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Teachers' Experiences with Professional Development for the Application of the Common Core State Standards

Maxine Tracey Ann Amritt
Walden University

Walden University

COLLEGE OF EDUCATION

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Maxine Amritt

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Dr. Brenda Kennedy, Committee Member, Education Faculty
Dr. Pamela Brown, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Abstract

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Abstract

At one local school site in Georgia, a subgroup of students did not achieve a score of at least 800 on the state's Criterion Referenced Competency Test in math. To improve student success, the local site implemented professional development (PD) for teachers. Successful PD has been shown to promote effective teaching practices, which in turn, have resulted in improved student learning. The purpose of this phenomenological study was to explore 5th grade teachers' lived experiences of PD and its influence on their application of the Common Core state standards. Bandura's social cognitive theory of self-efficacy guided the study. In-depth interview data were gathered from 5 teachers who taught 5th grade and experienced at least 3 PD sessions. Data from the interviews were transcribed, open coded, and then analyzed with the interpretive model in search of common themes. The 5 teachers' narratives identified ineffective and irrelevant PD and insufficient math resources for teaching the state's math standards. Based on the findings, 3 original PD sessions on the planning and implementation of the state standards were created and additional training and resources were recommended to the local site. This study may promote positive social change by helping local teachers improve their instruction of the state's mathematics standards, thereby improving the mathematics education of students.

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Dedication

I dedicate this work to my children, Joshua and Jasmine. They have been my

inspiration to take on this challenge. I strive every day to serve as an example for them.

My kids have been my cheerleaders by reading my work and giving me advice through

the ups and downs. I also want to dedicate this to my husband, Chandu, who has

supported me by making sure that dinner was on the table on Sundays, so that I could

focus on climbing this mountain. Thank you all for the support.

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Table of Contents

List of Tables

Section 1: The Problem

Introduction

Professional development (PD) affects both students and teachers. Killion and Roy (2009) noted that it is the teachers' duty to evaluate their instructional practices and their students' learning. While evaluating their instructional practices, teachers must reflect on their lessons, strategies, and results. They must decide if their lessons and strategies were instrumental in their students' success or failure. If they did not achieve the goal, then PD could be helpful because it is the most common way for teachers to learn about new strategies (Killion & Roy, 2009).

There is a connection between effective PD and the success of students in the classroom. According to Yoon, Duncan, Lee, Scarloss, and Shapely (2007), the National Center for Education Evaluation (NCEE) evaluated a series of more than 1,300 programs that used PD as a tool to influence student performance. Only nine programs met the rigorous standards put forth by the NCEE . Furthermore, educators who were given more PD increased their students' performance more than those who were given fewer hours . The programs that did not use PD as a tool were not able to make significant performance gains.

But not all educators receive quality, effective PD that allows them to become effective educators (Killion & Roy, 2009). In this phenomenological study, I explored 5th grade teachers' lived experiences of PD and its influence on their application of the Common Core State Standards in the classroom. Section 1 includes the background of the problem, the problem statement, and evidence of the problem. It also includes an

explanation of terms, the significance of the problem, the guiding questions, theoretical framework, and implications for social change.

Problem Statement

In 2010, the Georgia Board of Education adopted a new curriculum that affected all students, K-12. The new curriculum is called the Common Core State Standards (CCSS) and is part of the Common Core Georgia Performance Standards (CCGPS). The original intention of the CCSS was to mold students into critical thinkers. In a survey of states that have implemented the CCSS, 35 out of 46 believed that the increased rigor would improve student learning (Center on Education Policy, 2011).

At a school in Georgia, a subgroup of students did not achieve a score of at least 800 on the state's Criterion Referenced Competency Test in math. In the 2012-2013 School Accountability Report for the state of Georgia, the stated goal was to improve the academic success of students in writing, mathematics, science, and social studies (*Results based accountability report*, 2013). However, data released from the local, district, and state assessments showed no indication of gains made in math, which meant that students did not achieve satisfactory test scores in math. While examining the school's data, I thought about the many factors that could have possibly contributed to the students not achieving in math; however, the use of PD was the most pressing. After further research, I learned that this is a problem both on the local and national level.

