect teachers' needs (www.mdk12.org/instruction/prodev).

Researchers have conducted empirical studies to validate the effects of professional development. The Regional Educational Laboratory (REL) Southwest funded a study to review the research-based evidence on the effects of professional development on student achievement. More than 1,300 studies were examined in mathematics, science, reading, and English/Language Arts using What Works Clearinghouse evidence standards for assessing rigor. Nine studies met evidence standards. Results indicated that teachers who received an average of 49 hours of professional development increased student achievement scores by 21 percentile points on average. Studies that had more than 14 hours of PD demonstrated a positive and significant effect on student achievement. Studies with fewer than 14 hours showed no statistically significant effect on student achievement.

A Mid-Atlantic State's Professional Development Standards

The state where this study was conducted is recognized as a national leader in professional development. The state requires all districts to utilize the state teacher professional development standards to guide efforts that will improve professional development for all teachers. Districts are charged with providing PD programs that are high quality and readily accessible to all teachers. They have invested millions of dollars in professional development programs for teachers. The state has developed a set of nine teacher professional development standards based on the National Staff Development Council's Standards for Staff Development. The standards are guided by four assumptions that enumerate factors that ensure effective professional development. The assumptions are:

1. *Professional development is most effective when it takes place in vibrant professional learning communities.* The state expects school districts to make sure that all schools are operating as fully functioning professional learning communities. Collaboration, problem-solving and collegiality are three of the required components
2. *Professional development is most effective when there are strong leaders.* District and school leadership members are expected to promote and facilitate high quality professional development programs for the teachers. Leaders should work to provide opportunities for PD and communicate with teachers about PD on a regular basis.
3. *Professional development is most effective when there are adequate resources.* Resources should come from a variety of sources. In order for PD to be effective, investments in money, people, and time are essential.
4. *Professional development is most effective when there is consensus around clear expectations for what teachers should know and be able to do to help all students learn.* This assumption is consistent with the NSDC definition of effective professional development.

(mdk12.org/instruction/prodev)

The states' professional development content standards describe specific indicators for each district level program. There are nine standards that guide all professional development activities in all districts of the proposed state. These standards address best practices and multiple aspects of effective professional development programs *including content knowledge, quality teaching, collaboration, diverse learning needs, and student learning environments.* One of the included standards is concerned with evaluation. The state expects all districts to evaluate professional development programs. They maintain that the purpose of evaluation is to identify the specific impact

on teaching and student achievement results. Individuals who plan professional development are expected to include evaluation and feedback on results as part of the program. Evaluation is vital in order to effectively plan and deliver professional development.

This study focused on professional development evaluation and the relationship to student mathematics achievement. There is statewide support and an expectation for evaluation as an integral part of professional development. The researcher sought to examine the professional development evaluation practices across middle schools within a mid- Atlantic state.

Professional Development Evaluation

Professional development consumes resources. Resources include time, money, and materials. Districts need to be able to ascertain whether the resources are being used effectively. In order to make this determination, professional development programs need to be evaluated.

Guskey's (2000) professional development evaluation model identifies four critical reasons for schools and districts to focus on professional development evaluation:

1. Professional development must be ongoing and job-embedded. In order to practice newly acquired skills, the school environment must facilitate and support continued practice. Evaluations serve to assess the professional growth of teachers.
2. Successful PD that results in systemic change must be intentional, purposeful and methodical. This requires systematic data collection and analysis. PD evaluation is needed to gather these data.
3. Continuous support of educational reform helps to inform and guide the next steps of decision makers. PD evaluation can confirm or refute the effectiveness of a focused program.

4. Educational improvement as measured by student growth is expected by key stakeholders. Administrators, boards of education, government agencies and parents demand increased accountability and evidence of growth and success. PD evaluation can be a vehicle to provide evidence of growth. (p. 382-384)

Archibald, Coggshall, Croft and Goe (2011) identify four reasons for professional development evaluation. Evaluation is important because it:

- Provides evidence of effectiveness and efficiency to decision makers and funders
- Facilitates program improvements or decisions to scale up or discontinue.
- Ensures that teachers' time and investment was not (and will not) be wasted.
- Advances the field.

Noyce (2006) supports the idea of professional development evaluation. He recommends that districts devote ten percent of professional development costs to evaluation. He contends that it is of vital importance for a district to be able to recognize whether or not an intervention works in order to effect change. Noyce maintains that this practice will result in a great payoff. A combination of increased teacher productivity and satisfaction coupled with an increase in student learning and growth will be natural and logical by-products of professional development.

Killion (2002) states that more and better evaluations that focus on the relationship between professional development and student learning are needed. Killion goes on to share seven conditions where professional development evaluation is most powerful. They are:

1. The focus of evaluation is on results in addition to the means. It is important to focus on student results as opposed to solely how participants reacted to their learning experiences.
 2. Evaluation focuses on the big picture. It focuses on the whole experience in addition to the parts. Evaluations should be sure to include the comprehensive program as opposed to isolated parts.
 3. Evaluation is related to comprehensive program planning. Evaluations should be developed during planning, not as an afterthought.
 4. Evaluation should promote “evaluation think.” The evaluator should be able to critically analyze the results and look for evidence.
 5. Staff developers should use the appropriate types of tools to collect data about staff learning. The evaluator should know how to construct a valid and reliable tool.
 6. Good evaluations include practitioners who are knowledgeable about the evaluation process. They should have a solid understanding of how to evaluate their programs.
 7. Effective evaluations provide appropriate funding and allocations to evaluate PD. This should be addressed during the planning phase of PD.
- (p. 139)

Many schools and districts are apprehensive about evaluating professional development. In addition to the resources and time commitment needed to do it effectively, many are not sure how to evaluate beyond satisfaction. Williams (1996) urges those responsible for professional development planning to work on the training design and measurement planning simultaneously. The end goal is to have a measurement conversation where the following questions can be answered:

1. How are you measuring results?

- 2 How are you measuring the effectiveness of your strategy in delivering those results?

Williams maintains that there are simple ways to measure change and results. Six examples include:

Surveys- written or telephone questionnaires used for quantitative or qualitative measurement.

Focus groups or Interviews- face- to face meetings to collect qualitative information.

Performance Management- the method an employer uses to assess how well each employee is doing his or her job.

Case group or control group studies- a method in which one group participates in an initiative and a second group does not. The researcher compares the results of the two groups.

Analysis of raw data- looking at a data set and drawing conclusions directly from the data set.

Multivariate analysis- statistical analysis that lets the researcher remove variables that have nothing to do with the issue under study (Williams, 1996, p.29).

Evaluation Models

The researcher decided to examine a number of evaluation models to determine the one that is best suited for a study of professional development and student achievement. Historically, many evaluation models have been used to determine the effectiveness of professional development. The following section describes the main characteristics of these evaluation models: Tyler, Hammond, Scriven, Stufflebeam, Kirkpatrick, and Killion.

Tyler's Evaluation Model

Ralph Tyler developed one of the earliest models of evaluation in the 1930s and 1940s. Tyler's model emphasized the importance of clarifying the intended goals of a program or activity as the primary step. Evaluation was defined as the process of determining the extent to which the goals were being met. Tyler's evaluation model included a systematic, seven-step approach:

1. Establish broad goals or objectives.
2. Classify the goals or objectives.
3. Define objectives in behavioral terms.
4. Find situations in which achievement of objectives can be shown.
5. Develop or select measurement techniques.
6. Collect performance data.
7. Compare performance data with behaviorally stated objectives.

Tyler's model highlighted the significance of educators continually re-examining the meaning of the goals that are set.

Hammond's Evaluation Model

In 1973, Hammond extended the work of Tyler. He provided a detailed structure that added value to the reasons why intended goals were met or not met. Hammond's three-dimensional model explored "why" questions. The dimensions and factors in Hammond's model included instruction, institution, and behavior. The model evaluated:

1. Characteristics of the program being evaluated.
2. Characteristics of individuals or groups involved in the project or activity.
3. Characteristics of the objectives if the program or activity being evaluated.

Hammond's model was informative; however, it was extremely complicated and labor intensive.

Scriven's Goal-Free Evaluation Model

Scriven (1972) maintained that primary focus on well-defined goals was a major limitation of the existing evaluation processes. He developed a goal-free evaluation model to increase the likelihood of identifying and reporting unintended outcomes. Scriven's evaluation model examined and evaluated the goals of the program and placed emphasis on the actual outcomes of a program or activity.

Stufflebeam's CIPP Evaluation Model

Stufflebeam's management-oriented evaluation model focused on decision-making processes. The CIPP evaluation model concentrates on the decisions that leaders must make and the information that they need to make those decisions. The model is designed to obtain four different types of evaluation information including context, input, process, and product. Stufflebeam's model collects data and helps to provide evidence to make effective decisions.

Killion's Theory of Change Model

Killion (2006) used a theory of change evaluation model to develop an eight-step evaluation process to build pathways with evidence to measure the impact of professional development on student learning. Killion asserts that in addition to implementing the steps of the process, evaluators must first believe that the professional development has the ability to produce the intended results. The eight steps include:

1. *Assess evaluability.* The design of the PD needs to be examined to determine the likelihood of producing the intended results.
2. *Formulate evaluation questions.* Formative and summative questions need to be designed by evaluators that focus on the beginning, intermediate and ultimate goals and objectives of the professional development.

3. *Construct the evaluation framework.* The evaluator needs to identify the type of evidence to collect, source and methods for collection and analysis of the evidence.
4. *Collect Data.* Data collection methods identified in step 3 are implemented in order to gather evidence that answer the evaluation questions.
5. *Organize and analyze data.* The data are organized, analyzed, and displayed in a variety of formats.
6. *Interpret Data.* Stakeholders and evaluators work collaboratively to make meaning of the results, draw conclusions and develop recommendations.
7. *Report findings.* Findings and recommendations are presented in a variety of formats for different audiences.
8. *Evaluate the evaluation.* The evaluator engages in an analysis of his/her evaluation methodology and processes. This step includes identifying strengths and areas of opportunity. (p. 5)

Kirkpatrick's Evaluation Model

Assessing training effectiveness often entails using the four-level model developed by Donald Kirkpatrick. In Kirkpatrick's model, evaluation progresses from level one through four chronologically. Kirkpatrick asserts that all evaluation begins at level one. Each level builds on information from the prior level. As evaluation increases in level, so do the complexities. Issues of time and money are involved in the higher levels as well. Higher level evaluations result in a more precise measure of the effectiveness of a program as a direct result of a more rigorous and arduous analysis of the findings.

Level 1 Evaluation- Reactions

This level measures how participants in a training react to it. In this level the trainees indicate how well they liked it. Reaction is easy to measure because it doesn't include any learning. It attempts to answer the questions regarding the participants' perceptions- Did they like it? Was it relevant? This is the lowest level of evaluation necessary to provide for the improvement of a program. A negative reaction almost always results in zero learning.

Level 2 Evaluation- Learning

This level of evaluation attempts to assess the extent to which participants have gained new skills, knowledge or attitude towards a particular program. Several measurement methods are available at this level. Tests range from formal and informal testing to team assessment and self-assessment. The best method at this level is testing before the training (pre-test) and after the training (post-test). The difference is the amount of learning that has taken place. Kirkpatrick defines learning as the principles, facts, and techniques that were transferred and absorbed by the program participants.

Level 3 Evaluation- Behavior

This level measures the amount of transfer in the participant's behavior as a result of the professional development program. In order for a PD program to be successful, trainees must change their behaviors as a result of their newly gained knowledge. Once the behavior changes, one can assess whether or not the newly acquired skills, knowledge or attitude are being used daily. Measuring at this level is often difficult. Many trainers tend to "trust" that behavior has indeed changed as a result of their investment in the PD program. Kirkpatrick asserts that evaluation at this level requires a scientific approach.

Level 4 Evaluation- Results

This level of evaluation attempts to assess training in terms of desired results. It provides the most thorough and the most helpful information. This level of evaluation answers the question- was it worth it? It is straightforward and direct. It seeks to ascertain whether or not the intention of the PD program was met. In education, the bottom line is always increased student achievement results. No matter what the PD program purports to teach, the end result should always be beneficial for students. This benefit should be clear in terms of advanced skills and mastery of a particular subject. Kirkpatrick reminds us that there are many uncontrollable factors that affect desired results both positively and negatively. This level of evaluation is the most difficult and complex to acquire. Early models do not include implementation guidelines for this level of evaluation; however, his later works do.

After applying the four levels of Kirkpatrick's evaluation to many professional development programs in education, Thomas Guskey began to realize that PD efforts were not yielding positive results and the model could not provide an explanation as to why. Further inspection pointed to a problem at the organizational level. Guskey added a fifth level in the middle of Kirkpatrick's model to meet this need. This fifth level is labeled "organizational support and change." It examines district level demonstrated commitment and response to professional development efforts.

A meta-analysis of the most frequently utilized components of professional development evaluation models was conducted by Desimone (2009). Results confirm the five levels identified in Guskey's conceptual framework are critical for improving professional development. Specifically, evaluations that focus on participant knowledge, practices and student achievement are highlighted. Mullens, Murnane and Willett's (1996) research found similar conclusions. Participant knowledge and practices were substantiated as having considerable relationships to student achievement.

Newmann (2010) applied Guskey's professional development evaluation model in a community college setting. Findings typify the framework as an "effective means to assess the impact of a professional learning" (p. 83). Guskey's framework yielded data that provided broad-based applications of the impact of professional development at both micro and macro views. Moreover, Newmann asserts final data provided to stakeholders helped to inform key decisions regarding professional development experiences.

For the purpose of this study, Guskey's five critical levels of professional development evaluation model was used as the conceptual framework. This model was discussed in chapter one of the document and outlined in Table 1. Guskey provides a holistic process for evaluating professional development in education that encompasses the training, teacher actions, school district and impact on learning. Guskey's model is comprehensive and can be applied to all types of professional learning activities that exist across a school district. The researcher selected Guskey's professional development evaluation model as the focus for this study because of its promise of depth, comprehensibility, and practical nature.

Mathematics is a critical component of student success. Middle school mathematics has a significant impact on a student's future. Middle school is the only level where all students are assessed every year for No Child Left Behind. Guskey (1998, 2000, 2002, 2009) avers higher levels of professional development evaluation results in a positive impact on student achievement. With sustained national focus and accountability demands, the researcher conducted a mixed methods study that explore and described professional development evaluation across middle schools in Kennedy County Public schools and examined the perceptions of principals, staff development teachers, and staff development instructional specialists/directors regarding the utilization of professional development evaluation. The quantitative and qualitative data were compiled and their evaluation practices were described based on Guskey's conceptual framework for

professional development evaluation. These findings helped the researcher identify the most common level at which each school evaluates professional development, draws conclusions, and make generalizations.

CHAPTER III

METHODOLOGY

Introduction

All aspects of the research methodology used in this design study will be reported in this chapter. Information is organized in the following sections: research design, conceptual framework, setting, participants/subjects, research questions, procedures, instrumentation, data collection, and data analysis.

Research Design

A mixed methods sequential explanatory study allowed for greater generalizability than solely quantitative or qualitative methodology. Quantitative research is focused on the gathering and analysis of numerical data to develop conclusions.

Quantitative data are commonly viewed as more objective. Using positivist philosophy, quantitative researchers assert “time and context-free generalizations are desirable and possible and real causes of social scientific outcomes can be determined reliably and validly” with the use of numerical data (Johnson & Onwuegbuzie, 2004, p.14).

Quantitative research is focused on the development of hypotheses and tests of theories.

Conversely, qualitative research relies on the use of non-numerical sources of information. Specifically, Creswell (1998) describes qualitative research as “a process of understanding where the researcher develops a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting” (p. 15).

Qualitative research is “pragmatic, interpretive, and grounded in the lived experiences of people” (Marshall & Rossman, 2006, p.2).

This study used a mixed methods approach in order to apply an “intuitive way of doing research that is constantly displayed through our everyday lives” (Creswell, 2006, p. 1). This design will be used to collect, analyze, and integrate both qualitative and

quantitative data. Tashakkori and Creswell (2007) define mixed methods as “research in which the investigator collects and analyzes data, integrates the findings, and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry” (p. 4). Researchers recognize mixed methods research as an “accessible approach to inquiry” (Creswell, 2006, p. 2) in part because it provides the opportunity for a variety of presentations—numerical and text. Johnson and Onwuegbuzie (2004) assert both quantitative and qualitative data are important and useful. The goal of mixed methods research is to draw from the strengths and minimize the weaknesses of both in single research studies and across studies (pp. 14-15).

Johnson and Onwuegbuzie (2004) posit mixed methods research takes a pragmatic and balanced position to show how research approaches can be successfully integrated. The pragmatic method advocates selection of the “combination or mixture of methods and procedures that work best for answering [your] research questions” (p. 6). Pragmatism asserts the belief that quantitative and qualitative methods are compatible. The goal is to use the data—numerical and text—to clarify and explain the research problem.

The use of mixed methods provided trend information regarding the types of professional development activities that are being evaluated and the levels, along with the participants’ words and explanations. This study utilized a sequential explanatory mixed methods design. Creswell (2003) asserts the overall process of this type of design is that qualitative data help explain or build upon initial quantitative results. The primary method that was used was quantitative. In the first phase, a web-based survey was used to collect numerical data that were analyzed using descriptive statistics.

The qualitative aspect of this research was conducted using focus groups. Focus groups are carefully planned discussions designed to obtain perceptions on a specific area in a non-threatening, open environment. This study sought to describe and understand

how middle schools are evaluating professional development programs and the differences in evaluation between middle schools that meet state standards in mathematics and those that do not. Focus groups allowed the researcher to probe and explore different possibilities.

Conceptual Framework

Assessing the effectiveness of professional development entails using the five-level model developed by Thomas Guskey. This mixed method study was designed to investigate the extent to which professional development evaluation is occurring in secondary schools and the levels of PD evaluations. Guskey asserts the purpose of evaluating training programs is to determine effectiveness, merit, or worth. Evaluation progresses from level one through level five chronologically. Guskey avers that all evaluation begins at level one. Each level builds on information from the prior level. As evaluation increases in level, so do the complexities. Issues of time and money are involved in the higher levels as well. Higher level evaluations result in a more precise measure of the effectiveness of a program as a direct result of a more rigorous and arduous analysis of the findings.

Level 1 Evaluation- Reactions

Guiding Questions: How do the participants feel about the program they attended? To what extents are they “satisfied customers”?

This level measures how participants in training react to it. In this level the trainees indicate how well they liked it. Reaction is easy to measure because it doesn't include any learning. It attempts to answer the questions regarding the participants' perceptions. Did they like it? Was it relevant? This is the lowest level of evaluation necessary to provide for the improvement of a program. A negative reaction almost

always results in zero learning (Kirkpatrick, 1986). Effective evaluation at this level includes five minimum standards that should be applied. They are:

1. Determine what you want to find out;
2. Use a written comment sheet with the items determined in the task above;
3. Design the sheet so that reactions can be tabulated and quantified;
4. Obtain honest reactions by making the sheet anonymous; and
5. Allow trainees to write additional comments not covered by the questions designed to be tabulated and quantified.

Level 2 Evaluation- Learning

Guiding Questions: Did participants acquire the intended knowledge and skills?

To what extent have their attitudes been changed?

This level of evaluation attempts to assess the extent to which participants have gained new skills, knowledge, or attitude towards a particular program. Several measurement methods are available at this level. Tests range from formal and informal testing to team assessment and self-assessment. The best method at this level is testing before the training (pre-test) and after the training (post-test). The difference is the amount of learning that has taken place. Learning has been defined as the principles, facts, and techniques that were transferred and absorbed by the program participants. Five indicators for measuring learning include:

1. Measure the learning of each trainee so that quantitative results can be determined;
2. Use before and after approach so that learning can be related to the program;
3. As much as possible the learning should be measured on an objective basis;

4. Where possible, use a control group to compare with the experimental group that receives the training; and
5. Analyze the evaluation results statistically so that learning can be proven in terms of a correlation or level of confidence.

Level 3 Evaluation- Organization Support and Change

Guiding Questions: What was the impact on the organization? Did it affect organizational climate and procedures?

Guskey maintains the impact on the organization has a critical influence on the implementation of new policies and procedures. The response of a district towards a new innovation or strategy is directly related to the results. Guskey argues that organizations should show that they are in favor of a particular innovation by making it visible. This sends the message to the participants that the expectation is that they will implement and monitor the innovation. Evaluation at this level requires not only advocacy, but support, accommodations, facilitation, and recognition as well. In addition to public support, the district must also dedicate sufficient resources to sustain the innovation.

Level 4 Evaluation- Use of New Knowledge and Skills

Guiding Questions: To what extent has behavior changed as a result of attending the training programs? Did participants effectively apply the new knowledge and skills?

This level measures the amount of transfer in the participant's behavior as a result of the professional development program. In order for a professional development program to be successful, participants must change their behaviors as a result of their newly gained knowledge. Once the behavior changes, one can assess whether or not the newly acquired skills, knowledge or attitudes are used daily. Measuring at this level is often difficult. Many trainers tend to "trust" that behavior has indeed changed as a result of their investment in the professional development program. Evaluation at this level

requires a scientific approach. The following factors should be considered when evaluating professional development in terms of behavioral changes:

1. Conduct a systematic appraisal of on-the-job performance on a before and after basis;
2. The appraisal of performance should be made by one or more of the following groups: trainees; trainees' supervisor; subordinates and peers; and others familiar with the trainees' on-the-job performance;
3. Conduct a statistical analysis to compare before and after performance and to relate changes in the training;
4. Conduct a post-training appraisal three months or more after training so that trainees have had a n opportunity to put into practice what they have learned; and
5. Use a control group. Some of the difficulty with this level lies in the fact that few trainers have the knowledge, skill and time to engage in this level of evaluations. This type of evaluation is time consuming and very labor intensive. In order to engage in this level of evaluation, trainers must sometimes be willing to call in statisticians, researchers, and consultants for additional help.

Level 5 Evaluation- Results- Student Learning Outcomes

Guiding Questions: To what extent have results been affected by the training program? What was the impact on students?

This level of evaluation attempts to assess training in terms of desired results. It provides the most thorough and the most helpful information. It attempts to answer the question of the bottom line - was it worth it? This level of evaluation is straightforward and direct. It seeks to ascertain whether or not the intention of the professional development program was met. No matter what the professional development program

purports to teach, the end result should always be beneficial for students. This benefit should be clear in terms of advanced skills and mastery of a particular subject. A variety of uncontrollable factors affect desired results both positively and negatively. This level of evaluation is the most difficult and complex to acquire. Implementation guidelines for this level of evaluation include guidelines for trainers to use including the use of a control group if possible; provide enough time for results to be achieved; measure both before and after training; repeat the measurements at appropriate times; consider the cost of evaluation versus the potential benefits; and finally, be satisfied with evidence if absolute proof isn't possible to attain.

Setting

Kennedy County is a public school district located within a mid-Atlantic state. Kennedy County (KCPS) is one of the most affluent counties in the United States, and has the highest percentage (29.2%) of residents over 25 years of age who hold post-graduate degrees. Most of the county's residents live in unincorporated locales. According to the county planning board in 2010, the county has an estimated population of 971,777 inhabitants and a total land area of 497 square miles. KCPS has the lowest unemployment rate and the highest per capita income of any jurisdiction in the state.

KCPS ranks number one in terms of population and per pupil expenditures. There are 200 schools in KCPS, both rural and suburban. They include 131 elementary schools, 38 middle schools, 25 high schools, 7 special education centers and 1 career technology center. The 2010 Census Update Survey reported that the 2007 median family income was \$106,093 and 55.6% of all adults age 25 and older had obtained a bachelor's degree or higher. The county is centrally located. KCPS is divided into six geographic regions—three suburban, one urban, and two rural. Each area encompasses at least four high schools with feeder middle and elementary schools.

There are approximately 145,622 students in KCPS. The student demographics are diverse. Approximately 15.7% of the students are Asian, 23.4% are African American, 23.4% are Hispanic, 37.2% are White and .3% is Indian. More than 31% of Kennedy County's students receive free and reduced price meals (FARMS) and 14, 718 students receive services from the English Language Learners (ELL) programs.

Kennedy County has an impressive achievement record. In 2006, 88% of kindergarten students mastered reading simple texts with no achievement gap between White and African American students. Eighty percent of high school seniors take the Scholastic Achievement Test (SAT) annually with an average score of 1653. Sixty-five percent of seniors take at least one Advanced Placement (AP) exam in KCPS.

Research Questions and Statistical Hypotheses

Research Question 1

From the perspectives of middle school principals, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 1

From the perspectives of middle school principals, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

Research Question 2

From the perspective of staff development teachers, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 2

From the perspective of staff development teachers, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

Research Question 3

From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, are there differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)?

Hypothesis 3

From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, there are no statistically significant differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization

support/change, participant's use of new knowledge and skill, student learning outcomes).

Research Question 4

What types and levels of professional development evaluation are occurring in middle schools in Kennedy County?

Subjects/Participants

The target population in this study was middle school principals, staff development teachers and district level professional development directors/supervisors. These positions were selected based on their familiarity and direct involvement with professional development that teachers receive in secondary schools. School principals are responsible for determining the kinds of professional development needed in their buildings and monitoring their effectiveness. Staff development teachers implement the vision of the principal with the staff members. They are responsible for collaborative planning of the activities/sessions including the method for evaluation. They are involved in the decision making and they gather regular input and feedback from teachers. As co-planners and presenters, they have a full picture of professional development programs that are offered in schools and the levels of evaluation that are used within their schools. District level professional development personnel work directly with schools during delivery and/or support the schools by working with the staff development teachers to provide resources and help with planning. These positions are inextricably linked to the implementation, monitoring, and evaluation of professional development in this district.

The first phase of this study—quantitative—utilized a purposeful sample of the population of middle school principals, staff development teachers and district level instructional specialists/directors to eliminate conscious and unconscious bias in the selection of a sample. Kerlinger (1986) defines randomization as “the assignment of

objects (subjects, treatments, groups, etc.) of a population to subsets (sample) of the population in such a way that, for any given assignment to a subset (sample), every member of the population has an equal probability of being chosen for that assignment” (p.289).

The qualitative phase of the study employed the use of a convenience sample for the focus group interviews. The researcher intentionally selected individuals to learn and understand the central phenomenon (Miles & Huberman, 1994). Information-rich principals, staff development teachers, and district level staff development instructional specialists/directors who can best answer the focus group questions “What types and levels of professional development evaluation are occurring in middle schools? Are there differences in levels of evaluation between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards?” were selected. In the survey informed consent form, the participants were informed that representatives from each group would be identified to participate in voluntary focus group interviews.

Procedures

Following the approval of the dissertation proposal by the research committee and the University’s Human Subjects Review Board, the researcher requested permission from Kennedy County Public School District division of research to conduct the study. There are 38 middle schools in the county school district. The district is divided into six geographic regions with an area superintendent assigned to each area. In collaboration with these area superintendents, the researcher selected 30 middle schools for inclusion in the study. Thirty principals, 30 staff development teachers, and 5 district level staff development instructional specialists/directors were selected for participation in the quantitative survey portion of this study.

Schools were selected to participate in this study based on their state assessment results in mathematics. Selected schools will comprise two categories: schools that met state standards in math for all student groups and schools that did not meet state standards in math for all student groups.

The primary method for quantitative data collection was survey. Lowden (2003) developed a survey instrument to ascertain the effects of professional development. Lowden's survey was designed to measure the extent to which professional development results in changes in teacher knowledge, skills, classroom practice, and perceptions of student learning. Questions address all five levels of Guskey's professional development evaluation framework.

In developing the survey, Lowden (2000) began with a survey design that was based on research literature to include outcome measures of professional development and Guskey's model of teacher change. A panel of experts including an assistant superintendent for curriculum and instruction, two college professors, and a group of teachers and professional development committee members was interviewed to assess and examine survey items in order to establish face and content validity. The survey instrument was pilot tested with a team of experts in the field of education and professional development to improve the format and questions contained in the survey. The survey was modified as a result of their feedback.

The reliability of Lowden's instrument was established by conducting a Cronbach alpha to determine the internal consistency of the survey and the extent to which there was cohesiveness among the Likert survey items. For each item, its variance across respondents over the possible range of scores was calculated and then the sum of variances was obtained.

The 27-question survey instrument contains self- assessment items measured on a 5-point Likert scale and selected response questions. The researcher used electronic mail

to distribute the invitation letters and the electronic link to the web-based survey to a sample of secondary principals, staff development teachers, and district level instructional specialists/directors. The researcher utilized an online survey website engine and data collection program, Survey Monkey. Survey Monkey enables a researcher to obtain individual responses, group responses, filtered responses, and a database of results. Utilization of the web-based survey allowed for accurate and precise data transfer using Microsoft Excel and the Statistical Package for Social Sciences (SPSS) data analysis software.

Six principals, six staff development teachers, and two district level staff development instructional specialists/directors were purposefully selected for focus group interviews. Two focus groups were formed: one for principals and one for staff development teacher, instructional specialists/directors. Table 2 displays the sample that was invited to participate in the survey.

Prospective respondents received a personal message from the researcher explaining the purpose of the study, an endorsement of the study from the associate superintendent for research, and the deputy superintendent of schools authorizing participation and highlighting the importance of their input. Respondents also received an assurance of anonymity and an informed consent form with the invitation letter. The first page of the survey was posted as an electronic informed consent form that reminds respondents' participation is optional. Participants had to choose "yes" to express agreement and compliance with survey completion. In an effort to ensure a relatively high response rate, Dillman's (2000) three-phase follow-up sequence was employed. The three phases address the subjects who do not respond by the pre-determined two-week due date. The first two phases require e-mail reminder notices to be sent out from the researcher at five days and ten days respectively. The third phase includes an e-mail

reminder two weeks later which will reiterate the importance of their participation in the study.

Table 2

Study Sample

	Population	Survey Sample	Focus Group
Principals	38	30	6
Staff Development Teachers	38	30	6
District Level Staff Development Instructional Specialists/ Directors	8	5	2

Instrumentation

The instrument for this study was the Professional Development Survey developed and implemented by Dr. Lowden (Appendix A). The survey was adapted and used for data gathering. For the purposes of this study, permission to use and adapt the study was granted by Dr. Lowden (Appendix B). After responding to the content questions in the survey, respondents were presented with a page requiring demographic information, including current position, level, educational attainment, and years of experience in the field of education.

The first section of the survey determined the perceptions of professional development at five levels of evaluation including: reactions, learning, organization support/change, participant’s use of new knowledge and skill, student learning outcomes using a 5-point Likert scale with responses ranging from “strongly disagree” to “strongly agree.” These data provided information about the current state of professional development evaluation across schools.

The focus group probes, created by the researcher, asked for comments on the levels of evaluation that are most often used for professional development activities. Participants responded about different practices from Guskey's professional development evaluation conceptual framework and described what is measured and how the information gathered from evaluation is used in their school(s). Using specific guiding questions from Guskey's professional development evaluation framework, respondents were asked to reflect and discuss how they specifically address those questions in their professional development evaluations.

Data Collection

Upon receiving written approval from the school system, the researcher disseminated the initial request for participation to potential respondents. Electronic mail addresses were readily available for all potential participants in the study. In conjunction with the initial request, respondents received a district level endorsement, informed consent form, and anonymity assurance information. This information was sent to 30 principals, 30 staff development teachers, and 5 district level staff development instructional specialists/directors.

Qualitative data collection occurred through focus group interviews. Six principals, 6 staff development teachers, and 2 district level staff development instructional specialists/directors were purposefully invited to participate in two rounds of focus group interviews—one for principals and one for staff development teachers, instructional specialists/directors. Subjects were asked to sign informed consent forms indicating their agreement to respond to the focus group questions. These follow-up interviews were designed to extract specific information about how schools are using evaluation results. A moderator's guide with interview questions was designed using Guskey's five levels of professional development evaluation conceptual framework. Focus group interviews were conducted by the researcher.

Table 3

Guskey's Five-Level Model of Evaluating Professional Development

Level	Evaluation Type	How information is used
1	Participants' Reaction	To improve program design and delivery
2	Participant's Learning	To improve program content, format, and organization
3	Organization Support and Change	To document and improve organizational support; to inform future change efforts
4	Participant's Use of New Knowledge and Skills	To document and improve the implementation of program content
5	Student Learning Outcomes	To focus and improve all aspects of program design, implementation, and follow-up; to demonstrate the overall impact of professional development

Data Analysis

This study focused on identifying the types of professional development activities that are being evaluated across schools, the format of evaluated professional development and the levels of evaluation that are occurring across schools in Kennedy County. The study utilized one of the most common mixed methods approaches—explanatory design. The overall premise of this design method is that qualitative data helps build upon or explain initial quantitative results (Creswell, Plano Clark et al., 2003). This design began with the collection and analysis of the quantitative data using a web-based survey in the first phase. The subsequent collection and analysis of the qualitative data through focus group interviews connected to the quantitative data.

The survey instrument was analyzed using quantitative methods by the researcher to answer research questions 1, 2, and 3. The survey's "basic aim is to describe and explain statistically the variability of certain features in a population" (Creswell, 2006, p.125). The survey data were analyzed using the mean and standard deviation. Data were also analyzed by computing Cronbach alphas to identify inter-item reliability. Correlations were computed and analyzed for responses of principals, staff development teachers, and district level staff development instructional specialists/directors. Descriptive statistics including the t-tests for independent samples were calculated. Analysis of variance (ANOVA) was conducted to look for differences between the principals, staff development teachers, and district level staff development instructional specialists/directors. The results of the analysis are reported in the form of a discussion. All statistical analysis of the quantitative results will be conducted with the help of Statistical Package for Social Sciences software (SPSS), version 16.0.

The qualitative data for the study were collected through focus groups to answer research question 4. Bosch (1987) maintains that the use of focus groups is a technique used to obtain data about feelings and opinions of small groups of participants about a given problem, experience, service or other phenomenon. The text and image data obtained through the interviews were recorded and transcribed. Respondents had an opportunity to review their responses and make corrections or changes as needed in order to ensure internal validity. Following this process, the transcriptions were coded and analyzed for themes.

In accordance with Creswell (2002), the researcher conducted a series of steps in order to complete the qualitative data analysis. The steps included: preliminary exploration of the data by reading the transcripts; segmenting and labeling the text in order to code the data; aggregating similar codes in order to develop themes; connecting

and interrelating themes; and constructing a narrative. The patterns and clusters that emerged were used to draw conclusions.

Summary

In summary, this chapter has outlined the procedures of inquiry that were used to investigate the types of professional development activities that are being evaluated, the levels of evaluation according to Guskey's five-level model for evaluating professional development conceptual framework, and ways in which schools are using evaluation results to guide decisions about professional development activities that are provided to secondary teachers. This chapter described the research design, proposed methods and procedures for collecting and analyzing the data for this study. The results from the data were used to confirm or refute the study's hypotheses and draw conclusions about professional development evaluation.

CHAPTER IV

FINDINGS

Introduction

As stated in chapter 1, federal laws expect schools to bring every student to dramatically higher standards of academic achievement. President Obama's administration has identified school improvement as a national imperative. Competitive grants worth billions of dollars will be distributed to states based on student achievement and performance pay. Boyer contends "school improvement means people improvement . . . so when we talk about excellence or improvement or progress, we are really talking about the people who make up the building (in Sparks, 1984, p. 5). Empirical studies have confirmed the strong impact of teachers. Hattie's (2009) and Marzano's (2003) meta analyses found that the quality of instruction students receive in their classrooms is the most important variable in student achievement.

Professional development to build collective capacity has been identified as the "breakthrough strategy that will enable ordinary people to accomplish extraordinary things" (Fullan, 2010, p.72). Professional development allows teachers to continuously improve both their individual and collective professional practice. Middle schools across the nation are searching for ways to help students find success. The law mandates demonstrated annual success in reading and mathematics for students in grades 6, 7, and 8. Middle school mathematics is particularly important because of the documented impact of middle school mathematics on the future success of students in high school, college and career, in addition to the high level of federal accountability and expectations.

Killion (2006) and Guskey (2009) affirm the importance of evaluations as an integral facet of professional development. Examining one district's middle school effects of professional development evaluation on job performance, system effectiveness, and

student success should enhance our understanding of this relationship and provide important information regarding the potential impact on student achievement for this school system and other school systems.

Purpose of the Study

This mixed-method study was designed to examine the extent to which perceptions of middle school principals, staff development teachers, and district level staff development instructional specialists differ about professional development evaluation in middle schools identified as meeting state standards in mathematics and those identified as not meeting state standards in mathematics. The conceptual framework of this study was centered on the assumption that high levels of professional development have a significant impact on student achievement results.

Chapter IV presents the results of the data analysis for this study. The research design utilized both quantitative and qualitative methodologies. Questions one, two, three were quantitative and question four was qualitative. The following research questions guided this study:

1. From the perspectives of middle school principals, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics?
2. From the perspective of staff development teachers, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions,

learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics?

3. From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, are there differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)?
4. What types and levels of professional development evaluation are occurring in middle schools in Kennedy County?

Quantitative Procedures

After the researcher received approval of the dissertation proposal from the research committee and the university's Human Subject's Review Board, she requested permission from the school system's research division to conduct the study. The first phase of this research focused on quantitative methods. The main source for the quantitative data collection was the Professional Development Evaluation Survey (Lowden, 2003). The survey was e-mailed to 65 participants. The research instrument (see Appendix A) was distributed electronically to 30 principals, 30 staff development teachers, and 5 district level staff development instructional specialists. Thirty middle schools were selected to participate in this study. Of the schools selected, 10 schools were identified as meeting state standards in mathematics and 20 schools were identified as not

meeting state standards in mathematics, according to Maryland School Assessment 2011 results. Prior to receiving the survey, participants received an e-mail with a cover letter (see Appendix C), consent form (see Appendix D) and an initial invitation about the study and survey (see Appendix E). The researcher’s response rate goal was 65%. During the winter of 2013, the survey was e-mailed to principals, staff development teachers, and district level staff development instructional specialists/directors using Survey Monkey.

In an effort to ensure a relatively high response rate, Dillman’s (2000) three-phase follow-up sequence was employed. The first two phases included e-mail reminder notices from the researcher at five days and ten days respectively. By the end of the first 10 days, 56 out of 65 participants responded for a total response rate of 86.2%. The third phase of Dillman’s follow-up sequence was not needed. The final number of responses is displayed in Table 4.

Table 4

Response Rates of Principals, Staff Development Teachers, and Staff Development

Instructional Specialists/Directors

	Number of Surveys Sent	Number of Surveys Received	Response Rate (%)
Principals			
Schools that met state standards in mathematics	10	8	80.0
Schools that did not meet state standards in mathematics	20	20	100.0
Total	30	28	93.3
Staff development teachers			
Schools that met state standards in mathematics	10	5	50.0
Schools that did not meet state standards in mathematics	20	15	75.0
Total	30	20	66.6
Staff development Instructional Specialists/Directors	5	5	100.0

The second phase of this research emphasized a qualitative methodology. Data collection included focus group interviews of principals and staff developers (teachers and district level instructional specialists/directors). Two separate focus groups were used to obtain participants' perceptions of middle school mathematics and professional development evaluation.

Reliability

Cronbach alphas were used to compute reliability of the Leadership Capacity School Survey (Lambert, 2003) (Table 5). Cronbach alphas measure inter-item reliability and consistency of the survey instrument. They are used when no pretest-posttest reliability measures are available. Cronbach alphas were computed on all six domains and were checked for internal consistency. According to Gall, Borg and Gall (2006),

If a scale has a high alpha coefficient [typically, .60 or higher, with the highest possible coefficient being 1.00], it means that individuals who respond in a certain way to one item on the scale are likely to respond in the same way to the other items on that scale. (p. 196)

These data show that all of the Cronbach alphas are well above .60, as stated by Gall et al., (2006). The Cronbach alphas for instructional specialists/directors were .78 for reactions, .74 for learning, .78 for support and change, .77 for knowledge and skills, and .80 for learning outcomes. All of the data clearly indicate that the Guskey model is quite reliable.

Table 5

*Cronbach Alphas for Guskey's Five Levels for Middle Schools Meeting State Standards
In Mathematics and Those Not Meeting State Standards in Mathematics*

Evaluation Levels	Meeting State Standards		Not Meeting State Standards	
	Group 1	Group 2	Group 1	Group 2
Participant's Reactions	.74	.91	.95	.87
Participant's Learning	.79	.81	.87	.83
Organization Support and Change	.74	.91	.94	.88
Participant's Use of New Knowledge and Skill	.81	.93	.92	.86
Student Learning Outcomes	.75	.93	.93	.85

Group 1 – Principals; Group 2 – Staff development teachers

Correlation Coefficients

The researcher computed Pearson Product Moment correlation coefficients to describe the magnitude of the relationship with Guskey's five levels between schools meeting state standards in mathematics and schools not meeting state standards. A correlation coefficient can range from -1.00 to +1.00. The results are displayed in Tables 6 through 10. The researcher used an established set of criteria in interpreting these data to make judgments about the significance of the correlations (Gliner, Morgan, & Leech, 2009). If a correlation was between 0.0 and .30, it was considered to be weak; if it were between .31 and .70, it was considered modest; and if it were .70 or above, it was felt to be strong (Gliner, et al., 2009).