That teachers do not receive effective training to implement the Common Core Math Standards presents a problem for all teachers, students, and the district. It affects teachers because they are the ones who must implement the curriculum. If they do not

understand how to teach the concepts, then their students will not be successful. The problem affects students because, when teachers are confused or not effectively trained, the students can't learn and apply the concepts well enough to show mastery on the assessments.

On the other hand, when students are successful, the teachers and district are successful too. Killion and Hirsh (2011) stated, "Student success depends on effective teaching—not just occasionally, but every day in every classroom and school. Effective teaching impacts students' academic, physical, social-emotional, and behavioral well-being"(p. 10). There is a need to study and address this problem because as Killion and Hirsh (2009) noted teachers should engage in continual professional learning experiences and use evidence to evaluate their practice. Continual professional learning opportunities should be offered all school year for teachers.

Special Terms

The following are terms associated with the problem and used throughout the study.

Common Core State Standards (CCSS): "A set of high-quality academic standards in mathematics and English language arts/literacy (ELA)" (corestandards.org, 2015).

Professional development: Killion and Roy (2009) defined PD as, "A comprehensive, sustained, and intensive approach to improving teachers' and principals' effectiveness in raising student achievement" (p. 18).

Significance of the Problem

The problem is significant to the local educational setting because effective PD promotes effective teaching practices, which in turn promotes the success of everyone. "Everyone" broadly refers to all the stakeholders involved such as parents, policymakers, community members, and educators. Killion and Hirsh (2011) noted that effective teaching practices result in students' improved academic success. There is a need to study and address this problem because teachers' lived experiences of PD influence their implementation of strategies used in the classroom.

Studying this problem is also useful to the local educational setting because it might encourage the local school district to evaluate its PD practices. Killion and Roy (2009) noted that in the past, PD evaluations were concerned with the learning experiences of the educators, whereas in today's society evaluations are more abstruse. In essence, educational leaders should want to know if the training would be instrumental in the success of the students.

Monk, Irons, Kirk, Adams, Carlson, Abernathy, and Stephens (2012) conducted a qualitative study to identify educators' perceptions of PD. The researchers asked participants about the effectiveness of PD. According to Monk et al. (2012), more than half of the respondents perceived the effectiveness of PD. Less than half thought that PD would be effective if the teachers implemented the training and strategies learned in the classroom (Monk et al., 2012). Based on the findings of the study above, teachers' perceptions are very important in the success of PD programs.

This research also benefits future researchers who want to study the influence of PD on teachers' application of the Common Core Standards. These insights will also inform educational leaders as they plan future PD programs to help teachers prepare for future changes to the curriculum.

Guiding Question

PD is a common practice in schools; however, the available literature on PD does not address teachers' lived experiences of PD and how it influences their implementation of the state's Common Core math standards. The following question was used to address this gap in practice and guide the study: What are 5th grade teachers' lived experiences of PD and how does it help them teach/ implement the Common Core math standards?

Review of the Literature

Introduction

An extensive literature search was conducted using dissertations within the ProQuest database for the period 2008-2013. The following materials were sought: peer-reviewed journal articles, books, and dissertations. The following key words were used: Common Core, Common Core math standards, professional development, perception of teachers on common core, professional development and common core implementation, and Bandura's social cognitive theory of self-efficacy. The researcher reviewed over 150 peered reviewed articles.

The focus of this literature review was on elementary teachers' perceptions of unpreparedness and anxiety during implementation of the Common Core Math Standards due to ineffective PD. The literature review contains four subsections. (a) The theoretical

framework subsection describes Bandura's (1977) social cognitive theory of self-efficacy with respect to the actions of the teachers while implementing the Common Core Georgia Performance Standards in math. (b) The perception subsection offers an explanation of how teachers' perceptions of PD influenced their application of the state standards. (c) The Common Core State Standards subsection reviews the history and purpose of the standards. (d) The PD subsection discusses the importance of effective PD for teachers.

Theoretical Framework

Bandura's social cognitive theory of self-efficacy guided this phenomenological study. To paraphrase Bandura, self-efficacy is the expectation that a person is able to achieve a specific desired result because of their behavior and motivation (Bandura, 1997, p. 116). In essence, self-efficacy is how the brain reacts to situations based on what it already knows in order to be successful. Bandura's theory of self-efficacy was the appropriate theory for this study because even though the teachers attended PD prior to the application of the Common Core math standards in the classroom, they still lacked the confidence to apply the concepts successfully. Because of this lack of continuous PD, the teachers sought ways to build their self-efficacy skills and influence the academic success of the students by going through other channels (peers, Internet sites) instead.