The correlation coefficients presented in Table 6 on principals who met state standards are all modest and none are statistically significant. This reflects two things. First, there was a small number of respondents (only eight principals); second, there was little agreement among the principals as to what the instrument was measuring.

Table 6

Correlation Coefficients for Principals Who Met State Standards

Evaluation Levels	Group 1	Group 2	Group 3	Group 4	Group 5
Participant's Reactions	1.00 (8)	.52 (8) P = .19	.45 (8) P = .27	.37 (8) P = .36	.14 (8) P = .75
Participant's Learning		1.00 (8)	.50 (8) P = .21	.49 (8) P = .23	.59 (8) P = .13
Organization Support and Change			1.00 (8)	.45 (8) P = .29	.52 (8) P = .19
Participant's Use of New Knowledge and Skill				1.00 (8)	.68 (8) P = .06
Student Learning Outcomes					1.00 (8)

The correlations in Table 7 are presented for staff development teachers who met state standards. For participant reaction, none of the correlations was statistically significant. There are two reasons: first, the number of staff development teachers was only 6; second, most of the correlations are modest. This is why the two strong correlations in participants' reactions were not significant, even though they were .81 in

both cases. The correlations for participant learning, support and change, and knowledge and skills were all statistically significant and in the strong range.

Table 7

Correlation Coefficients for Staff Development Teachers Who Met State Standards

Evaluation Levels	Group 1	Group 2	Group 3	Group 4	Group 5
Participant's Reactions	1.00 (6)	.81 (6) P = .05	.81 (6) P = .05	.51 (6) P = .31	.54 (6) P = .27
Participant's Learning		1.00 (6)	.94 (6) P = .01**	.82 (6) P = .04*	.91 (6) P = .01**
Organization Support and Change			1.00 (6)	.78 (6) P = .07	.83 (6) P = .04*
Participant's Use of New Knowledge and Skill				1.00 (6)	.93 (6) P = .01**
Student Learning Outcomes					1.00 (6)

The data presented in Table 8 indicate there was only one statistically significant correlation; it was between participant reaction and participant learning, at .92. Most of the rest of the correlations were in the modest range and were not statistically significant. Again, the number of respondents was very small and the level of agreement on what was being measured was low.

Table 8

Correlation Coefficients for Instructional Specialists/Directors Who Met State Standards

Evaluation Levels	Group 1	Group 2	Group 3	Group 4	Group 5
Participant's Reactions	1.00 (5)	.92 (5) P = .02*	.35 (5) P = .56	.78 (5) P = .12	-.08 (5) P = .90
Participant's Learning		1.00 (5)	.29 (5) P = .63	.60 (5) P = .28	.28 (5) P = .64
Organization Support and Change			1.00 (5)	.64 (5) P = .24	.80 (5) P = .10
Participant's Use of New Knowledge and Skill				1.00 (5)	.41 (5) P = .49
Student Learning Outcomes					1.00 (5)

The data in Table 9 show that all of the correlation coefficients were in the strong range, meaning they were beyond .70, and all were statistically significant. This is due to the fact that there were 20 responding principals in this table and there was much more agreement among these principals as to what evaluation levels the instrument was measuring. Two exceptions were lower than .70: organization support and change against participant use of new knowledge and skills, and organization support and change against student learning outcomes. The findings in Table 9 on principals do not imply that the principals of these schools were in some way better than principals who do meet state standards. These findings are more the results of the small number of principals responding than any other factor.

Table 9

Correlation Coefficients for Principals Who Did Not Meet State Standards

Evaluation Levels	Group 1	Group 2	Group 3	Group 4	Group 5
Participant's Reactions	1.00 (20)	.92 (20) P = .001***	.71 (20) P = .001***	.87 (20) P = .001***	.83 (20) P = .001***
Participant's Learning		1.00 (20)	.72 (20) P = .001***	.84 (20) P = .001***	.80 (20) P = .001***
Organization Support and Change			1.00 (20)	.67 (20) P = .001***	.51 (20) P = .02*
Participant's Use of New Knowledge and Skill				1.00 (20)	.91 (20) P = .001***
Student Learning Outcomes					1.00 (20)

The correlation coefficients for staff development teachers in schools that did not meet state standards were mostly in the modest range, between .31 and .70. Only four were statistically significant, indicating that the teachers had different views on what the evaluation levels were measuring. All of the correlation coefficients in Tables 6 through 10 suggest that the staff in both the achieving and non-achieving schools would benefit from high quality staff development programs.

Table 10

Correlation Coefficients for Staff Development Teachers Who Did Not Meet State

Standards

Evaluation Levels	Group 1	Group 2	Group 3	Group 4	Group 5
Participant's Reactions	1.00 (15)	.66 (15) P = .01**	.50 (15) P = .06	.52 (15) P = .05	.43 (15) P = .11
Participant's Learning		1.00 (15)	.41 (15) P = .12	.85 (15) P = .001***	.62 (15) P = .01**
Organization Support and Change			1.00 (15)	.56 (15) P = .03*	.45 (15) P = .09
Participant's Use of New Knowledge and Skill				1.00 (15)	.77 (15) P = .001***
Student Learning Outcomes					1.00 (15)

Research Question 1

From the perspectives of middle school principals, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 1

From the perspectives of middle school principals, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

The data presented in Table 11 indicate that Hypothesis 1 was accepted. There were no statistically significant differences in the means of principals between schools that met state standards and those that did not.

Table 11

Independent t-Test of Differences in Principals' Perceptions of Five Evaluation Levels Between Middle Schools Meeting State Standards in Mathematics and Middle Schools Not Meeting State Standards in Mathematics

Participant's Reactions

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	8	12.88	1.36	.25	26	.80
Standards Not Met	20	12.60	2.91			

P = < .05*; <.01**; <.001***

Participant's Learning

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	8	13.13	1.46	.24	26	.81
Standards Not Met	20	12.85	3.03			

P = < .05*; <.01**; <.001***

Table 11 (continued)

Independent t-Test of Differences in Principals' Perceptions of Five Evaluation Levels Between Middle Schools Meeting State Standards in Mathematics and Middle Schools Not Meeting State Standards in Mathematics

Organization Support and Change

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	8	13.38	1.51	.86	26	.40
Standards Not Met	20	12.50	2.70			

P = < .05*; <.01**; <.001***

Participant's Use of New Knowledge and Skill

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	8	11.00	1.41	.81	26	.43
Standards Not Met	20	11.80	2.63			

P = < .05*; <.01**; <.001***

Student Learning Outcomes

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	8	10.50	1.93	.24	26	.81
Standards Not Met	20	10.75	2.69			

P = < .05*; <.01**; <.001***

Research Question 2

From the perspective of staff development teachers, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)

between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics?

Hypothesis 2

From the perspective of staff development teachers, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant’s use of new knowledge and skill, student learning outcomes) between middle schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics.

The data in Table 12 indicate that Hypothesis 2 was accepted. There were no statistically significant differences for the staff development teachers between schools that met state standards and those that did not.

Table 12

Independent t-Test of Differences in Staff Development Specialists' Perceptions of Five Evaluation Levels Between Middle Schools Meeting State Standards in Mathematics and Middle Schools Not Meeting State Standards in Mathematics

<u>Participant's Reactions</u>						
	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	6	13.50	1.38	.41	19	.69
Standards Not Met	15	13.20	1.57			
P = < .05*; <.01**; <.001***						
<u>Participant's Learning</u>						
	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	6	13.67	1.97	.68	19	.51
Standards Not Met	15	13.07	1.79			

P = < .05*; <.01**; <.001***

Table 12 (continued)

Independent t-Test of Differences in Staff Development Specialists' Perceptions of Five Evaluation Levels Between Middle Schools Meeting State Standards in Mathematics and Middle Schools Not Meeting State Standards in Mathematics

Organization Support and Change

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	6	13.50	1.52	.70	19	.51
Standards Not Met	15	12.93	1.83			

P = < .05*; <.01**; <.001***

Participant's Use of New Knowledge and Skill

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	6	12.50	3.62	.62	19	.54
Standards Not Met	15	11.60	2.75			

P = < .05*; <.01**; <.001***

Student Learning Outcomes

	No. of Cases	Mean	S.D.	t-Value	D.F.	2-Tail Sig.
Standards Met	6	11.00	1.90	.44	19	.67
Standards Not Met	15	11.47	2.29			

P = < .05*; <.01**; <.001***

Since there were no statistically significant differences between the met school principals and the non-met school principals, the researcher decided to look for statistically significant differences between the principals, staff development teachers, and instructional specialists/directors. She combined the scores of the principals and staff development teachers in both met and non-met schools and compared those means with the means of the instructional specialists/directors, using one-way analysis of variance.

Research Question 3

From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, are there differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)?

Hypothesis 3

From the perspective of middle school principals, staff development teachers, and staff development instructional specialists/directors, there are no statistically significant differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes).

Table 13

One-Way Analysis of Variance Comparing the Means of Principals, Staff Development Teachers, and Instructional Specialists/Directors Regarding the Utilization of Professional Development Evaluations

		Sum of Squares	df	Mean Square	F	Sig.
Reaction	Between Groups	6.41	2	3.20	.73	.49
	Within Groups	223.59	51	4.38		
Learning	Between Groups	2.47	2	1.23	.23	.79
	Within Groups	270.87	51	5.31		
Org. Chng.	Between Groups	9.12	2	4.56	1.02	.37
	Within Groups	227.86	51	4.47		
Part. Skills	Between Groups	11.27	2	5.64	.86	.43
	Within Groups	336.23	51	6.59		
Stud. Learn.	Between Groups	27.93	2	13.96	2.66	.08
	Within Groups	267.57	51	5.25		

The data presented in Table 13 show that the null hypothesis was accepted. There were no statistically significant differences between the principals, staff development teachers, and instructional specialists/directors. It is interesting to note that the only comparison that approaches statistical significance was student learning, at .08. Therefore, the researcher thought it would be interesting to present the means and standard deviations for the three groups for the five areas of concern.

Table 14

Means and Standard Deviations of Principals, Staff Development Teachers, and Instructional Specialists/Directors for the Five Levels Identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)

Evaluation Levels	Principals		Staff Development Teachers		Instructional Specialists/Directors	
	Means	S.D.	Means	S.D.	Means	S.D.
Participant's Reaction	12.67	2.53	13.28	1.48	13.60	1.14
Participant's Learning	12.92	2.65	13.23	1.81	13.60	1.94
Organization Support and Change	12.75	2.42	13.09	1.72	14.20	1.48
Participant's Use of New Knowledge and Skill	11.57	2.34	11.85	2.95	13.20	1.78
Student Learning Outcomes	10.67	2.46	11.33	2.15	13.20	1.64

Table 14 presents means and standard deviations that were not provided as a result of the analysis of variance table. The researcher decided to visually compare the means across the three groups of professionals. The analysis of variance on the topic of student learning approached statistical significance (.08). Visually, in Table 13, the observer can see that the biggest point difference in the means occurred between the

principals and the instructional specialists. This documents the .08 difference in significance in Table 12. If the researcher had used the .10 level for significance, this difference would have been statistically significant. This action probably would be justified because of the low *ns* in all of the data collected.

Qualitative Procedures

Two separate focus group interviews were held in February 2013 for the qualitative portion of the study. The focus groups were designed to triangulate the data to reduce the risk of biases and increase validity. The focus groups provided a deeper understanding of professional development evaluation practices across middle schools in the district. The focus groups primarily addressed research question 4, while providing supporting information for research questions 1, 2, and 3.

Research Question 4

What types and levels of professional development evaluation are occurring in middle schools in Kennedy County?

A purposeful sampling of principals, staff development teachers, and district level staff development instructional specialists representing schools that met state standards in mathematics and schools that did not meet state standards in mathematics was selected for focus group discussions. The initial request for participation (see Appendix F) was mailed to six principals, six staff development teachers, and three staff development instructional specialists. Six principals, four staff development teachers and three staff development instructional specialists accepted the invitation and participated in the interviews. Table 15 identifies the response rate by type of school and role.

Table 15

Focus Group Participation Rates

Participants	Number of Schools Requested	Number Participating	Response Rate (%)
Principals- Schools Meeting Standards	3	3	100%
Principals- Schools Not Meeting Standards	3	3	100%
Total Principals	6	6	100%
Staff Development Teachers- Schools Meeting Standards	3	2	66.6%
Staff Development Teachers- Schools Not Meeting Standards	3	2	66.6%
Total Staff Development Teachers	6	4	66.6%
District Staff Development Instructional Specialists	3	3	100%

A focus group moderator's guide (see Appendix G) was developed using Guskey's five levels of professional development evaluation as a framework to acquire comprehensive explanations about evaluation practices. The researcher developed the guide based on Lowden's survey; a team of experts in the education field reviewed the format and questions for clarity and readability. The instrument was modified as a result of their feedback. The guide begins with four questions for all groups that identify experience at current location, demographics of current location (principals), areas of certification, and top three practices that they use to try to achieve state standards in

mathematics. A specific set of prompts was created for each question; the researcher could have used these to delve deeper and address specific facets of each level.

Table 16

Focus Group Questions

Principals	<ol style="list-style-type: none"> 1. How long have you been the principal of your school? 2. What are the demographics of your school? <ul style="list-style-type: none"> • FARMS (Free and Reduced Meals percentage) • Race/ethnicity • ESOL (English Speakers of Other Languages) • Special education 3. What are your areas of certification in this state? 4. Please name the 3 most important things that you do to try to ensure your students have met the state standards in mathematics.
<hr/>	
Staff Development Teachers	<ol style="list-style-type: none"> 1. Prior to your role as a staff development teacher, what courses did you teach? 2. How long have you been the staff development teacher at your school? 3. What are your areas of certification in this state? 4. Please name the 3 most important things that you do to try to ensure your students have met the state standards in mathematics.

Table 16 (continued)

Focus Group Questions

All Groups	<ol style="list-style-type: none">1. Describe the ways that you ensure teacher professional development meets the needs of your math teachers and is generally a positive experience. Prompts:<ul style="list-style-type: none">• What are the needs of your math teachers?• How does professional development address teacher needs in your school?• Describe a typical professional development experience.2. What do you do to ensure that teacher professional development at your school teaches practical instructional strategies while providing participants with the theory behind the practice? Prompts:<ul style="list-style-type: none">• Connections between theory and research• How are decisions made about content focus?3. Describe what organizational support and change for teacher professional development looks like in your school? Prompts:<ul style="list-style-type: none">• Time• Structural changes• Funding/ resources/recognition• How is school support for professional development demonstrated and articulated to teachers?4. How often and in what ways do you evaluate teachers' use of new knowledge and skills after professional development? Prompts:<ul style="list-style-type: none">• How do you know if participants effectively apply the knowledge and skills that they learn in professional development?• Degree and quality of implementation• Evidence of application5. Describe the ways that professional development impact on students is evaluated or measured in your school. Prompts:<ul style="list-style-type: none">• Impact on students• How do you know if professional development affects student performance or achievement?• Relationship between professional development and student learning outcomes
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Focus group discussions were audio taped and transcribed. Respondents were able to review the transcripts and make corrections or additions as needed. The ability for participants to verify the accuracy of their words and ensure accuracy of their thoughts and ideas added internal validity to the study. These data were systematically analyzed after charting and entering the data verbatim into a database. The data were color coded using patterns and themes that emerged from the transcripts. Using Guskey’s conceptual framework, data were organized into five domains associated with the levels of professional development evaluation.

Table 17

Focus Group Themes

Focus Group Domains	Themes
Participants’ Reactions	1. Relevance
Participants’ Learning	1. Macro vs. Micro
Organization Support and Change	1. Structural Changes 2. Modeling Expectations
Participants’ Use of New Knowledge and Skills	1. Monitoring 2. Building Capacity
Student Learning Outcomes	1. Perceptual Data 2. Outcome Data

The findings for the qualitative data for the focus group interviews are described by focus group domain. Modified forms of the interview questions serve as subheadings.

Participants’ Reactions

Theme #1: Relevance

The first interview question focused on participant reactions: *Describe the ways that you ensure teacher professional development meets the needs of your math teachers*

and is generally a positive experience. The responses indicated that there is a relationship between participant satisfaction and *relevance* of the professional learning experience. Middle schools in Kennedy County Public schools are required to develop an annual School Improvement Plan (SIP). In order to identify the focus area, instructional leadership teams are expected to conduct a root cause analysis. In the last two years, there has been a major change in the expectations for School Improvement Plans. Schools now must create refined, focused plans that identify an instructional strategy that will be implemented across contents throughout the school to better meet the needs of students as determined by a thorough examination of several types of student and teacher data. Schools are no longer permitted to provide an exhaustive list of strategies and steps that they will take in order to improve student outcomes.

This theme examined the perceptions of staff developers and principals about the perceived ways in which professional development meets the needs of teachers and is enjoyable. There was agreement that a strong focus, unwavering commitment, and relevance to the daily life and practice of teachers is essential to fostering high degrees of participant satisfaction. Table 18 details the components that focus group participants identified as necessary for positive participant reaction.

Table 18

Components Necessary for Positive Participant Reaction

Strong focus
Commitment to School Improvement Plan, all components are aligned
Professional development that is presented in a variety of ways
Professional development that is offered at a convenient time for teachers
Professional development that addresses daily life and practice of teachers

Included below are relevant excerpts from the interviews. During the staff developers' focus group interview, an instructional specialist stated:

The needs of the math teachers are based on the needs of the students, so based on what they have found to be a need for their student population, that's what they focus on. We look at what the teachers need to provide this or meet this need for the student. It varies, but sometimes PD focuses on various instructional strategies, sometimes it's how to teach hands on, and some of it is linked to reading in math. Whatever the students need, is what the teachers get.

Another participant, middle school staff development teacher, shared the variety of professional learning experiences that math teachers receive:

Sometimes the resource teacher works with me directly to co-plan and sometimes co-facilitate a workshop for the department; other times a particular grade level may say "we would like some PD on this" or "will you come and facilitate a conversation while we do range finding on unit one test scores". When I receive requests I go and help them by asking questions to focus on the data that they are working with and help them to use the data to inform their next unit of study. So professional development looks very different depending on the setting, who's involved and whether it is initiated by the school, resource teacher, individual teacher, or the team representing macro and micro levels.

Another participant, the director of staff development, agreed and commented on the important role that purposeful professional development plays in participant reactions.

In terms of describing the typical professional development, it isn't typical. There is learning we do together which is sort of macros and then

we move to practical application to our work and that's when it gets down to the staff development teacher, principal, and resource teacher get together to decide on the strategy that will impact learning the most and how can we gather data to measure those two things. Teachers want professional learning and assessments that tests did we hit the learning and did the strategy make a difference for the kids.

The data suggest that 100% of staff development teachers and principals provide multiple opportunities for teachers to receive professional development experiences at convenient times throughout the school day when possible and after school. Professional development experiences were described as "relevant and aligned with the identified needs of the students." Participants discussed the different ways that they collect reaction data at the end of every professional development experience in order to confirm that they "met the needs of the teachers or identify areas in need of improvement." Participants spoke about time as a valuable resource in schools and part of their responsibility is to ensure "meaningful and relevant experiences that connect to the real life of a teacher."

Participants' Learning

Theme #2- Macro vs. Micro

The second question focused on concept attainment by the participants: What do you do to ensure that teacher professional development at your school teaches practical instructional strategies while providing participants with the theory behind the practice? The responses indicated that participant learning is complex and occurs at both the *macro* and *micro level*. Middle schools are structurally arranged to allow groups of teachers to meet with each other interdisciplinary teams during the school day to discuss students, events, and instruction. When professional development is delivered throughout the school day to grade level interdisciplinary teams, it is at the macro level. However,

experience has taught principals and staff developers that teachers need to have specific professional development experiences that clearly articulate how the particular strategy or theory needs to be applied in their content, in their classroom. This is meaningful, targeted professional development on the micro level dealing with practice.

This theme examined how principals and staff developers assess new learning and skills of teachers after they provide professional development opportunities. Responses listed in Table 19 identify several factors that relate to participant learning.

Table 19

Factors that Impact Participant Learning

Professional development content that is selected based on shared decision making

Professional development experiences that present the strategy, rationale and relevant research/theory (macro)

Professional development experiences that are content specific and discuss the impact on daily practice (micro)

Professional development experiences that are rooted in a foundational theory

Included below are excerpts from the interviews. During focus group interviews, a staff development instructional specialist stated:

I think when we go back to the whole piece of the adolescent learner. That has to be at the foundation of it all we, particularly when we look at data across the United States, in _____ county, in middle schools and why are they not making progress like students in elementary school and high school. The brain research helps people to make the connection to what part of the brain is working or not yet developed in middle schoolers so that teachers can understand why kids are exhibiting a certain behavior. The more middle school teachers talk about that and make it ever present,

that undeniable research will help us to figure out what we need to do for our students.

Another participant discussed the difficulty of keeping the foundational theory alive in middle schools despite the potential lasting impact on achievement. A principal stated:

We started the year off with brain research specifically focused on the middle school child, what do they need and the adolescent learner, just looking at the question reminds me that this is something that needs to be done, we talk about practice in isolation a lot.

Another participant, staff development teacher, agreed and stated:

Math teachers feel pressed about getting through their curriculum in a certain amount of time so they might know about the adolescent learner and know what research says about the adolescent learner needing to get up and work in small groups and have their opinions validated and still say gosh darn it there's not enough time and I have to do my thing.

Participants discussed in great detail the role and importance of professional learning on both the macro and micro level. A director stated:

If a school engages in the root cause analysis process, the content becomes very clear. It identifies this is the student need and this is the data we have about to what extent teachers are meeting that need in practice...At some point in the macro, in terms of adult learner theory you have to give the theory or research, you have to provide this as the strategy that we are going after and this is why because there are some folks who really need this, they are the research people who need to know why.

Other participants agreed. However, the question about providing participants with research/theory and practice and in what order was identified as an important consideration that has a direct impact on participant learning. A staff development teacher stated:

I agree that you have to have both {theory & practice} but it needs to be matched to your audience. If I am talking to my group of 8th grade teachers and I say research says ...then they say “uh huh” put their hands up and they say well I have been teaching this many years and “whatev”. But if I structure it so that its more constructivist and they arrive at their own learning and then I say oh what a coincidence because research says the exact same thing, then they say they are brilliant, they could have written the article or conducted the study. Teachers need them both, but you have to match whether it’s going to be horse first or cart first.

Participants in both focus groups acknowledged the importance of both the broad and specific types of professional development experiences in order to cement participant learning. Participants discussed that teachers were also more likely to take an interest in the topic and learn the material when they have been involved in content selection and when the topic has a direct impact on their everyday lives. A principal explained the relationship between participant learning and content as follows: “if schools select student discourse as an instructional focus and we provide professional development on student to student discourse moves and strategies, teachers pay attention and listen. They ask questions and even ask for observations and feedback because it is related to their real practice and the specific expectations from the school.” Of the participants, 100% agreed in both focus groups on the important relationship between participant learning and content. A staff development teacher stated, “when we ask teachers to learn what we

expect them to do, they seek us out for feedback on the way they are implementing it in the classroom...they want to know if they are doing it right for the students.”

Organization Support and Change

Theme #3- Structural Change

Theme #4- Modeling Expectations

The third question focused on school and district commitment: Describe what organizational support and change for teacher professional development looks like in your school? The responses indicate that the most common practices that provide evidence of organizational support for professional development are *structural changes* and *modeling expectations*. Participants agree that the response of school and district leadership to professional development is evident to teachers through resource allocation, emphasis, and priority. Schools in Kennedy County Public Schools have a dedicated teacher in each school that is responsible for helping to plan and facilitate staff development. There is a district level staff development team led by a director dedicated to providing schools with individual support to provide meaningful professional learning experiences to their staff. The staff development team is comprised of several instructional specialists who work with schools in a geographic region to provide resources and support. The superintendent has created a new associate superintendent for professional development and school support. This person is responsible for district level professional development decisions related to all schools and facilitating learning opportunities for schools and offices. The superintendent and deputy superintendent have publicly shared their strong positive feelings in favor of continued adult learning throughout the system. Principals are charged with meeting the district level expectations and creating structures and processes that demonstrate high levels of organizational support for professional development. Participants identified specific components that reflect organization support and change. The responses are listed in Table 20.

Table 20

Key Components of Organization Support and Change

Master schedules that provide dedicated time for professional development during the school day

Public and private recognition for implementation of PD strategies

Principal uses PD strategies in practice during meetings

Principal expresses strong support for PD through statements and actions

Principal attends meetings and co-facilitates PD sessions

School Improvement Plan identifies PD as the solution to improvement

PD facilitation and selection involves several staff members

Structural Change

Included below are excerpts from the interviews. During focus group interviews, structural changes in support of professional development were identified as an integral component of organization support and change. A principal stated:

We used our engaging student voices data to change our master schedule so that we would have the opportunity to have cohort planning during the school day and allow our collaborative planning partners to meet 3 times during a rotation. It's been very interesting because that's why currently we are looking to change our schedule further because even though we changed the schedule, we realized that the opportunities aren't always there as we had envisioned. The time has to be built in. The schedule change time is really important because the consistency that teachers need is time to learn, practice, and then have an opportunity to demonstrate growth.

Participants in the staff developers' focus group agreed; an instructional specialist stated:

I think the structural changes make a difference. I am working with one school that is re-examining the schedule. If one of the most important pieces is getting teachers together so we can collaborate and impact instruction, schools ask "are we providing the time in the schedule to meet that." Everyone is realizing the importance of collaborative planning and its value for students.

Modeling Expectations

Participants in both focus groups cited the importance of the principal in communicating the message to staff that professional development is a priority. One staff development teacher shared:

Our principal attends all of our professional development meetings to send the message that this is important. In our school, there is a Principal's Week in Review document that is sent to staff and she stops in on collaborative planning sessions during the week and captures nuggets about different conversations that she hears and shares them in writing with the entire staff. It recognizes folks and their hard work. They invite her to stop by and remind her when and where they meet because they want to be praised.

Focus group participants agreed, the staff development director stated: Our unique perspective is that we look across all schools as instructional specialists and that we have seen that when the principal is involved in professional development that there is no more significant thing that you can do to demonstrate the importance of professional learning.

Another staff development teacher stated:

A principal that models professional development with their own learning also helps to send a message to the staff.

Principals discussed their role in modeling expectations to their staff, one shared:

We are professionally developing in our administrative team meetings so the structure of our meetings changed and the way that we send out the notes and elicit feedback from others and then we do that through our instructional leadership team and then we try to model for content specialists so their department meetings mirror the structure for getting the feedback so I think there has been more buy-in for professional development across our building. I really believe that professional development is the way in to truly dig down beneath the surface to change the level of instruction in the classroom but you have to get the teachers to buy in.

With the district leadership providing clear expectations for continued adult

learning throughout the system, focus group participants agreed that the level of organization support and change is evident and implemented at high levels on a district level- macros. The expectations are clear and opportunities and resources are provided to schools. The challenge for principals and staff development teachers is to foster strong commitment to ongoing, job-embedded-professional development experiences that are persistent and pervasive at the building level.

Participants' Use of New Knowledge and Skills

Theme #5- Monitoring

Theme #6- Building Capacity

The fourth focus group question focused on application of professional development knowledge and skills by participants: How often and in what ways do you evaluate teachers' use of new knowledge and skills after professional development? The responses indicated that participants effectively assess teacher use of new knowledge and skills received from professional development through consistent *monitoring* and *building capacity* of leadership team members to effectively monitor and provide feedback. Principals empower assistant principals and resource teachers to monitor implementation through a variety of methods. Schools are creating a culture where teachers expect people to visit their classrooms, observe their practice and ask questions. The district has modeled this by providing multiple opportunities for principals and staff development teachers to engage in professional development experiences, share reflections, and provide evidence of implementation. Follow-up experiences at the district level occur at Administrative and Supervisory meetings, Middle School Principal Professional Learning Communities monthly meetings, geographic cluster Community Superintendent & Principal meetings, monthly staff development teacher meetings, coaching conversations and school supervisory visits. Participants discussed the ways in which they assess implementation and how they prepare leadership team members to monitor with them.

Focus Group participants identified important factors in evaluating teacher use of new knowledge and skills. Those factors are listed in Table 21.

Table 21

Important Factors in Teacher Use of New Knowledge and Skills

A variety of methods to monitor teacher practice is essential

Ongoing cycle of teaching, observing, debriefing and providing feedback leads to sustained growth and improvement

Principals and staff development teachers work to build the capacity of members of the instructional leadership team to observe and provide feedback to teachers in a meaningful way

Assessment of teacher use of new knowledge and skills must involve a team of people

Teachers must be given time and opportunities to practice and apply new knowledge and skills and receive feedback in a non-evaluative manner

Monitoring

Included below are relevant excerpts from the focus group interviews. When discussing the evaluation of teacher use of new knowledge and skills, participants discussed specific ways in which they monitor practice and make decisions. One principal stated:

They have identified look-fors. We collect data, we go back and discuss what we are seeing when we do our classroom visits. The resource teachers go in the classrooms once a month, whereas the team leaders go in once a quarter and the administrative team completes 7 informal observations per week so we compile that data and report out so that we notice any trends, weaknesses and strengths in leadership team meetings.

Another principal shared:

A great deal of my focus is on the twice a week collaborative planning sessions, group sharing of best practices, classroom observations and then really debriefing with our staff development teacher. We have teachers who videotape some of their lessons and they sit around and discuss practice. Many of our teachers are comfortable with it and

they invite the staff development teacher to videotape and they share it with their teaching cohorts.

Principals discussed a wide variety of methods for evaluation that include leadership members and peers. One principal shared how peers monitor and assess use of new knowledge and skills at her school. She stated:

Teachers before they actually teach a lesson present the lesson to the math department. The math department has a capture sheet so they go through the whole lesson. They take notes on strengths and some questions they may have or just concerns in terms of the lesson. After they finish presenting, then the teachers provide feedback to them and at the end of the session they collect all of the feedback and they then are charged with delivering the lesson to students, hopefully implementing some of the feedback that they have received from their peers because they have to report back on what worked, what didn't work, what data they collected-whether it was something from the beginning of the lesson or the end of the lesson.

Building Capacity

In discussing evaluation of new knowledge and skills, focus group participants discussed equipping all members of the leadership team with tools that allow them to observe practice, provide feedback, and coach teachers to change practice. There was 100% agreement that schools need to provide clear guidance and training on their expectations. One principal stated that they are “clear with the teachers so teachers can be clear with students.” In discussing the importance of clarity, capacity building was identified as the most important factor that would lead to desired results. One principal stated:

I would say for us the decisions are made when we sit down as a leadership team and look at the data. Specifically, our focus this year has been on student discourse and we look at the data and decide on where we need to go next. Part of that as a leadership team is being self-reflective and making sure that we are all clear on what discourse and engagement looks like so we refined our look-fors so that we can provide some meaningful feedback to guide instruction. We are building our capacity as leaders.

All principals agreed. Another principal shared:

At our school we are building capacity as an instructional leadership team and then we are equipped to better increase the capacity of our students.

This is not easy work; we do this knowing that we have to push boundaries because things don't change when you stand in the same spot.

Staff development focus group participants provided examples of how they work to help build capacity in their roles. One staff development teacher stated:

I use the trainer of trainer model to make sure that the math resource teacher is equipped to do staff development in her department meetings.

Another instructional specialist shared that she helps to increase capacity in middle schools in specific ways. She shared:

I work with staff development teachers by helping them to help teachers build collaborative teams and come up with common formative assessments and finally helping them to develop the skill of examining student work.

Generally, all participants believed that evaluating the use of new knowledge and skills is an important part of professional development that is difficult to do and time-consuming. Schools acknowledged being at different places with regular monitoring and

identified ongoing evaluation as a goal. Sixty percent of principals perceived that they were monitoring implementation on a regular basis. Principals and staff developers agreed that monitoring becomes easier and achieves the intended results when several members of the team are engaging in the work. For that reason, 100% of the participants in both focus groups perceived that building leadership capacity is a necessary prerequisite to effectively assessing teacher use of new knowledge and skills. Participants agreed that all leadership team members need to be taught how to observe, provide feedback, and communicate with teachers in a meaningful way in order to make progress with instruction.

Student Learning Outcomes

Theme #7- Perceptual Data

Theme #8- Outcome Data

The final focus group question centers on student achievement: Describe the ways that professional development impact on students is evaluated or measured in your school. Focus group participant responses indicate that professional development evaluations that center on student learning outcomes occur through the examination of both *perceptual data* and *student outcome data*. Particular emphasis was placed on providing students with an opportunity to share feedback and articulate how they learn best. Focus group participants report that evaluation of student learning outcomes is approached in a holistic manner at the middle school level in Kennedy County Public Schools. Principals, staff development teachers, and staff development instructional specialists discussed a mixed methods approach that values both quantitative outcome data and qualitative formative data from students and teachers to provide a full representation regarding the impact of professional development on students.

Participants described components that were essential to assessing professional development impact on students. Their responses are included in Table 22.

Table 22

Essential Components for Assessing PD Impact on Students

Various types of data must be considered

Perceptual data is important

Student voice data must be incorporated to assess impact

Schools must try to find ways to directly assess the impact of the selected strategy on student learning on an ongoing basis

Student outcome data on summative school, district and state tests are important

Qualitative data that are formative in nature can provide schools with the meaningful feedback needed in order to demonstrate positive outcome data

Perceptual Data

Included below are relevant excerpts from the focus group interviews. When discussing the evaluation of professional development impact on students, participants discussed the value of perceptual data, specifically feedback from students and teachers.

One principal stated:

At our school we started by asking our students from the very beginning what they found to be engaging, when were they most engaged, what types of classes and lessons helped them to learn more and we video shared the student responses with staff. That was very powerful because it was true and authentic. It came from the mouths of our babies and they told us what they thought. We invited students to be a part of that process so one of the ways that we actually measure professional development is that we go back to the students. We go back and ask them how are we doing.

Staff development participants agreed. The director shared:

...And at some point even engage the kids' voices in that process. Kids will tell you what helped them and what didn't help them. I have been trying to coach schools to create more professional development experiences that not only focus on the strategy, but instruction as well. They can do that through a peer visit or feedback from students about the instructional strategy.

Outcome Data

When discussing professional development evaluation and the intended goals, 100% of the participants agreed that the goal was to support and better meet the needs of the students. Student progress is measured through outcome data. Substantive measures

include assessment results from individual teachers, district, standardized testing companies, and the state. Both groups of participants work closely and explicitly with staff members to review, discuss, and evaluate student outcome data on an ongoing basis.

A staff development teacher stated:

One of my roles is to serve as a resource for the resource teacher and use student performance data. We evaluate the impact on students when we spend time reviewing the Maryland School Assessment results in math and we review the district formative data quarterly.

Another staff development teacher added:

Teachers are off by department for collaborative planning and we make decisions based on the data- Maryland School Assessment data, quarterly grades, formatives, summatives. Decisions are made that way- our work is about the students. It is often discussed in instructional leadership team meetings and then filtered through teachers that way.

Principals discussed ways in which they use ongoing student outcome data to assess professional development impact on students. One principal stated:

Together with the resource teachers we are meeting once to twice a month where we are working through the why do we co-plan question so some of the examples of the evidences that we examine together include looking at grade distribution. When I look at my two 6th grade social studies teachers who co-plan and collaborate together in meaningful ways as expected and presented in professional development, there is zero variability when you go into their classrooms and you look at their grades they are aligned all the way through. However, when you pull that same 6th grade teacher who also teaches 7th grade and you compare her with the other 7th grade teacher who she doesn't co-plan with, it's like "are they even in the same

building”? So that’s the evidence that is meaningful to get to help us to help staff make the correlation to the importance of co-planning.

Another principal shared:

I have a created a filemaker database created with staff input and the beauty is that we can monitor all observations across the school including strengths, questions and needs. Everything is connected to our agreed upon look-fors, instructional focus and more important the students. It is important for us to continue to bring the focus back to the students and their performance. Teacher performance is related to student performance.

The data from both focus groups suggested there was 100% agreement on the importance of both perceptual and outcome data as necessary for complete evaluation of professional development impact on students. It was perceived by participants that a “balanced approach” is required in order to achieve “an accurate and full picture of how professional development impacts student achievement.” One hundred percent of principals agreed that students, teachers, and the “hard data” were important to school improvement. Principals agreed that implementation with fidelity is difficult to do with competing demands and time restraints; however, it was noted that a “balanced perspective is the desired state for middle schools.” As Kennedy County Public Schools moves forward, the deputy superintendent and community superintendents have shared a district commitment to a balanced approach as well that includes both outcome and perceptual data as well as leadership and engagement data. Principals and staff development teachers indicated that remaining focused on the impact of professional development on students as a worthwhile challenge.

Summary

This chapter presented the findings associated with this study. Quantitative and qualitative methods were used to address the five research questions introduced in

Chapter 1. A number of recommendations for practice and further research were drawn from these findings and are presented in Chapter 5. Chapter 5 also presents conclusions reached as a result of this study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This chapter consists of four sections: research summary, findings of the study, conclusions and recommendations. The research summary frames the major issues that led to this research endeavor. It includes the purpose of the study, problem statement, research questions and methodology. An analysis of the data is provided in the findings section. Based on these findings, the researcher included recommendations for practice and extended research.

Purpose of the Study

The purpose of this mixed methods explanatory study was to examine middle school principals, staff development teachers, and district level staff development instructional specialists/directors' perceptions about professional development evaluation across schools in the Kennedy County Public School System. Chapter IV presented the questions that guided the study and the results of data analysis. The researcher used Guskey's (2000) five-level model (e.g., participants' reactions; participants' learning; organization support and change; participants' use of new knowledge and skills; and student learning outcomes) as the lens to view professional development evaluation between middle schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics .

The study used qualitative methodology (focus group interviews) with a purposeful selection of principals and staff development teachers, staff development instructional specialists/directors to explore the survey results in more depth and obtain information about the types and levels of professional development evaluation that are occurring across middle schools in Kennedy County Public Schools that may not be available through general quantitative research methods. Using Guskey's five levels of professional development evaluation, the researcher prepared a series of questions to guide the focus group discussions. The researcher created a specific set of prompts for each question that were used to delve deeper and address specific facets of each level of evaluation.

Statement of the Problem

Although schools and districts regularly spend valuable time and resources on professional development for teachers and administrators, little is known about its impact on students. Noyce (2006) asserts, "professional development is expensive to provide, hard to find time for, and difficult to do well" (p.36). Noyce urges research, teaching, and funding communities to "start holding ourselves to a much higher standard of evidence about the effectiveness for enhancing student learning of professional interventions that we support" (p.36).

Middle school mathematics curriculum is important to study because of poor national results on state assessments. Research on middle school mathematics indicates that it has a strong impact on the future of students' college entrance and work force preparation (U.S. Department of Education, 2002). The state where this county is located requires all students to be proficient in mathematics by the 2013-2014 academic year. As schools approach this important goal, they must determine the effective use of resources.

Effective 2014, schools will measure student progress in mathematics with new standardized tests that require students to demonstrate high levels of concept attainment and practical application. With this added challenge, schools must find ways to help teachers gain the professional learning experiences that will have a positive impact on student achievement. President Obama's multi-billion dollar Race to the Top competition mandates professional development and evaluation as strategies to achieve sustained school improvement.

School districts, historically, have not been able to determine the impact of professional development on student achievement. The study intends to add to the literature on the evaluation of professional development programs. There is a need to clearly identify the current levels at which professional development programs are being evaluated and the relationship to student achievement. Despite the important studies of individual schools and their experiences with professional development by Dufour and Eaker (1998, 2003, 2006), Hall and Hord (1987, 2001, 2006), and others, little is known about the possible relationship between professional development evaluations and student achievement.

Research Questions

Prior to the beginning the research, the following research questions provided the structure for data collection and analysis.

1. From the perspectives of middle school principals, are there differences in the mean perceptions regarding the utilization of professional development

evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics?

2. From the perspective of staff development teachers, are there differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics?
3. From the perspective of middle school principals, staff development teachers, and instructional specialists/directors, are there differences in the means regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes)?
4. What types and levels of professional development evaluation are occurring in middle schools in Kennedy County?