One way to examine the theory of self-efficacy is through the eyes of teachers. Ashley (2009) conducted a study on self-efficacy of teachers. The study explored the perceptions of teachers' self-efficacy beliefs in an inclusive classroom setting in schools that did not offer PD support. The study revealed major differences between the teachers' level of comfort or self-efficacy and student engagement. The relationship between

teachers' level of comfort and self-efficacy levels are important and relevant to understanding student engagement, management, and instructional strategies.

Another way to look at the theory of self-efficacy is from the perspective of the students. For example, Arrington (2010) conducted a study on the development of self-efficacy for third graders as they participated in a project. The objective was to see if the students would self-regulate their own learning process. The results of the study proved that the students who self-regulated their own learning improved their self-efficacy ratings (2010). This is applicable to adults. To apply the findings of Arrington's study to this study, one could conclude that if teachers are offered effective PD continuously, they should be able to improve their self-efficacy thus improving the students' success in the classroom.

In some states, school districts received waivers to close the student achievement gaps in mathematics by 2014 (Stewart, 2013). Closing this gap involves more aggressive PD initiatives. In one school, research addressed the achievement gap issues in math. The study investigated the experiences of mathematics teachers who teach students with disabilities (Bickford, 2013). The study concluded that students with disabilities lacked the basic skills for their grade level. Based on the findings, the school in turn developed a more aggressive PD training to help teachers gain the knowledge needed to achieve mastery with the curriculum. This research was important because it shows the negative effect of not having effective PD. When teachers do not have the proper training necessary in the classroom, the students suffer academically. This results in an

achievement gap, and closing any achievement gap requires aggressive professional development.

Killion and Roy (2009) proposed that effective PD use a seven-step model, called the Back Mapping Model, for planning results-based professional learning. Using this model, districts and schools can create aggressive training plans to address the professional needs of the educators. The plan guides educators in a series of steps. The steps include analyzing students' needs, identifying stakeholders' characteristics, creating improvement objectives, identifying educators' instructional needs, identifying interventions, implementation, and finally evaluation (Killion & Roy, 2009). If districts and local schools would use this method, then teachers would experience effective PD and any achievement gap would close.

Perception

Perception plays an integral role in the district's problem. How teachers perceive PD might influence the knowledge gained from the training. Harbin and Newton (2013) conducted a study of teachers' perceptions to determine if the teachers' beliefs and experiences of teaching math aligned with their teaching methods used in the classroom. Harbin and Newton's study revealed that the teachers' own understanding of math had little connection with their classroom practices (2013). However, the researchers did conclude that institutions preparing teachers through PD should take into account that past teachings might influence teachers' practices in the classroom. When thinking about past teachings, it is important to consider Bandura's social cognitive theory of self-efficacy. The theory also accounts for emulation and modeling to achieve a positive self-

efficacy level or a better perception of the content taught. When teachers have a positive perception of content, then implementation becomes easier.

The CCSS is an educational change that has brought about a shift in implementing the curriculum in the classroom. With this change comes a variety of perceptions. With the curriculum being so new, it is important to know how teachers feel about the implementation process. For example, Hasan (2011) conducted a study on the perception of academics regarding PD. In the study, the participants expressed a need for professional training especially when it comes to the implementation of any new educational changes (Hasan, 2011). The results of this study support the importance of teacher perception. Their perceptions are important; if they do not have a good perception of the curriculum, they will not successfully implement it in the classroom.

To further support the importance of perception, Rulison (2012) conducted a study on teachers' perceptions of curricular changes, specifically the application of the CCSS. He found that teachers exhibited confidence in their abilities of challenging students while participating in group sessions, however, when it came time to implement the lessons levels of anxiety emerged (Rulison, 2012). The study found that the district used few PD transitional classes to prepare the teachers for the educational changes, which resulted in the teachers' raised levels of anxiety. In analyzing this study, it is important to note anxiety. This is similar to what sparked the problem within the district. Teachers demonstrated a heightened level of anxiety when left to implement the Common Core math standards in the classrooms.