Methodology

This study used both quantitative and qualitative methodologies to investigate perceptions about professional development evaluations in two groups of middle schools. Thirty middle schools were selected from a county in a Mid-Atlantic state. Questions one, two, three were quantitative and question four was qualitative.

The main source for quantitative data collection was the Professional Development Evaluation Survey (Lowden, 2003) survey instrument (see Appendix A). The survey instrument consisted of 27 questions designed to solicit perceptions about professional development evaluation. Of the 27 questions, 4 were questions for participants' reaction, 4 were questions for participant learning, 4 were questions for organization support and change, 4 were questions for use of new knowledge and skills, and 4 were questions for impact on students. The final 7 were questions related to respondents' demographic information, including current position, level, educational attainment, role, and years of experience in the field of education.

For the qualitative design, focus groups were utilized. The research participants for the focus group interviews included principals and staff development teachers and staff development instructional specialists/directors. Principals and staff development teachers represented both types of schools while staff development instructional specialists/directors were central office representatives that provided support across both type of schools. Interview sessions were video-taped and audio-taped. An open-ended moderator guide was used to facilitate the discussion of the research questions. The researcher used Guskey's five level professional development evaluation model as a lens for analysis. The data were transcribed and participants had the opportunity to check for

accuracy and verification. The focus group material does not identify participant names, office or school locations in order to maintain confidentiality.

Summary of Quantitative Survey Findings

Overall, the study revealed various types of information about professional development evaluation perceptions and practices between schools that met state standards in mathematics and those who did not meet state standards in one school district.

Finding #1: The Professional Development Evaluation Survey instrument (see Appendix A) had a high degree of inter-item reliability based on the computation of the Cronbach alphas.

Finding #2: The Cronbach alphas for all three groups (principals, staff development teachers and staff development instructional specialists/directors) were well above 0.60 indicating that Guskey's model is quite reliable.

Finding #3: For principals in middle schools that met state standards in mathematics, correlation coefficients were in the modest range and none were statistically significant.

Finding #4: For staff development teachers in middle schools that met state standards in mathematics, none of the correlation coefficients in participant reactions were statistically significant. Correlations for participant learning, organizational support and change, and participant use of new knowledge and skills are statistically significant and in the strong range.

Finding #5: For staff development instructional specialists/directors, correlation coefficients for participant reactions and participant learning were statistically significant at 0.92. Most of the other correlation coefficients were in the modest range and not statistically significant.

Finding #6: For principals in middle schools that did not meet state standards in mathematics, all correlation coefficients except organization support and change against both participant use of knowledge and skills and student outcomes, were in the strong range (above 0.70) and all were statistically significant.

Finding #7: For staff development teachers in middle schools that did not meet state standards in mathematics, most correlation coefficients were in the modest range (between .31 and 0.70).

Finding #8: All correlation coefficients suggest staff in both achieving and non-achieving schools would benefit from high quality professional development programs.

Finding #9: From the perspectives of middle school principals, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.

Finding #10: From the perspective of staff development teachers, there are no statistically significant differences in the mean perceptions regarding the utilization of professional development evaluation according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes) between middle schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.

Finding #11: From the perspective of middle school principals, staff development teachers, and instructional specialists/directors, there are no statistically significant differences in the means regarding the utilization of professional development evaluation

according to the five levels identified by Guskey (reactions, learning, organization support/change, participant's use of new knowledge and skill, student learning outcomes).

Conclusions Based on Quantitative Results

The first phase of this research focused on quantitative methods. The main source for the quantitative data collection was the Professional Development Evaluation Survey (Lowden, 2003). It was administered to staff in both schools identified as meeting state standards in mathematics and schools identified as not meeting state standards in mathematics. Of the 65 people who were invited to participate in the study, 56 responded to the survey, a response rate of 86%. Reliability coefficients and correlation coefficients were computed on the data provided by the participants. The reliability coefficients were well above the required level. In the schools that met state standards, the correlation coefficients were lower than they were in schools that did not meet state standards. This may be due to the fact that the number of principals and teachers in schools that met standards is much lower than in schools not meeting standards.

A series of independent t-tests was calculated on the five levels established by Guskey. In all cases there were no statistically significant differences between principals and teachers in the met and not-met schools. The researcher also computed one-way analysis of variance to look for statistically significant differences in perceptions between principals, teachers and specialists. The analysis found no statistically significant differences.

The researcher concluded that the test instrument was reliable. The correlational data indicated that the test was sensitive to large differences in the population studied. The researcher concluded that there were no statistically significant differences between principals and teachers between schools that met state standards and schools that did not

meet state standards. Finally, the researcher concluded that there were no statistically significant differences between the three professional levels: principals, teachers, and specialists.

Summary of Qualitative Findings

Principals, staff development teachers and staff development instructional specialists/directors participated in focus group discussions to share their perceptions of the types and levels of professional development evaluation in middle schools across Kennedy County Public Schools. Based on the focus group discussions, the following findings are noted below.

Finding #1: The data indicated relevance to the daily life and practice of teachers as a key factor in eliciting positive participant reactions. Key components of relevance included: strong focus, alignment to the school improvement plan, and connections to the identified needs of students.

Finding #2: Focus group participants perceived that participant learning is complex and occurs at both the macro and micro level. Professional development experiences delivered to grade level interdisciplinary teams provide strategy, rationale, research, and theory at the macro level. Meaningful, content specific professional development that addresses the impact on daily practice is at the micro level.

Finding #3: Based on the findings from focus group participants, structural change emerged as an important indicator of organization support and change. Participants perceived that a master schedule that provides dedicated time for professional development and planning during the school day as necessary.

Finding #4: Focus group participants perceived principals modeling of expectations as having a strong impact on organization support and change in all middle schools.

Finding #5: Focus group participants perceive building the capacity of leaders as a necessary prerequisite to effectively assess teacher use of new knowledge and skills. Based on the findings, participants stated that all leadership team members needed to be taught how to observe instruction, provide feedback, and communicate with teachers in a meaningful way in order to change instruction.

Finding #6: Based on the findings from the focus group participants for this study, regular monitoring is a key factor in evaluating participants' use of new knowledge and skills. Participants perceived implementation that is monitored through a variety of methods which ensure ongoing cycles of teaching, observing, debriefing, and providing feedback lead to sustained growth and improvement.

Finding #7: Data emerged from focus group participants that evaluation of professional development impact on students includes a focus on perceptual data as well as outcome data. Focus group participants perceived that it was necessary to include student voice data that provides feedback on instruction and learning as well as student outcome data on summative school, district, and state assessments to fully assess impact on students.

Conclusions Based on Qualitative Results

Based on the focus group interviews, the researcher arrived at the following conclusions. All of the schools identify professional development evaluation as a key strategy for accomplishing sustained student achievement gains. Principals and staff development teachers were aware of the five levels of evaluation and employ various methods to address each component as they implement school improvement plans. Participants increased the likelihood of positive participant reaction by providing professional development experiences that are relevant to the daily life and practice of teachers. Specifically, professional development experiences that were aligned with identified student needs showed high levels of participant satisfaction. When measuring

the levels of participant learning, focus group participants acknowledged that adult learning is complex and occurs at the both the macro and micro levels. Middle schools across the district provide professional development experiences at the macro level to interdisciplinary teams that introduce strategies, discuss rationale, and share theory. However, deeper learning occurs at the micro level when principals and staff development teachers work with content groups to clearly articulate how the strategy needs to be applied in the classroom. From the comments made during the focus groups, it appears that recognition of learning at both the broad and specific levels is important in order to facilitate high levels of participant learning. The researcher concluded that participant reaction and learning was influenced by several key components including variety, applicability, and convenience. It was noted that professional development is being evaluated at different levels in middle schools across the district.

From the focus group discussions of organizational support and change, there has been a shift in the culture of the district with respect to professional development. Over the last two years, the superintendent has identified adult learning as the strategy to help the district move from the “Moon to Mars.” In the FY 2014 Superintendent’s Recommended Operating Budget there is strong support for increased opportunities for professional development as a means to invest in the future of our school district. Mathematics has been highlighted as an area of focus throughout the district and the nation. In the district, the superintendent recommended the creation of a mathematics implementation team that will work to support teachers, participate in school-based planning and provide system-level professional development. The superintendent stated “In order for our students to be ready, we must make sure our staff is prepared to give them the necessary instruction and support.” The FY 14 budget allocates more than \$1.5 million dollars for continued professional development for teachers in elementary and secondary schools in addition to an increase of \$800,000 for professional development

substitutes in secondary schools. Focus group participants identified district key messages and actions that demonstrated organization support and change in favor of professional development for teachers. Participants perceive the structural changes in schools as well as modeling of expectations by principals as having a strong impact on organization support and change across schools. The researcher concluded that professional development evaluation is a part of the district expectation and solid evidence exists to support the organization's advocacy and commitment at both the school and district levels.

In the area of teacher use of new knowledge, focus group participants indicated that training is needed for all principals and staff development teachers. Specifically, focus group participants perceived that training was necessary to help build the collective capacity of leaders to effectively facilitate and lead continuous cycles of teaching, observing, monitoring, debriefing, and feedback that lead to ongoing application of new knowledge and skills. Additionally, focus group participants perceived that evaluation of professional development impact on students must happen at multiple levels to include the use of perceptual data and outcome data. All schools effectively use student outcome data; however, participants indicated that the ability to consistently connect instructional strategies to student outcomes as the desired state. The researcher concluded that the collaborative use of perceptual and outcome data in middle schools has been beneficial for the evaluation of professional development impact on students.

Recommendations for Practice

The research results document several areas of opportunity for Kennedy County Public Schools. The results of this study could be beneficial to other school districts, principals, and staff development teachers in their efforts to evaluate professional development as a means to improving student achievement. Specifically, the implications for practice for this study include:

Recommendation #1

Based on focus group data, a recommendation for practice to the school district is to fund training for principals and staff development teachers. Training needs to focus on observation, feedback, evaluation, and communication to effect change in practice. The Board of Education should approve funding for professional development for principals and staff development teachers to build capacity in this area.

Recommendation#2

Examine the need for additional opportunities for middle schools that achieved state standards in mathematics to share best practices with middle schools that did not meet state standards. It is recommended that successful models in similar schools be shared with principals, staff development teachers, and staff development instructional specialists/directors.

Recommendation #3

As schools continue to focus on professional development evaluation as a strategy for improving student achievement, annual school-wide professional development plans need to be created that identify the evaluation framework for the school. An evaluation framework creates a rigorous, systematic, and purposeful approach to data gathering, analysis, and interpretation (Killion, 2002). Annual professional development plans need to identify specific ways in which schools will evaluate professional development experiences at different levels throughout the year. The plan should be monitored/updated quarterly to reflect ongoing continuous improvement.

Recommendation #4

Based on the quantitative and qualitative data, it is recommended that leadership programs at the college level include a focus on professional development, implementation and assessment.

Suggestions for Further Research

This study provides rich and detailed descriptions of the perceptions of principals, staff development teachers, and staff development instructional specialists/directors in middle schools about the evaluation of professional development. The data provided insights, details, and answers regarding the perceptions of principals, staff development teachers and staff development instructional specialists/directors across schools. It raised additional questions for further research. Questions for further study are recommended as follows:

Recommendation #1

Examine the forces that have led similar school districts to evaluate professional development in mathematics across the state and nation.

Recommendation #2

It is recommended that this study be replicated with math teachers and mathematics resource teachers who are the recipients of the professional development opportunities. They should be surveyed to identify their perceptions regarding the application of professional development according to Guskey's five levels of evaluation. This study should also be replicated in another subject area, with a larger sample size (across levels,) and in schools with unique demographics.

Recommendation #3

It is recommended that a case study be conducted with a middle school that has met or exceeded state standards in mathematics over a three year period. This qualitative research endeavor would provide a rich and detailed understanding of the evaluation practices of the principal and staff

development teacher with respect to Guskey's (2002) five evaluation levels.

Recommendation #4

It is recommended that strategies for implementation of professional development evaluation best practices be developed and shared.

Appendix A

Professional Development Evaluation Survey

Professional Development Evaluation Survey

Using this survey, please indicate your judgments about your middle school principal/ staff development leadership behavior and practices as they concern teacher professional development evaluation. The results will be more helpful if you think about each item as it pertains to your behaviors, practices and observations only. Please answer all questions and complete the five background questions as well. Thank you for your time and input.

Survey Questions	1 = Strongly Disagree	2 = Disagree	3 = Agree	4 = Strongly Agree
1. Professional development in my school meets the needs of teachers.	1	2	3	4
2. Because of professional development, teachers have learned practical instructional strategies.	1	2	3	4
3. Professional development in my school district has had a positive impact on the organization as a whole.	1	2	3	4
4. After teachers participate in professional development, I usually observe teachers experimenting and practicing new instructional strategies as presented in the training session.	1	2	3	4
5. After teacher professional development, generally, I observe that students are more actively engaged in learning.	1	2	3	4
6. Professional development in my school is offered at a convenient time for teachers.	1	2	3	4
7. Because of professional development, teachers have learned new knowledge and skills.	1	2	3	4
8. Professional development in my school district has had a positive impact on the culture of my school.	1	2	3	4
9. After teacher professional development, generally, I observe that classroom management has improved.	1	2	3	4

Survey Questions	1 = Strongly Disagree	2 = Disagree	3 = Agree	4 = Strongly Agree
10. After teacher professional development, generally, I observe that classroom management has improved.	1	2	3	4
11. Professional development in my school is offered by instructors who are knowledgeable and effective.	1	2	3	4
12. Because of professional development, teachers have learned the theory behind the practice.	1	2	3	4
13. Professional development in my school district is often conducted during the school day.	1	2	3	4
14. After teachers participate in professional development, I usually observe teachers discussing their commitment to new teaching strategies.	1	2	3	4
15. After teacher professional development, generally, I observe that student achievement has risen on teacher or classroom assessments.	1	2	3	4
16. Professional development in my school is generally a positive experience.	1	2	3	4
17. Because of professional development, teachers have learned new knowledge and skills.	1	2	3	4
18. Professional development in my school district is recognized as being extremely important by district administrators.	1	2	3	4
19. After teachers participate in professional development, teachers share oral personal reflections of how they are implementing their new skills in the classrooms.	1	2	3	4

Survey Questions	1 = Strongly Disagree	2 = Disagree	3 = Agree	4 = Strongly Agree
20. After teacher professional development, generally I observe students' confidence as learners has improved.	1	2	3	4

Please provide the following background information:

21. Are you: A) Male _____ B) Female _____

22. Level: Middle School _____ District Level/Central Office _____

23. How many years have you been in education, including years at your current school?

1 2 3 4 5
0-5 6-10 11-15 16-20 21+5

24. Indicate your educational level

1 2 3 4
BA/BS MA MA+30 Doctorate

25. Please indicate your position

Principal ____ Staff Development Teacher ____ Staff Development Spec. _____

26. Do you create evaluations for professional development activities/programs at your assigned site in your current position?

Yes _____ No _____

27. How often do you evaluate professional development activities/programs?

Never _____ Sometimes _____ Often _____ Always _____

Appendix B

Permission to Adapt and Use the Survey

From: Christine Lowden <clowden@acsdny.org<mailto:clowden@acsdny.org>>
Date: July 7, 2012, 11:21:12 AM EDT
To: "Rogers, Myriam A."
<Myriam_A_Rogers@mcpsmd.org<mailto:Myriam_A_Rogers@mcpsmd.org>>
Subject: Re: Doctoral Study

Myriam

You have permission to use my survey for your research. Please cite sources appropriately and send me a copy of your completed dissertation. Best of luck.

Christine Lowden

Appendix C

Cover Letter to Participants for Survey Monkey

Letter to Principals

Letter to Staff Development Teachers

Letter to Staff Development Instructional Specialists/Directors

Letter to Focus Group Participants

January 24, 2013

Dear Principal:

The purpose of this letter is to invite you to participate in a study about professional development evaluation and middle school mathematics achievement. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. The purpose of this research project is to examine middle school principals, staff development teachers, and district level staff development instructional specialists/directors perceptions about professional development evaluations between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. You have been chosen to participate in the study because you are middle school principal.

There are two parts to this study. The first part of the study involves asking a selected group of 30 middle school principals to complete a short online survey. The survey contains a total of 27 items, including items about professional development evaluation and demographic questions about you and your school.

In the second part of the study, I will invite five to six principals to participate in individual semi-structured interviews about their professional development evaluation practices and experiences. If you are selected for the second part of the study, I will send you a letter inviting you to meet with me.

Although the survey will ask you to provide your name and demographic information about your school, all data collected in the study will be managed through systems and strategies that ensure your anonymous participation. All raw data will be maintained in a secure file by the researcher. Results of the survey will be reported as aggregate summary data and no individual identified information will be presented. Principals, schools, and even the school system will not be referred to by name in the study. Only the members of my dissertation committee and I will have access to the information obtained directly from the survey. Your participation in the survey is voluntary, and you may decide not to continue at any time. The results of the study will be provided in the form of an executive summary and made available to Montgomery County Public Schools and all participants upon request.

If you would like to participate in the study, please review and sign the enclosed consent form and send it back to me in the self-addressed stamped envelope that is provided. The survey will be accessible online and will be sent to you via www.SurveyMonkey.com. The survey should not take more than 15 minutes to complete.

I sincerely thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me via e-mail at Myriam_A_Rogers@mcpsmd.org or by calling me at 240-848-4957. Thank you for your consideration.

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

January 24, 2013

Dear Staff Development Teacher:

The purpose of this letter is to invite you to participate in a study about professional development evaluation and middle school mathematics achievement. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. The purpose of this research project is to examine middle school principals, staff development teachers, and district level staff development instructional specialists/directors perceptions about professional development evaluations between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. You have been chosen to participate in the study because you are middle school staff development teacher.

There are two parts to this study. The first part of the study involves asking a selected group of 30 middle school principals to complete a short online survey. The survey contains a total of 27 items, including items about professional development evaluation and demographic questions about you and your school.

In the second part of the study, I will invite five to six staff development teachers to participate in individual semi-structured interviews about their professional development evaluation practices and experiences. If you are selected for the second part of the study, I will send you a letter inviting you to meet with me.

Although the survey will ask you to provide your name and demographic information about your school, all data collected in the study will be managed through systems and strategies that ensure your anonymous participation. All raw data will be maintained in a secure file by the researcher. Results of the survey will be reported as aggregate summary data and no individual identified information will be presented. Principals, schools, and even the school system will not be referred to by name in the study. Only the members of my dissertation committee and I will have access to the information obtained directly from the survey. Your participation in the survey is voluntary, and you may decide not to continue at any time. The results of the study will be provided in the form of an executive summary and made available to Montgomery County Public Schools and all participants upon request.

If you would like to participate in the study, please review and sign the enclosed consent form and send it back to me in the self-addressed stamped envelope that is provided. The survey will be accessible online and will be sent to you via www.SurveyMonkey.com. The survey should not take more than 15 minutes to complete.

I sincerely thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me via e-mail at Myriam_A_Rogers@mcpsmd.org or by calling me at 240-848-4957. Thank you for your consideration.

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

January 24, 2013

Dear Participant:

The purpose of this letter is to invite you to participate in a study about professional development evaluation and middle school mathematics achievement. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. The purpose of this research project is to examine middle school principals, staff development teachers, and district level staff development instructional specialists/directors perceptions about professional development evaluations between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. You have been chosen to participate in the study because you are district level staff development instructional specialist or director that works with middle schools.

There are two parts to this study. The first part of the study involves asking a selected group of 30 middle school principals to complete a short online survey. The survey contains a total of 27 items, including items about professional development evaluation and demographic questions about you and your school.

In the second part of the study, I will invite two staff development instructional specialists to participate in individual semi-structured interviews about their professional development evaluation practices and experiences. If you are selected for the second part of the study, I will send you a letter inviting you to meet with me.

Although the survey will ask you to provide your name and demographic information about your school(s), all data collected in the study will be managed through systems and strategies that ensure your anonymous participation. All raw data will be maintained in a secure file by the researcher. Results of the survey will be reported as aggregate summary data and no individual identified information will be presented. Principals, schools, and even the school system will not be referred to by name in the study. Only the members of my dissertation committee and I will have access to the information obtained directly from the survey. Your participation in the survey is voluntary, and you may decide not to continue at any time. The results of the study will be provided in the form of an executive summary and made available to Montgomery County Public Schools and all participants upon request.

If you would like to participate in the study, please review and sign the enclosed consent form and send it back to me in the self-addressed stamped envelope that is provided. The survey will be accessible online and will be sent to you via www.SurveyMonkey.com. The survey should not take more than 15 minutes to complete.

I sincerely thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me via e-mail at Myriam_A_Rogers@mcpsmd.org or by calling me at 240-848-4957. Thank you for your consideration.

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

Focus Group Consent Letter
Letter of Invitation to Participants

Dear _____,

First, let me thank you for participating in the first part of my research study by completing the survey about professional development evaluation. The purpose of this letter is to invite you to participate in the second part of this study. For the second part of the study, I will be conducting semi-structured individual interviews with a small number of principals who completed the professional development evaluation survey. The purpose of the interviews is to explore middle school principals', staff development teachers, and staff development instructional specialists perceptions about professional development evaluation and to gain knowledge about common practices in middle schools. The interviews will be approximately 1 hour in length. The interviews will be audio taped.

The data will be analyzed in terms of themes and patterns that relate to professional development evaluation and relationships between student achievement and professional development evaluation levels. Interview data will be organized in a way that ensures your anonymous participation. The information you provide for the study will be treated confidentially and all raw data will be maintained in a secure file by the researcher. Results of the individual interview will be reported as aggregate summary data and no individually identified information will be presented. Only the members of my dissertation committee will have access to the information obtained directly from the interviews.

Your participation in the interview is voluntary, and you may decide not to continue at any time. The results of the study will be provided in the form of an executive summary and made available to Montgomery County Public Schools and all participants upon request.

Thank you in advance for your participation and prompt response. If you have any questions, please feel free to contact me via email at Myriam_A_Rogers@mcpsmd.org or by calling me at 301-422-5600. Thank you for your consideration.

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

Appendix D

Informed Consent Form for Survey
Informed Consent Form for Focus Groups

University of Maryland College Park
Middle School Principal- Survey

Initials _____ Date _____

Project Title	A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement <i>Phase 1 of the Study: Survey Completion</i>
Purpose of the Study	<i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as the principal of a middle school. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i>
Procedures	<p><i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase 2 involves possibly having you participate in a semi-structured interview.</i></p> <p><i>This consent form relates to Phase 1 of the study, survey completion. Phase 2 will be covered by a separate consent form.</i></p> <p><i>The survey portion of the study involves having you complete the Professional Development Evaluation Survey, a 20 item survey developed by Lowden (2005). The survey seeks to examine current practices. A sample survey question can be found below. You will also be asked to answer seven demographic questions related to personal characteristics and characteristics of your school. The survey will take approximately 20 minutes to complete.</i></p> <p><i>Sample Survey Question: After teachers participate in professional development, I usually observe teachers discussing their commitment to new teaching strategies.</i></p>
Potential Risks and Discomforts	<i>There are no known risks for participating in this study.</i>

Potential Benefits	<i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i>
Confidentiality	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p> <p><i>The researcher will implement procedures and strategies to protect the confidentiality of participants in the study, including maintaining all collected data (survey responses) in secure locations, including locked files and password-protected computers. The only persons with access to the data will be the researcher and members of the dissertation committee. No individual persons or schools will be identified in dissertation document and the school district will be referred to as Kennedy County Public Schools. Once the study has been completed, records of the data will be destroyed, including survey responses within one year.</i></p>
Right to Withdraw and Questions	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. Participation will not negatively or positively affect your employment status.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405-3580.</i></p>
Participant Rights	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p>

	<i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i>	
Statement of Consent	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>	
Signature and Date	PARTICIPANT NAME [Please Print]	
	PARTICIPANT SIGNATURE	
	DATE	

University of Maryland College Park
Middle School Staff Development Teacher- Survey

Initials _____ Date _____

Project Title	A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement <i>Phase 1 of the Study: Survey Completion</i>
Purpose of the Study	<i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as the staff development teacher of a middle school. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i>
Procedures	<i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase involves possibly having you participate in a semi-structured interview.</i> <i>This consent form relates to Phase 1 of the study, survey completion. Phase 2 will be covered by a separate consent form.</i> <i>The survey portion of the study involves having you complete the Professional Development Evaluation Survey, an 20 item survey developed by Lowden (2005). You will also be asked to answer seven demographic questions related to personal characteristics and characteristics of your school. The survey will take approximately 20 minutes to complete.</i>
Potential Risks and Discomforts	<i>There are no known risks for participating in this study.</i>
Potential Benefits	<i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i>

Confidentiality	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>		
Right to Withdraw and Questions	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405-3580.</i></p>		
Participant Rights	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>		
Statement of Consent	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>		
Signature and Date	<table border="1" style="width: 100%;"> <tr> <td style="width: 60%;">PARTICIPANT NAME [Please Print]</td> <td style="width: 40%;"></td> </tr> </table>	PARTICIPANT NAME [Please Print]	
PARTICIPANT NAME [Please Print]			

	PARTICIPANT SIGNATURE	
	DATE	

University of Maryland College Park
Staff Development Instructional Specialist/ Director- Survey
Initials _____ Date _____

Project Title	A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement <i>Phase 1 of the Study: Survey Completion</i>
Purpose of the Study	<i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as a district level staff development instructional specialist that supports middle schools. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i>
Procedures	<i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase 2 involves possibly having you participate in a semi-structured interview.</i> <i>This consent form relates to Phase 1 of the study, survey completion. Phase 2 will be covered by a separate consent form.</i> <i>The survey portion of the study involves having you complete the Professional Development Evaluation Survey, a 20 item survey developed by Lowden (2005). The survey seeks to examine current practices. A sample survey question can be found below. You will also be asked to answer seven demographic questions related to personal characteristics and characteristics of your school. The survey will take approximately 20 minutes to complete.</i> <i>Sample Survey Question: After teachers participate in professional development, I usually observe teachers discussing their commitment to new teaching strategies.</i>
Potential Risks and Discomforts	<i>There are no known risks for participating in this study.</i>

Potential Benefits	<i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i>
Confidentiality	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p> <p><i>The researcher will implement procedures and strategies to protect the confidentiality of participants in the study, including maintaining all collected data (survey responses) in secure locations, including locked files and password-protected computers. The only persons with access to the data will be the researcher and members of the dissertation committee. No individual persons or schools will be identified in dissertation document and the school district will be referred to as Kennedy County Public Schools. Once the study has been completed, records of the data will be destroyed, including survey responses within one year.</i></p>
Right to Withdraw and Questions	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. Participation will not negatively or positively affect your employment status.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405-3580.</i></p>
Participant Rights	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p>

	<p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>	
<p>Statement of Consent</p>	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>	
<p>Signature and Date</p>	<p>PARTICIPANT NAME [Please Print]</p>	
	<p>PARTICIPANT SIGNATURE</p>	
	<p>DATE</p>	

University of Maryland College Park
Middle School Principal- Focus Group

Initials _____ Date _____

Project Title	<p>A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement</p> <p><i>Phase 2 of the Study: Participation in a Semi-structured Interview</i></p>
Purpose of the Study	<p><i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as the principal of a middle school. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i></p>
Procedures	<p><i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase 2 involves possibly having you participate in a semi-structured interview.</i></p> <p><i>This consent form relates to Phase 2 of the study, the conducting of semi-structured interviews. Phase 1 is covered by a separate consent form.</i></p> <p><i>The interviews conducted in Phase 2 of the study will be semi-structured , audio recorded, and will take approximately 60-75 minutes to complete. The interviews will be conducted at a location that is convenient for you. Interviews will be completed in a single appointment.</i></p> <p><i>The interviews will involve questions about your professional development evaluation practices at your school. Sample Question: Describe the ways that you ensure teacher professional development meets the needs of your math teachers and is generally a positive experience.</i></p>
Potential Risks and Discomforts	<p><i>There are no known risks for participating in this study.</i></p>

<p>Potential Benefits</p>	<p><i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i></p>
<p>Confidentiality</p>	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p> <p><i>The researcher will implement procedures and strategies to protect the confidentiality of participants in the study, including maintaining all collected data (interview responses) in secure locations, including locked files and password-protected computers. The only persons with access to the data will be the researcher and members of the dissertation committee. No individual persons or schools will be identified in dissertation document and the school district will be referred to as Kennedy County Public Schools. Once the study has been completed, records of the data will be destroyed, including interview notes and tape recordings within one year.</i></p>
<p>Right to Withdraw and Questions</p>	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. Participation will not negatively or positively affect your employment status.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405 3580.</i></p>
<p>Participant Rights</p>	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;"> University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678 </p>

	<i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i>	
Statement of Consent	<i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i> <i>If you agree to participate, please sign your name below.</i>	
Signature and Date	PARTICIPANT NAME [Please Print]	
	PARTICIPANT SIGNATURE	
	DATE	

University of Maryland College Park
Middle School Staff Development Teacher- Focus Group

Initials _____ Date _____

Project Title	<p>A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement</p> <p><i>Phase 2 of the Study: Participation in a Semi-structured Interview</i></p>
Purpose of the Study	<p><i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as the staff development teacher of a middle school. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i></p>
Procedures	<p><i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase 2 involves possibly having you participate in a semi-structured interview.</i></p> <p><i>This consent form relates to Phase 2 of the study, the conducting of semi-structured interviews. Phase 1 is covered by a separate consent form.</i></p> <p><i>The interviews conducted in Phase 2 of the study will be semi-structured and will take approximately 60-75 minutes to complete. The interviews will involve questions about your self-efficacy beliefs and the experiences that may have informed those beliefs. The interviews will be conducted at a location that is convenient for you. Interviews will be completed in a single appointment.</i></p>
Potential Risks and Discomforts	<p><i>There are no known risks for participating in this study.</i></p>

Potential Benefits	<i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i>
Confidentiality	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>
Right to Withdraw and Questions	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405 3580.</i></p>
Participant Rights	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;">University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678</p> <p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>
Statement of Consent	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>

Signature and Date	PARTICIPANT NAME [Please Print]	
	PARTICIPANT SIGNATURE	
	DATE	

University of Maryland College Park

Staff Development Instructional Specialists/Directors- Focus Group

Initials _____ Date _____

Project Title	<p>A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement</p> <p><i>Phase 2 of the Study:</i> <i>Participation in a Semi-structured Interview</i></p>
Purpose of the Study	<p><i>This research is being conducted by Myriam A. Rogers, under the guidance of Dr. Carol Parham at the University of Maryland, College Park. We are inviting you to participate in this research project because you currently serve as a district level staff development instructional specialist that supports middle schools. The purpose of this research project is to examine the perceptions and about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics.</i></p>
Procedures	<p><i>The study will be completed in two phases: Phase 1 involves having you complete a survey. Phase 2 involves possibly having you participate in a semi-structured interview.</i></p> <p><i>This consent form relates to Phase 2 of the study, the conducting of semi-structured interviews. Phase 1 is covered by a separate consent form.</i></p> <p><i>The interviews conducted in Phase 2 of the study will be semi-structured and will take approximately 60-75 minutes to complete. The interviews will involve questions about your self-efficacy beliefs and the experiences that may have informed those beliefs. The interviews will be conducted at a location that is convenient for you. Interviews will be completed in a single appointment.</i></p>
Potential Risks and Discomforts	<p><i>There are no known risks for participating in this study.</i></p>

<p>Potential Benefits</p>	<p><i>There are no direct benefits to participation. However, possible benefits include an opportunity to reflect on your own professional development evaluation practices. We hope that, in the future, other people might benefit from this study through improved understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.</i></p>
<p>Confidentiality</p>	<p><i>Any potential loss of confidentiality will be minimized by security measures to protect data, use of alternate names for schools and the school district, and coding of data that will prevent you and your school from being identified.</i></p> <p><i>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</i></p>
<p>Right to Withdraw and Questions</p>	<p><i>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</i></p> <p><i>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator, Dr. Carol Parham, at 301-405 3580.</i></p>
<p>Participant Rights</p>	<p><i>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</i></p> <p style="text-align: center;"> University of Maryland College Park Institutional Review Board Office 1204 Marie Mount College Park, Maryland, 20742 E-mail: irb@umd.edu Telephone: 301-405-0678 </p> <p><i>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</i></p>
<p>Statement of Consent</p>	<p><i>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</i></p> <p><i>If you agree to participate, please sign your name below.</i></p>

Signature and Date	PARTICIPANT NAME [Please Print]	
	PARTICIPANT SIGNATURE	
	DATE	

Appendix E
Invitation Letters

Survey Letter to Participants for Survey Monkey
Email to Principals

-----Original Message-----

From: Myriam Rogers <myriam_rogers@aol.com>

Sent: Thu, Jan 24, 2013 6:32 pm

Subject: Professional Development Evaluation Survey Invitation

Greetings Principal,

You are cordially invited to participate *in a brief (15 minutes) and confidential Professional Development Evaluation Survey*. Your participation is vital for my doctoral research and will help identify the levels of professional development evaluation occurring in middle schools. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. Your perceptions are very important and your responses are appreciated. Attached to this message is a copy of the informed consent document. Please note that I will forward a hard copy of the informed consent letter to your school via U.S. mail as well.

Please click on the link below to participate:

https://www.surveymonkey.com/s/Rogers_Professional_Development_EvalSurvey

Your individual and school responses will be kept confidential and known only to me and my committee. The survey will remain open until Friday, February 8, 2013. Please call me at 240-848-4957 if you have any questions.

If you are participating, please be sure to complete the background information. You may be invited to participate in a focus group interview in the future.

Thank you for your time,

Myriam A. Rogers

Francis Scott Key Middle School Principal/Doctoral Candidate

University of Maryland College Park

Survey Letter to Participants for Survey Monkey
Email to Staff Development Teachers

-----Original Message-----

From: Myriam Rogers <myriam_rogers@aol.com>

Sent: Thu, Jan 24, 2013 7:48 pm

Subject: Professional Development Evaluation Survey

Greetings Staff Development Teacher,

You are cordially invited to participate in a *brief (15minutes) and confidential Professional Development Evaluation Survey*. Your participation is vital for my doctoral research and will help identify the levels of professional development evaluation occurring in middle schools. This study is about professional development evaluation and middle school mathematics achievement. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. The purpose of this research project is to examine middle school principals, staff development teachers, and district level staff development instructional specialists and directors' perceptions about professional development evaluations between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. You have been chosen to participate in the study because you are middle school staff development teacher.

Your perceptions are very important and your responses are appreciated. Attached to this message is a copy of the informed consent document. Please note that I will forward a hard copy of the informed consent letter to your office via US mail as well.

Please click on the link below to participate:

https://www.surveymonkey.com/s/Rogers_Professional_Development_EvalSurvey

Your individual and school responses will be kept confidential and known only to me and my committee. The survey will remain open until Friday, February 8, 2013. Please call me at 240-848-4957 if you have any questions.

If you are participating, please be sure to complete the background information. You may be invited to participate in a focus group interview in the future.

Thank you for your time,

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

Survey Letter to Participants for Survey Monkey
Email to Staff Development Instructional Specialists/Directors

-----Original Message-----

From: Myriam Rogers <myriam_rogers@aol.com>
Sent: Thu, Jan 24, 2013 8:06 pm
Subject: Professional Development Evaluation Survey

Greetings,

You are cordially invited to participate in a ***brief (15 minutes) and confidential Professional Development Evaluation Survey***. Your participation is vital for my doctoral research and will explore professional development evaluation and middle school mathematics achievement. I have received support of research for my study by Montgomery County Public Schools Office of Shared Accountability. The purpose of this research project is to examine middle school principals, staff development teachers, and district level staff development instructional specialists and directors' perceptions about professional development evaluations between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. You have been chosen to participate in the study because you are district level staff development instructional specialist or director who supports middle schools.

Your perceptions are very important and your responses are appreciated. Attached to this message is a copy of the informed consent document. Please note that I will forward a hard copy of the informed consent letter to your office via US mail as well.

Please click on the link below to participate:

https://www.surveymonkey.com/s/Rogers_Professional_Development_EvalSurvey

Your individual and school responses will be kept confidential and known only to me and my committee. The survey will remain open until Friday, February 8, 2013. Please call me at 240-848-4957 if you have any questions.

If you are participating, please be sure to complete the background information. You may be invited to participate in a focus group interview in the future.

Thank you for your time,

Myriam A. Rogers
Francis Scott Key Middle School Principal/Doctoral Candidate
University of Maryland College Park

Appendix F

Focus Group Moderator's Guide

Professional Development Evaluation Focus Group Interview Questions

Principals ONLY:

1. How long have you been the principal of your school?
2. What are the demographics of your school?
 - FARMS (Free and Reduced Meals percentage)
 - Race/ethnicity
 - ESOL (English Speakers of Other Languages)
 - Special education
3. What are your areas of certification in this state?
4. Please name the 3 most important things that you do to try to ensure your students have met the state standards in mathematics.

Staff Development Teachers ONLY:

1. Prior to your role as a staff development teacher, what courses did you teach?
2. How long have you been the staff development teacher at your school?
3. What are your areas of certification in this state?
4. Please name the 3 most important things that you do to try to ensure your students have met the state standards in mathematics.

Staff Development Instructional Specialists ONLY:

1. Prior to your role as an instructional specialist, what courses did you teach?
2. How long have you been the instructional specialist for your cluster?
3. What are your areas of certification in this state?
4. Please name the 3 most important things that you work with middle schools to do to try to ensure their students have met the state standards in mathematics.

1. Describe the ways that you ensure teacher professional development meets the needs of your math teachers and is generally a positive experience.

Prompts:

- What are the needs of your math teachers?
- How does professional development address teacher needs in your school?
- Describe a typical professional development experience.

2. What do you do to ensure that teacher professional development at your school teaches practical instructional strategies while providing participants with the theory behind the practice?

Prompts:

- Connections between theory and research
- How are decisions made about content focus?

3. Describe what organizational support and change for teacher professional development looks like in your school?

Prompts:

- Time
- Structural changes
- Funding/ resources/recognition
- How is school support for professional development demonstrated and articulated to teachers?

4. How often and in what ways do you evaluate teachers' use of new knowledge and skills after professional development?

Prompts:

- How do you know if participants effectively apply the knowledge and skills that they learn in professional development?
- Degree and quality of implementation
- Evidence of application

5. Describe the ways that professional development impact on students is evaluated or measured in your school.

Prompts:

- Impact on students

- How do you know if professional development affects student performance or achievement?
- Relationship between professional development and student learning outcomes

Appendix G

IRB Application

UNIVERSITY OF MARYLAND, COLLEGE PARK
Institutional Review Board
Initial Application for Research Involving Human Subjects

Last Rev 09/8/2010

Principal Investigator/ Project Faculty Advisor <i>(NOT a student or fellow)</i>	Dr. Carol Parham	Email Address	cparham@umd.edu
		Telephone Number	301-405-3580

Co-Investigator		Email Address	
		Telephone Number	

Student Investigator	Myriam Agnant Rogers	Email Address	Myriam_A_Rogers@mcpsmd.org
		Telephone Number	240-848-4957

Project Title	A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement
----------------------	---

Department/ Unit Administering the Project	Department of Education Leadership, Higher Education and International Education (EDHI)/ Department of Counseling, Higher Education, and Special Education (CHES)
Where to send Approval Documents	Myriam Agnant Rogers, 10103 Autumn Ridge Court, Mitchellville Maryland 20721
Check if this is	Student master's thesis <input type="checkbox"/> OR Dissertation research project <input checked="" type="checkbox"/>

Funding Agency(s)	N/A
ORAA Proposal ID Number	N/A

Target Population: The study population will include (Check all that apply): **Not Applicable**

- pregnant women
- minors/children
- human fetuses

- neonates
- prisoners
- students

- individuals with mental disabilities
- individuals with physical disabilities

Exempt (Optional): You may suggest this protocol meets the requirements for Exempt Review by checking the box below and listing the Exempt category(s) that may apply. Please refer to the Exempt Category document for additional information.

Exemption Category(s):

1) Research conducted in established or commonly accepted educational settings, involving normal educational practices.

Rationale:

Participation in this study will involve minimal risk to participants.

Date **Signature of Principal Investigator [REQUIRED]**

Date **Signature of Co-Principal Investigator**

Date **Signature of Student Investigator**

Date **Signature of IRB Liaison/Department Chair [REQUIRED]**

Print Name _____ **Title** _____
(Please print name of IRB Liaison/Department Chair)

1. Abstract:

Public schools are being asked to raise academic standards to the highest level in history. Schools are expected to help all students demonstrate high levels of student achievement. Middle school mathematics is a critical component of student success. As a result of poor student performance, professional development has emerged as a key strategy for improving instruction and achievement. In times of reduced resources and increased accountability, schools must evaluate their efforts in order to make sound decisions about policy and practice. Guskey’s research in professional development evaluation identifies a five level model for gathering information and documenting the impact on student learning. This study identifies middle school principals, staff development teachers and district level staff development instructional specialists perceptions about professional development evaluation between schools identified as not meeting state standards in mathematics and schools identified as meeting state standards in mathematics. Through examining the perceptions of their professional development evaluation practices and the differences in experience, the study adds to the literature on professional development evaluation and informs school improvement efforts.