There are other cases with perceptions of unpreparedness after implementation of a new curriculum. For instance, Cheng (2012) studied teachers' perceptions of unpreparedness, and anxiety. Unpreparedness means their feelings of not having the knowledge and confidence to implement the curriculum confidently and successfully. Anxiety means the teachers' feelings of stress in the planning and implementation of the standard. In his study, he found that although teachers wanted and welcomed the new Common Core Curriculum, they were still apprehensive about the implementation process. The teachers exhibited optimism toward the new curriculum and held on to modest expectations of success (Cheng, 2012). This level of anxiety might have resulted from ineffective PD.

Feelings of anxiety and unpreparedness do not just affect educators in America; they also affect educators in other nations. In 2001, Doha, Qatar underwent a comprehensive evaluation of their K-12. The reason for the examination was to evaluate the schools' curriculum as the Ministry of Education single-gendered schools were graduating students below proficiency levels (Zellman, Constant & Goldman, 2011). Because of evaluation findings, a new education reform was initiated. Following the educational reform, a study was conducted in Doha, Qatar that examined teachers' perception of PD. During the study, 40 teachers from two schools, who had just received PD, were interviewed to gain an insight on the new PD mandate. The findings of the study revealed that even though the teachers understood the importance of the training, they lacked the awareness and understanding to implement what they learned in the classroom (Nasser & Romanowski, 2011).

Common Core State Standards

Common Core is the latest educational initiative to sweep the United States. It has important components that will help students gain the critical thinking skills needed to be successful in this globally competitive environment. Presently, "forty-five states, the District of Columbia, four territories, and the Department of Defense Education Activity have adopted the Common Core State Standards" (www.corestandards.org). The Common Core State Standards website states, "CCSS are research-based, internationally benchmarked, and rigorous mandates that include 21st century skills and reliable pathways toward college and career readiness" (http://www.corestandards.org). Marsh (2012) conducted a study wherein he examined the historical perception of America's educational system. The results of the study established that districts should consider adopting curriculums that allow students to compete in the jobs of the future.

There are experts in the field of education who think the new push for the CCSS is necessary for postsecondary readiness. In 2012, *Education Next* conducted an interview with Wilson and Wurman. In the interview, *Education Next* asked Wilson and Wurman a series of questions about the Common Core. In response, Wilson explained the rigor of the standards then further compared the Common Core to other state standards. Wilson went as far as to state, that the standards are "vastly more superior" compared to all other state standards because it lays the foundation between the elementary math and college readiness (Wurman & Wilson, 2012).

Professional Development

Increasing student performance has always been at the core of the school reform movement. Educators today have the task of raising educational standards to the highest levels with the latest educational reform called the CCSS (Duling, 2012). However, student performance is significantly dependent on the level of PD offered to teachers. Jenkins and Agamba (2013) noted that professional training is definitely needed for the application of the Common Core State Standards in classrooms. This supports the notion that PD and student achievement are directly related. In order to raise the achievement level of students, raise the level of PD. In addition, Kayarkanni (2012) noted that PD utilizes a variety of activities that teachers can use to help improve their craft, knowledge, and skills.

Another example that ties PD to student achievement is demonstrated in DiNardo's (2010) study on the influence of professional learning on student achievement. This study involved six teachers in professional training sessions focused on improving reading fluency and math instruction. The study revealed an increase in student performance after the teachers attended PD sessions. This further supports the importance of professional training and its influence on the achievement of students.

Even though PD is important to student achievement, it is often met with a lack of enthusiasm. For example, Prusieki (2011) conducted a study in which he asked randomly selected public school educators their perspective on what constituted effective PD. The findings revealed that out of the 98 respondents, no one preferred either the process or content of PD. This could simply mean that the training was not very engaging for the

teachers. However, the emphasis in his findings was on the need for collaboration and leadership. Collaboration is very important in developing effective PD strategies.

Wolf (2013) conducted a study on teachers' understanding of mathematical math modeling, one of the eight math practice standards in the CCSS. During the study, she used open ended-questions to 364 teachers in grades K-12 in California school districts to assess teachers' understanding. The results demonstrated that most teachers are willing to change their practice to include modeling; however, they had concerns about available materials and PD (Wolf, 2013). Further, Wolf's study proved that PD is necessary for the CCSS transition.