2. Subject Selection:

- a. Subject selection will occur in two phases. In Phase 1, 30 principals, 30 staff development teachers, and 5 district level staff development instructional specialists in a single Maryland school district will be asked to complete a survey. The principals, staff development teachers, and staff development instructional specialists will be selected based on publicly available student achievement data. For phase 2 of the study, 5 principals, 5 staff development teachers and 2 staff development instructional specialists who participated in phase 1 of the study will be asked to participate in a semi-structured interview based on their survey results. Participants from schools that met the state standard in mathematics and schools that did not meet the state standards in mathematics will be invited to participate in phase 2. Recruitment will be conducted by sending identified principals, staff development teachers, and staff development instructional specialists mailings with information about the study and appropriate consent forms.
- b. Participants will be limited to current middle school principals, staff development teachers, and staff development instructional specialists in a single Maryland district. All participants will be at least 18 years of age or older. There are no exclusions based on sex, ethnic origin, religion, or other personal factors.
- c. The study will focus on current middle school principals, staff development teachers, and staff development instructional specialists in order to examine their professional development evaluation practices. The study will pursue a greater understanding of the perceptions and practices, which will add to the research literature on professional development evaluation and inform principals and districts.
- d. In Phase 1 of the study, the completion of the Professional Development Evaluation Survey, the maximum number of subjects will be 65. In Phase 2 of the study, the semi-structured interview, the maximum number of subjects will be 12.

3. In Phase 1 of the study, the researcher will use publicly available school achievement data to select 30 schools for participation in the first phase of the study. School information, including student achievement, will be communicated in a manner that maintains the confidentiality of the school and staff members. Once the schools have been identified, principals, staff development teachers and staff development instructional specialists assigned to those schools will be recruited to participate in the study through an invitation letter that shares information about the study and informed consent. Participants will receive an electronic link to the survey via Survey Monkey. They will be asked to complete the Professional Development Evaluation Survey, a 20 item survey with a four point Likert scale. In addition, subjects will be asked to answer seven questions about their personal characteristics (position, gender, level, number of years in education, educational level) and their school (participation in the development of evaluations, frequency of professional development evaluation). Completion of the survey, which will be delivered online, will take approximately 20 minutes.

In Phase 2 of the study, a total of 12 subjects will be asked to participate in a semi-structured interview that will last 60-75 minutes. Subjects (principals and staff development teachers) will be selected from both schools that met state standards in mathematics and schools that did not meet state standards in mathematics. Interviews will be completed in a two visits- one visit for all principals and one visit for staff development teachers and staff development instructional specialists. The focus group interviews will be recorded via the use of a tape recorder. They will be conducted in the district at a central school location in a private meeting room that will be geographically accessible to all participants.

4. Risks:

There are no known risks to participants.

5. Benefits:

There are no direct benefits to participants. However, possible benefits include increased awareness of professional development evaluation practices. Some participants may increase their awareness of their own professional development evaluation practices through completing the survey and/or participating in the interview.

The potential overall benefit to be gained from this research is a greater understanding of the impact of professional development evaluation on student mathematics achievement. This information could help to inform district decision making and support school improvement.

6. Confidentiality:

The researcher will implement procedures and strategies to protect the confidentiality of participants in both phases of the study, including maintaining all collected data (survey responses and interview responses) in secure locations, including locked files and password-protected computers. The only persons with access to the data will be the researcher and members of the dissertation committee. No individual persons or schools will be identified in dissertation document and the school district will be referred to as Kennedy County Public Schools. Once the study has been completed, records of the data will be destroyed, including survey responses and interview notes and tape recordings within one year.

7. Consent Process:

The consent process used in this study will ensure that all participants will be presented with informed consent. The planned sequence of communication in the process is as follows:

1. Prospective participants (approximately 30 middle school principals, 30 staff development teachers and 5 staff development instructional specialists) will receive a written communication from the school system indicating that the researcher's study has been approved by the system's Office of Shared Accountability.
2. The researcher will then mail prospective participants a cover letter containing information about the study and a copy of the consent form for Phase 1 of the study (Survey Completion), inviting them to voluntarily participate in completing an online survey. The researcher will provide a self-addressed stamped envelope for participants to use in returning their signed consent form. The invitation letter will include a web address that participants will use to access the online survey. The letter will also include contact information in case the prospective participant has any questions about participating in the study. Finally, the letter will also indicate that some participants may be asked to participate in Phase 2 – the interview portion of the study. All participants will be provided with a copy of the consent form for their records.
3. The researcher will collect the returned consent forms for Phase 1 of the study (Survey Completion) and analyze the completed surveys in order to identify 5 principals, 5 staff development teachers and 2 staff development instructional specialists to participate in Phase 2 of the study (Participation in Interviews).
4. The researcher will send each of these participants a cover letter inviting them to participate in Phase 2 of the study (Participation in Interviews). The letter will be accompanied by a second consent form specific to Phase 2 of the study and contact information.
5. The researcher will review all returned consent forms for Phase 2 of the study and select two staff development instructional specialists and at least five and no more than six principals and staff development teachers to interview based on survey scores and student achievement. The researcher

8. Conflict of Interest:

There is no anticipated conflict of interest in this study.

9. HIPAA Compliance:

Not Applicable to this study.

10. Research Outside of the United States:

Not Applicable to this study.

11. Research Involving Prisoners:

Not Applicable to this study.

SUPPORTING DOCUMENTS

Each copy of the application must include the IRB application cover sheet, the information required in items 1-11 above, and all relevant supporting documents including: consent

forms, letters sent to recruit participants, questionnaires completed by participants, and any other material that will be presented, viewed or read to human subject participants.

For funded research, a copy of the Awarded Grant Application (minus the budgetary information) must be included. If the Grant has not been awarded at the time of submission of this Initial Application, a statement must be added to the Abstract Section stating that an Addendum will be submitted to include the Grant Application once it has been awarded.

NUMBER OF COPIES

Please send 1 original application including the signed cover sheet to:

**IRB Office
1204 Marie Mount
College Park, MD 20742-5125**

Appendix H

IRB Approval Notification



UNIVERSITY OF
MARYLAND

INSTITUTIONAL REVIEW BOARD

1204 Marie Mount Hall
College Park, MD 20742-5125
TEL 301.405.4212
FAX 301.314.1475
irb@umd.edu
www.umresearch.umd.edu/IRB

DATE: January 10, 2013

TO: Myriam Agnant Rogers
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [411533-1] A Study of the Relationship Between Professional Development Evaluation and Middle School Mathematics Achievement

REFERENCE #:
SUBMISSION TYPE: New Project

ACTION: APPROVED
APPROVAL DATE: January 10, 2013
EXPIRATION DATE: January 9, 2014
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 6 and 7

Thank you for your submission of New Project materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure which are found on the IRBNet Forms and Templates Page.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of January 9, 2014.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact the IRB Office at 301-405-4212 or irb@umd.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Maryland College Park (UMCP) IRB's records.

Appendix I

District Application to Conduct Research
Approval to Conduct Research from District

SUMMARY

Montgomery County Public Schools (MCPS) endeavors to provide opportunities for research studies of quality to be conducted within the system by graduate students and by other professionally and technically qualified individuals and research organizations.

Factors which are considered in assessing whether the school system can cooperate in a proposal for research include the following:

1. The technical soundness of the proposal design
2. The appropriateness of the research topic for support in the public setting
3. The availability of research sites and subjects of the kinds requested
4. The nature and amount of the interruption required in the ongoing educational program
5. The privacy of respondents
6. The kind and number of data-gathering procedures or instruments to be used in the study
7. The need for the schools to safeguard the personal and legal rights of students, parents, and staff

The following categories of research will be accepted for screening and evaluation:

1. Unsolicited research proposals from individuals or organizations independent of MCPS
2. Proposals for studies for masters' theses and doctoral dissertations originating from MCPS employees
3. Proposals for studies for doctoral dissertations originating from proponents other than MCPS employees
4. Responses to MCPS requests for proposals (RFP's) for external audits and research
5. Proposals for research activities originating within MCPS offices, departments, divisions, and other units, transmitted through their central office administrative channels

Applications for support of research projects to meet requirements of undergraduate or graduate course papers *cannot* be accepted from any individuals or groups.

The Office of Shared Accountability (OSA) is responsible for screening and reviewing a request for support of a research project, and the signatures of both the associate superintendent of OSA and the deputy superintendent of teaching, learning, and programs are required to certify approval before a research study can proceed. Proposals involving sensitive issues or substantial commitment of MCPS resources may be referred to the superintendent of schools for approval, disapproval, or transmittal to the Board of Education for comment and approval.

Applications to conduct research in MCPS cannot be accepted after April 1 for implementation in the current academic year. Research activities involving students may not be conducted from April 15 through September 15, unless the project is for MCPS.

OSA does not provide applicants with assistance in research design, instrument development, data analysis, or report writing except as represented in the evaluation provisions of MCPS Regulation AFA-RA: *Research and Other Data Collection Activities in Montgomery County Public Schools*.

Student and parent participation in a study is voluntary. Participation of MCPS personnel also is voluntary unless specifically indicated by the deputy superintendent of teaching, learning, and programs or the deputy superintendent of school support and improvement. Any instruments to be administered to the research subjects must display a clarifying statement to this effect on its fact sheet. Anonymity of any participant must be preserved. The identity of schools, offices, or the school system cannot be revealed *unless* authorized by the superintendent of schools.

For additional details on MCPS policy and procedures on supporting and screening research proposals, refer to MCPS Regulation AFA-RA. Copies are available on request.

INSTRUCTIONS: Applicants wishing to conduct research in MCPS are required to complete two forms, MCPS Form 495-1: *Request for a Research Activity* and MCPS Form 226-17: *Research Instrument Clearance Request*. Submit both forms and accompanying materials to: Office of Shared Accountability, Montgomery County Public Schools, 850 Hungerford Drive, Room 11, Rockville, MD 20850.

Research Request Date 01 / 10 / 13 Applicant Name Myriam A. Rogers

Project Name A Study of the Relationship Between Professional Development Evaluation and Middle School Math Achievement

Office Use Only: Processing Status					
Date Forms Received	<u>1 / 11 / 13</u>	Date to Reviewer	<u>1 / 11 / 13</u>	Date from Reviewer	<u>1 / 17 / 13</u>
Reviewer Decision:	<input checked="" type="checkbox"/> Accept	<input type="checkbox"/> Revise	<input type="checkbox"/> Reject		
Date Revisions Sent	<u> / / </u>	Date Revisions Received	<u> / / </u>		
Date to Deputy Superintendent of Teaching, Learning, and Programs	<u> / / </u>	Final Decision:	<input type="checkbox"/> Accept	<input type="checkbox"/> Revise	<input type="checkbox"/> Reject

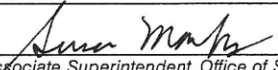
NOTICE OF ACTION ON RESEARCH ACTIVITY REQUEST

To Be Completed by Office of Shared Accountability

1. Clearance Recommendation:

Approval Disapproval Provisional Approval (approval contingent on acceptance of modifications indicated below.)

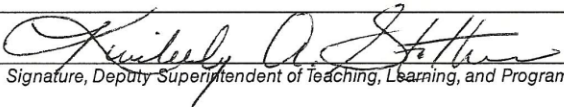
2. Remarks (Include specific modifications needed or reason(s) for disapproval, as appropriate.) _____

 1/22/13
Signature, Associate Superintendent, Office of Shared Accountability Date

To Be Completed By Office of the Deputy Superintendent of Teaching, Learning, and Programs

1. Clearance recommendation: Approved Disapproved Participation in study is: Voluntary Compulsory

2. Remarks (Include specific modifications needed or reason(s) for disapproval, as appropriate.) _____

 1/22/13
Signature, Deputy Superintendent of Teaching, Learning, and Programs Date

REQUIREMENTS FOR NARRATIVE DESCRIPTION OF PROPOSAL

Any proposal which is submitted will discuss the research issues and rationale of the investigation; present a list of hypotheses; name specific instruments that will be used to meet specific study requirements; and discuss in detail the sampling, data collection, and data analysis strategies which will be used in the study.

Proposals are to be limited to no more than 50 pages. Resumes and write-ups of previous personal experience, if required, need not be included in the above page count.

The proposal should be organized in the following manner; required chapters are asterisked.

CHAPTER

*1. The applicant's completed MCPS Form 495-1: *Request For A Research Activity*, constitutes the PROPOSAL OVERVIEW.

*2. BACKGROUND AND STUDY DESIGN

This chapter should address in detail the background and specific research objectives of the study, hypotheses to be tested, and questions to be addressed. It should demonstrate the applicant's familiarity with the research issues to be considered in developing and implementing the activities described in the proposal. Awareness of relevant ongoing and previous research should be demonstrated, and attention should be devoted to describing the strengths and weaknesses of related efforts. The chapter should discuss how the proposed research complements or improves upon previous efforts.

*3. INSTRUMENT DEVELOPMENT/IDENTIFICATION

This chapter should address the instrumentation requirements of the study. Specific instruments should be identified. Where questionnaires, unobtrusive observation protocols, or interview protocols are specified, content and respondent burden should be addressed. Applicants should indicate for each instrument to be used the approximate amount of response time required. If instrument development is proposed as part of the research, a justification must be presented which documents the need for new measures and explicates why existing alternatives are not satisfactory. In developing instrument specifications, it must be kept in mind that *respondent burden must be minimized*. In evaluating proposals, this will be a major consideration. A listing of key data elements to be collected from each type of respondent should be included along with a rationale for collecting each of the key items of information. Copies of instruments proposed for use in the study should be attached to the proposal.

*4. SAMPLING

The sampling schema should be discussed fully in this chapter. If the plan includes the sampling of students, teachers, parents, etc., the methodology for accomplishing this should be clearly presented in this chapter; and the number of respondents for each type should be specified.

**Office of Shared Accountability
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland 20850**

RESEARCH INSTRUMENT CLEARANCE REQUEST

INSTRUCTIONS: This form must accompany all research requests requiring approval under MCPS Regulation AFA-RA: *Research and Other Data Collection Activities in Montgomery County Public Schools*. Complete all items of information; mark "NA" in the space provided if the item is not applicable. Please use a separate form for each data collection instrument. Submit form(s) to the Office of Shared Accountability, Carver Educational Services Center, Room 11. If you have any questions, please call 301-279-3848.

PART A: FORM IDENTIFICATION

Title Professional Development Evaluation Survey Submitted 01 / 10 / 13
Research Instrument Date

Clearance needed 01 / 28 / 13 Frequency of research instrument use: (check one)
Date One-time As required Monthly Annually

Other (specify) _____

Research instrument(s) to be in use until 04 / 13
Mo. Yr.

List MCPS offices/departments/schools affected by this research instrument MCPS Middle Schools and
MCPS Staff Development Instructional Specialists

Name(s) and telephone number(s) of person(s) who can best answer questions regarding this request:

Name(s)	Telephone Number
<u>Myriam A. Rogers</u>	<u>301 422 5600</u>
<u>Dr. Carol Parham</u>	<u>301 405 4580</u>
_____	_____

PART B: PURPOSE

List all intended users of the data collected and the manner in which each intends to use the data.

INTENDED USER	PURPOSES FOR WHICH DATA WILL BE USED
Myriam A. Rogers	Dissertation purposes- I will collect, organize and analyze the data collected from middle school principals staff development teachers and central instr. specialists in order to write a findings chapter and a summary, conclusions, and recommendations chapter.
Dr. Carol Parham	Dissertation purposes- As my advisor, Dr. Parham will review my findings and is prepared to assist and coach me in case of questions or issues with themes, analysis, conclusions, etc.

NOTICE OF ACTION ON RESEARCH INSTRUMENT CLEARANCE REQUEST

Title of Research Activity A Study of the Relationship between Professional Development Evaluation and MS Math Achievement

PART D: IMPACT SUMMARY—To be completed by the Office of Shared Accountability

Activity/Form: New Revised

Respondent group Selected Middle School Principals & Staff Development Teachers, Staff Development Instructional Specialists Data burden 16.25 hours

Clearance recommendation:

Approval Provisional Approval (approval contingent on acceptance of modifications indicated below) Disapproval

Remarks (Include specific modifications needed or reason(s) for disapproval, as appropriate.) _____

[Signature] 1/22/13
Signature, Associate Superintendent, Office of Shared Accountability Date

PART E: CLEARANCE ACTION—To be completed by the Office of the Deputy Superintendent of Teaching, Learning, and Programs

Action: Approval Provisional Approval (approval contingent on acceptance of modifications indicated below) Disapproval

If approved, completion of research instrument by respondent is: Voluntary Compulsory

Remarks _____

[Signature] 1/22/13
Signature, Deputy Superintendent of Teaching, Learning, and Programs Date

PART F: APPLICANT RESPONSIBILITIES REQUIRED IF APPROVAL IS GRANTED

1. The first page of the research instrument must bear one of the following statements:

- Respondents are not required to answer any questions that they believe are an infringement upon their privacy or that they do not care to answer for any other reason.
- By directive of the Office of the Superintendent of Schools, completion of this research instrument is a compulsory activity for MCPS employees who are designated as respondents.

2. One copy of the final printed research instrument, including any transmittal letter, instructions, or other document being provided to respondents is to be sent to the Office of Shared Accountability before any research instruments are administered.

3. At the completion of the study, one copy of the executive summary and the final report is to be sent to the Office of Shared Accountability.

INSTRUCTIONS: This form must accompany all research requests requiring approval under MCPS Regulation AFA-RA: *Research and Other Data Collection Activities in Montgomery County Public Schools*. Complete all items of information; mark "NA" in the space provided if the item is not applicable. Please use a separate form for each data collection instrument. Submit form(s) to the Office of Shared Accountability, Carver Educational Services Center, Room 11. If you have any questions, please call 301-279-3848.

PART A: FORM IDENTIFICATION

Title Professional Development Evaluation Focus Group Questions Submitted 01 / 10 / 13
Research Instrument Date

Clearance needed 01 / 28 / 13
Date

Frequency of research instrument use: (check one)

One-time As required Monthly Annually

Other (specify) _____

Research instrument(s) to be in use until 04 / 13
Mo. Yr.

List MCPS offices/departments/schools affected by this research instrument MCPS Middle Schools and MCPS Staff Development Instructional Specialists

Name(s) and telephone number(s) of person(s) who can best answer questions regarding this request:
Name(s)

Telephone Number

Myriam A. Rogers 301 422 5600

Dr. Carol Parham 301 405 4580

PART B: PURPOSE

List all intended users of the data collected and the manner in which each intends to use the data.

INTENDED USER	PURPOSES FOR WHICH DATA WILL BE USED
Myriam A. Rogers	Dissertation purposes- I will collect, organize and analyze the data collected from middle school principals staff development teachers and central instr. specialists in order to write a findings chapter and a summary, conclusions, and recommendations chapter.
Dr. Carol Parham	Dissertation purposes- As my advisor, Dr. Parham will review my findings and is prepared to assist and coach me in case of questions or issues with themes, analysis, conclusions, etc.

NOTICE OF ACTION ON RESEARCH INSTRUMENT CLEARANCE REQUEST

Title of Research Activity A Study of the Relationship between Professional Development Evaluation and MS Math Achievement

PART D: IMPACT SUMMARY—To be completed by the Office of Shared Accountability


Activity/Form: New Revised

Respondent group Selected Middle School Principals, Staff Development Teachers & Staff Development Instructional Specialists Data burden 13 hours

Clearance recommendation:

Approval Provisional Approval (approval contingent on acceptance of modifications indicated below) Disapproval

Remarks (Include specific modifications needed or reason(s) for disapproval, as appropriate.) _____



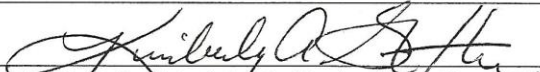
Signature, Associate Superintendent, Office of Shared Accountability 1/22/13
Date

PART E: CLEARANCE ACTION—To be completed by the Office of the Deputy Superintendent of Teaching, Learning, and Programs

Action: Approval Provisional Approval (approval contingent on acceptance of modifications indicated below) Disapproval

If approved, completion of research instrument by respondent is: Voluntary Compulsory

Remarks _____



Signature, Deputy Superintendent of Teaching, Learning, and Programs 1/22/13
Date

PART F: APPLICANT RESPONSIBILITIES REQUIRED IF APPROVAL IS GRANTED

1. The first page of the research instrument must bear one of the following statements:

- Respondents are not required to answer any questions that they believe are an infringement upon their privacy or that they do not care to answer for any other reason.
- By directive of the Office of the Superintendent of Schools, completion of this research instrument is a compulsory activity for MCPS employees who are designated as respondents.

2. One copy of the final printed research instrument, including any transmittal letter, instructions, or other document being provided to respondents is to be sent to the Office of Shared Accountability before any research instruments are administered.


3. At the completion of the study, one copy of the executive summary and the final report is to be sent to the Office of Shared Accountability.

Office of Shared Accountability
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

January 24, 2013

MEMORANDUM

To: Dr. Kimberly A. Statham, Deputy Superintendent of Teaching, Learning, and Programs

From: Susan F. Marks, Acting Associate Superintendent 

Subject: Approval of Request to Conduct Research

In compliance with Regulation AFA-RA, *Research and Other Data Collection Activities in Montgomery County Public Schools* (MCPS), the attached request to conduct research has been reviewed and approved by the Office of Shared Accountability (OSA). The request is recommended for approval by the Office of the Deputy Superintendent of Teaching, Learning, and Programs. Ms. Myriam A. Rogers, principal and doctoral candidate, University of Maryland, requests permission to conduct a study titled: *A Study of the Relationship Between Professional Development Evaluation and Middle School Math Achievement*. The study is part of the requirements for completing a doctorate in the Department of Education Leadership, Higher Education, and International Education, University of Maryland.

The purpose of the study is to examine the professional evaluation practices across a selected sample of MCPS middle schools and to study the perceptions of the selected schools' principals and staff development professionals regarding the benefits of professional development evaluation. The data collection activities include an online survey consisting of 27 questions that will be available through *SurveyMonkey* and two focus group discussions, one for principals and one for staff development professionals. It is estimated that the online survey will take approximately 20 minutes to complete, and each focus group discussion will last 60–75 minutes.

Thirty middle schools will be selected to participate in the study. The selection of schools will be based on students' state assessment performance in mathematics. For analysis purposes, the researcher will divide the selected middle schools into two groups; one group of middle schools will consist of middle schools that have met Adequate Yearly Progress in mathematics for all student groups, and the second group of middle schools will be those that did not meet Adequate Yearly Progress for all student groups.

Principals and staff development teachers in the selected schools and staff development instructional specialists assigned to the selected schools will receive an invitation letter at their work locations that explains the study and its data collection activities, the protocols to maintain confidentiality of collected information, and a consent form. Staff members who are interested in participating in the study are asked to return their signed consent form to the researcher in a pre-addressed, postage-paid envelope. The researcher will confirm receipt of the written consent

and send an e-mail to the participant with the *SurveyMonkey* link to the *Professional Development Evaluation Survey*.

After analyzing the returned survey data, the researcher will invite 12 participants from across the two groups of schools to participate in a focus group discussion. Focus groups will be held in a school location that is geographically central to participants and at a convenient time after the school work day.

The data collection activities will occur January through April 2013. Participation in the study is voluntary. The University of Maryland Institutional Review Board (IRB) reviewed and approved the research protocols for January 10, 2013, through January 9, 2014. The names of participants, schools, and the school district will not be used in the summary of results. All data will be reported in summary format.

The study is supported by Dr. Beth Schiavino-Narvaez, deputy superintendent of school support and improvement, and Dr. Debra K. Mugge, president, Montgomery County Association of Administrators and Principals. Ms. Rogers agrees to provide Dr. Schiavino-Narvaez, Dr. Mugge, and OSA with a report of the findings.

If you have questions regarding this request, please contact Mrs. Cynthia L. Loeb, logistics support specialist, Applied Research Unit, OSA, at 301-279-3848 or via e-mail at Cynthia_Loeb@mcpsmd.org.

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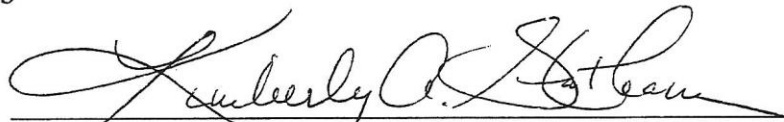
Attachment

Copy to:

Dr. Schiavino-Narvaez
Community Superintendents
Dr. Addison-Scott
Mrs. Loeb

✓ Ms. Rogers
Dr. Mugge
Mr. Prouty

Approved:



Kimberly A. Statham, Deputy Superintendent of Teaching, Learning, and Programs

Appendix J

Cover Letter to Principals for Focus Groups
Cover Letter to Staff Development Teachers and Instructional Specialists for Focus
Groups

Focus Group Invitation
Email to Principals

-----Original Message-----

From: Myriam Rogers

Subject: Focus Group Interview - Invitation Email

Sent: Feb 4, 2013 12:24 PM

Greetings,

First, let me thank you for participating in the first part of my research study by completing the survey about professional development evaluation. The purpose of this letter is to invite you to participate in the second part of this study. For the second part of the study, I will be conducting semi-structured individual interviews with a small number of participants who completed the professional development evaluation survey. The purpose of the focus group interviews is to explore middle school principals, staff development teachers, and staff development instructional specialists perceptions about professional development evaluation and to gain knowledge about common practices in middle schools. The interviews will last approximately 1 hour to 1 hour and fifteen minutes in length. The interviews will be audio taped. Focus group interviews will be held on Tuesday, February 19, 2013 at 5:00 pm – 6:15 pm in the Media Center at Francis Scott Key Middle School. Francis Scott Key Middle School is located at 910 Schindler Drive, Silver Spring, Maryland 20903.

The data will be analyzed in terms of themes and patterns that relate to professional development evaluation and relationships between student achievement and professional development evaluation levels. Interview data will be organized in a way that ensures your anonymous participation. The information you provide for the study will be treated confidentially and all raw data will be maintained in a secure file by the researcher.

Myriam A. Rogers

Francis Scott Key Middle School Principal/Doctoral Candidate

University of Maryland College Park

Focus Group Invitation
Email to Staff Development Teachers and Instructional Specialists/Directors

-----Original Message-----

From: Myriam Rogers

Subject: Staff Development Focus Group Invitation

Sent: Feb 4, 2013 1:51 PM

February 4, 2013

Greetings,

First, let me thank you for participating in the first part of my research study by completing the survey about professional development evaluation. The purpose of this letter is to invite you to participate in the second part of this study. For the second part of the study, I will be conducting semi-structured individual interviews with a small number of participants who completed the professional development evaluation survey. The purpose of the focus group interviews is to explore middle school principals, staff development teachers, and staff development instructional specialists perceptions about professional development evaluation and to gain knowledge about common practices in middle schools. The interviews will last approximately 1 hour in length. The interviews will be audio taped. Focus group interviews will be held on Tuesday, February 19, 2013 at 3:30 pm – 4:00 pm in the Media Center at Francis Scott Key Middle School. Francis Scott Key Middle School is located at 910 Schindler Drive, Silver Spring, Maryland 20903.

The data will be analyzed in terms of themes and patterns that relate to professional development evaluation and relationships between student achievement and professional development evaluation levels. Interview data will be organized in a way that ensures your anonymous participation. The information you provide for the study will be treated confidentially and all raw data will be maintained in a secure file by the researcher.

Myriam A. Rogers

Francis Scott Key Middle School Principal/Doctoral Candidate

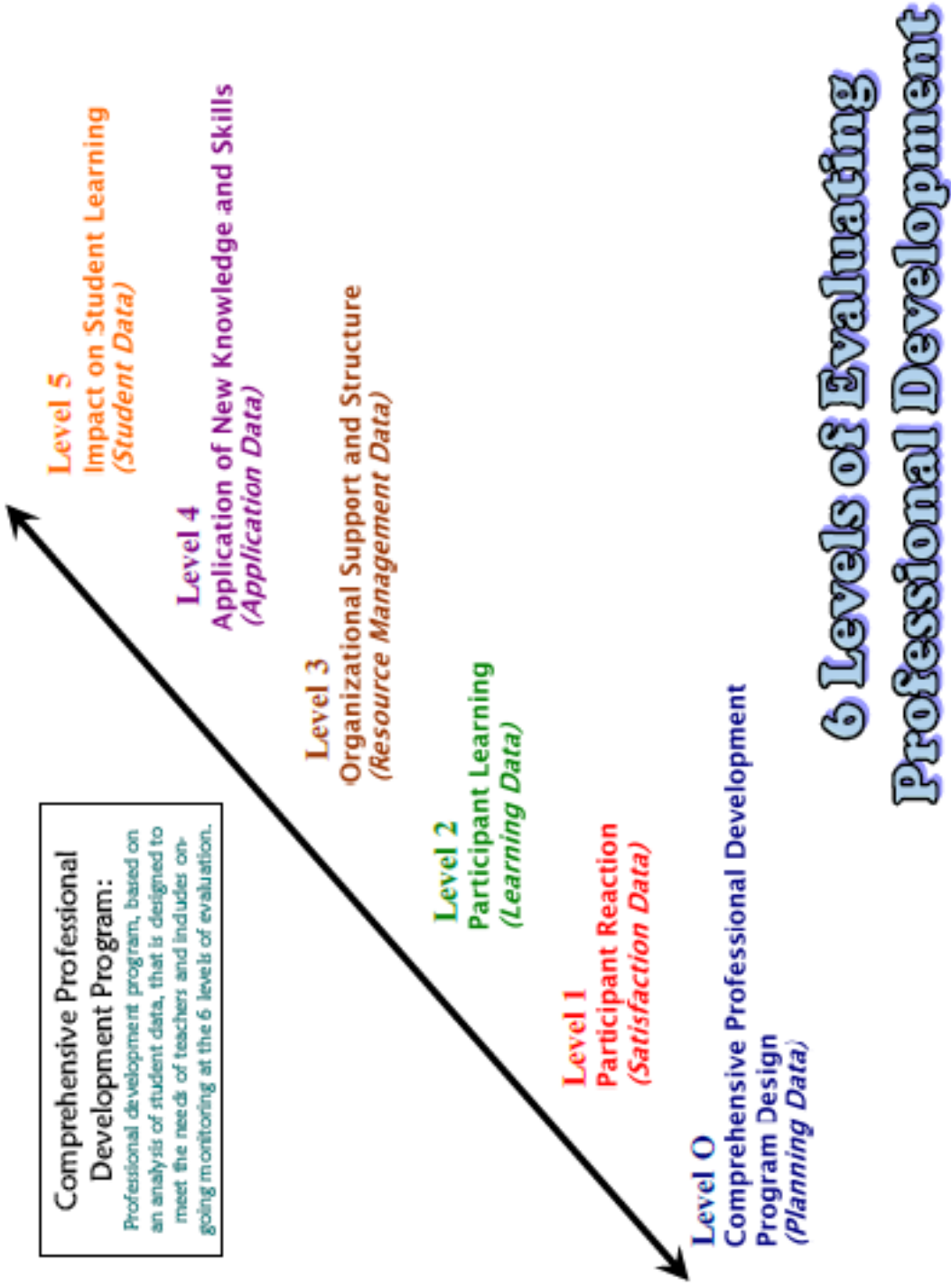
University of Maryland College Park

Appendix K

District Professional Development Evaluation Documents

6 Levels of Professional Development Evaluation From Learning to Doing- 6 Levels of Evaluation

Comprehensive Professional Development Program:
Professional development program, based on an analysis of student data, that is designed to meet the needs of teachers and includes ongoing monitoring at the 6 levels of evaluation.



Level	From Learning to Doing	Sample Progression
Level 0 Design of the comprehensive professional program or a component of that program <i>(Planning Data)</i>	Defining the focus for professional development <ul style="list-style-type: none"> Defining what students need during instruction (root cause analysis) Finding out what teachers already know about the topic 	Steps) at this level: Tools/questions to evaluate:
Level 1 Participant Reaction <i>(Satisfaction Data)</i>	Gathering satisfaction data at any time during the cycle <ul style="list-style-type: none"> Satisfaction with the process for learning Satisfaction with coaching Satisfaction with collaborative planning Satisfaction with learning and implementation support Planning for and delivering the learning <ul style="list-style-type: none"> Research on the topic (purpose, examples, etc.) Planning and delivering for learning experiences of staff Measuring what staff learned as a result of the learning experience 	Steps) at this level: Tools/questions to evaluate:
Level 2 Participant Learning <i>(Learning Data)</i>	Planning for and providing opportunities to use the new learning <ul style="list-style-type: none"> Collaborative planning experiences which use new learning Individual/small group coaching to use new learning in planning Feedback from colleagues on using the new learning during instruction Measuring the effectiveness of the structures in support of implementation 	Steps) at this level: Tools/questions to evaluate:
Level 3 Organizational Support and Structure <i>(Resource Management Data)</i>	Measuring the implementation of the new learning <ul style="list-style-type: none"> Walkthroughs Instructional rounds Formal observations 	Steps) at this level: Tools/questions to evaluate:
Level 4 Application of New Knowledge and Skills <i>(Application Data)</i>	Measuring the impact of the implementation on student learning <ul style="list-style-type: none"> Student focus groups Examining student work/data 	Steps) at this level: Tools/questions to evaluate:

Appendix L

Conclusion Figures

Quantitative Conclusions

Qualitative Themes

Qualitative Conclusions

QUANTITATIVE CONCLUSIONS

RQ 1 and RQ 2: null hypotheses accepted

- Independent t-tests – means, standard deviations, and 2-tail significance value
- Based on the number of respondents in each group

RQ 3: null hypothesis accepted

- One way analysis of variance- no statistical significant differences across 3 groups
- Student learning approached statistical significance (.08)
- Confirmed by comparison of the means and standard deviations

District is headed in the right direction

Training is flowing from central office specialists to staff development teachers to principals

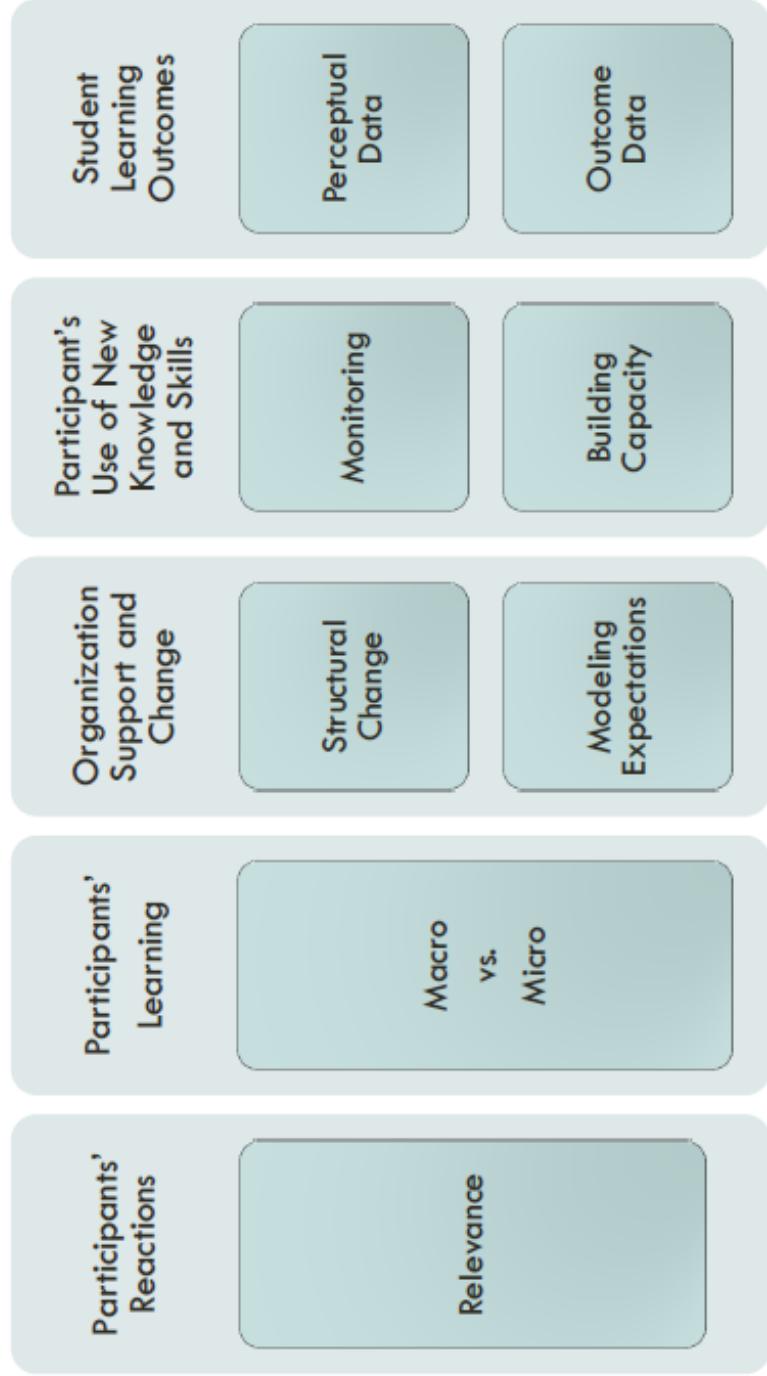
Varying degrees of implementation across district

Lack of consistency

Gap between knowledge, expectations, theory of actions and practice/implementation

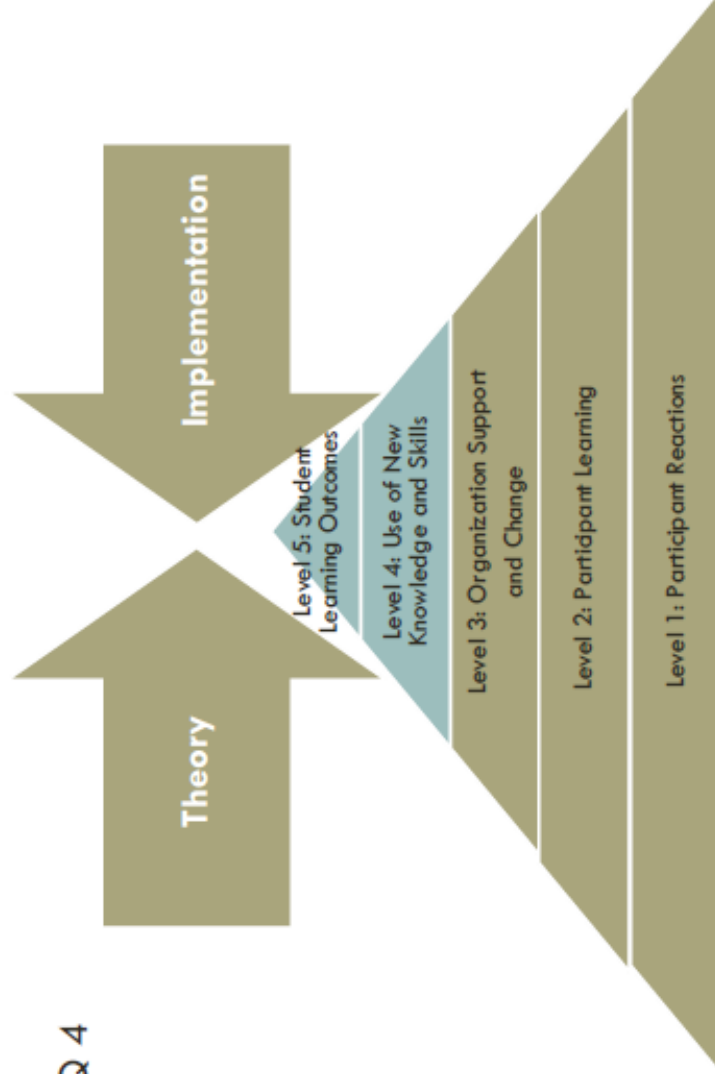
QUALITATIVE THEMES

RQ 4: WHAT TYPES AND LEVELS OF PROFESSIONAL DEVELOPMENT EVALUATION ARE OCCURRING IN MIDDLE SCHOOLS IN KENNEDY COUNTY?



QUALITATIVE CONCLUSIONS

RQ 4



- Key Challenges:
 - Monitoring
 - Building Capacity
 - Balanced use of data- perceptual and outcome

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