Professional training is crucial for student success. Rimbey (2013) examined the correlation between teacher experience and professional training. In the study, the control group received 50 hours of PD, and 50 hours administered to the treatment group. The results showed significant differences in teacher experience (Rimbey, 2013). In essence, the study proved that when principals used PD, teachers stood a better chance of gaining new experiences to augment what they already knew and used.

Unfortunately, there are still schools that are struggling with providing teachers the knowledge needed to increase student performance in the classroom. Moon (2012) compared PD hours and school demographic characteristics. The findings revealed that few teachers received extensive PD in all areas, and the level of PD offered varied according to annual yearly progress (AYP) status (Moon, 2012). Teachers who do not receive effective PD will not gain the knowledge and the confidence needed to teach in classrooms.

In England, Opfer and Pedder (2011) conducted research on the effective use of PD for improving schools, teachers, and the learning activities. This was a national study using the survey method. The findings revealed that the use of PD in England was ineffective in general because it lacked school level support; however, there were high-level schools that displayed the features associated with effective PD (Opfer & Pedder, 2011). This study is significant because it reiterates the importance of effective PD.

Implications

The review of literature above emphasized the importance of effective PD. Jenkins and Agamba (2013) helped to show that PD is necessary for the application of the CCSS. Yet, there are still school districts that fail to acknowledge the need for effective PD. This was evident in Moon's (2012) comparison of PD hours and school demographic characteristics. The findings revealed that few teachers received extensive PD in all areas and the level of PD offered varied according to annual yearly progress (AYP) status (Moon, 2012). Therefore, based on potential conclusions from data collection and analysis of the problem, I needed to identify effective PD practices that may help the local and national educational setting. The results of this study might also aid educators at the local, district, and national level in planning and implementing PD. In addition, teachers' perception may help the district educators at the local, district, and national level better understand and evaluate the influence of PD in the Common Core implementation process.

Over the years, other studies examined the value of effective PD. For example, DiNardo (2010) conducted a study on the influence of PD on student achievement. The

results of his study found that students increased their academic performance after the teachers attended PD sessions (DiNardo, 2010). This study adds value to another implication that my findings may reveal that teachers prefer to have more extensive continuous and sustained training to successful implement the state standards.

Summary

At a school in Georgia, a subgroup of students did not achieve a score of at least 800 on the state's Criterion Referenced Competency Test in math. Because of the local problem, a phenomenological study was conducted to explore five 5th grade teachers' lived experiences of professional development (PD) and its influence on their application of the Common Core state standards.

Section 1 has provided an explanation for the importance of effective PD on the application of the Common Core Georgia Performance Standards in math. The section discussed Bandura's social cognitive theory of self-efficacy as the theoretical framework of the project study. Section 2 provides an explanation of the study's methodology. It explains how the interview data were transcribed, coded, and then analyzed with the interpretive model in search of common themes. Section 3 offers a discussion of the project extensively as it relates to the problem. Section 4 includes a description of my personal and professional growth during the project study.

Section 2: Methodology

Introduction

The purpose of this phenomenological study was to explore five 5th grade teachers' lived experiences of PD and its influence on their application of the Common Core state standards. Section 2 presents the study's methodology. It includes (a) the research design and approach and its derivation from the problem and guiding question; (b) the procedures for conducting, gathering, and recording the interview data; (c) a description of the participants, data agglomeration, and analysis. The findings, which are built logically from the problem, are presented systematically, in terms of patterns and themes, so that the reader can understand the elements of the approach and design. The section concludes with a discussion of evidence of quality. In this study, member checking was used to address the accuracy of data.

Research Design and Approach

This study sought to understand the lived experiences of 5th grade teachers' application of the CCSS math standards in the classroom. I chose a phenomenological design because I wanted to understand, "social phenomena from the perspectives of people involved" (Welman & Kruger, 2001, p. 189). I aimed to understand the teachers' common or shared experiences prior to and during the implementation of the CCSS. I thought if I could understand their experiences prior to and during the implementation of the math CCSS, then I might understand the reason students did not achieve satisfactory scores on the state assessment. This approach examined what all five participants had in common, as they experienced PD. The phenomenological methodology allowed the

understanding of the how and why regarding the teachers' thinking and perspectives about the PD sessions. Ary et al. (2006) stated that "A phenomenological study is designed to describe and interpret an experience by determining the meaning of the experience as perceived by the people who have participated in it" (p. 25). One major advantage of using this approach was the ability to understand the point of view or perspective of the subjects.

In research studies, ethical practices are very important. In this study, the participants discussed their perceptions in the classroom. This process required a high level of trust and disclosure. To ensure confidentiality and anonymity, the participants' identities were protected so that the information collected would not harm or embarrass them. To accomplish this, each participant was assigned an alphanumeric code. The Each code helped to keep track of participants' information throughout the entire study. To protect the participants further, the name of the school became "the research site."

Informed consent forms are necessary to conduct research. Consent forms are used to explain the study as well as participants' rights. Each participant signed the informed consent form upon arrival at the interview. The participants' decision to sign the form meant they agreed to take part in the study. The informed consent forms were placed in a safety box (a metallic secured container) that uses a password system. All information or data collected from this study will remain in the safety box in my office for 5 years. In 2019, all data related to this study will be removed from the safety box and destroyed.

Data Collection

Collecting, Gathering, and Recording Data

In this study, data were collected, analyzed and interpreted and the findings reported (Creswell, 2012, p. 7). Data compilation and recording is a crucial component in qualitative research. In phenomenological studies, data compilation includes very detailed interviews, usually between five to 25 participants. In this study, data were collected using in-depth interviews. The data collection process began upon permission from the Institutional Review Board on June 4, 2014. Walden University's approval number for this study is 06-05-14-0057593. Following this approval, names and email addresses of potential participants were gathered from the research site. The participants included five 5th grade teachers. The invitation letters and the consent forms were emailed to the potential participants. The participants responded to the email invite. At that point, the interviews were scheduled at the participants' convenience. The participant interviews occurred in July and August 2014. The first interview lasted 75 minutes. The second and third interviews lasted 30 minutes. The fourth and final interview lasted 45 minutes. Each participant had an opportunity to review the transcription to check for accuracy.

Participants

Creswell (2012) noted, "The criteria for selecting the participants, and site to study will involve a sampling strategy that will help understand the research question" (p. 205). Based on the guiding question of this study, a target population of 5th grade teachers in a school district in Northern Georgia was selected using purposeful sampling;

the specific method chosen was homogeneous sampling. The participants were selected

based specific attributes. Five participants were selected to ensure a deeper inquiry. The

attributes were as follows: (a) they were 5th grade teachers, and (b) they attended at least

three sessions of PD on the Common Core math standards within the 2012-2013 school

year. In a phenomenological study, researchers select the participants because they have

been through the experience and are consequently able to share their perceptions about

the subject (Ary et al., 2006).

To solicit participants, I sent out an invitational email that explained the study.

Once the participants were interested, they contacted me. When they contacted me, I

scheduled the interview. The participants selected and used in the study are all

responsible for instructing students at the research site. Their job responsibilities involve

creating lesson plans, instructing students on subjects such as science, literature, math,

language arts, social studies, and ensuring a well-rounded, comprehensive instructional

program. The participants included four females and one male teacher. Four of the

participants had been teaching 10 years or more. One had been teaching fewer than 10

years. Table 1 shows the participants' gender, and years of teaching.

Table 1

Participants' Gender and Years of Experience

Teacher code name	Gender	Years of teaching experience
P1	Male	17
P2	Female	11
P3	Female	16
P4	Female	7
P5	Female	10

Interviews

The data collected for phenomenological studies include personal unstructured interviews with audiotapes. The participants can be interviewed more than once and sometimes for long periods (Ary et al., 2006). In qualitative studies, interviews are the predominant data collection tool. Interviews were used in this phenomenological study because they were able to provide useful, in-depth, and rich information into the minds of the participants. There are advantages to using interviews. One advantage is that it allows for clarification of the question. Second, it allows the participants to respond in any manner they want. Third, it allows me to observe the verbal and non-verbal behavior. Finally, it is a great means to obtain personal information, attitudes, and perceptions.

I conducted interviews with five 5th grade teachers ranging in experience from 7–17 years. They all provided valuable sources of data and they were able to shed some light into the lived experiences during the implementation process of the CCSS (Yin, 2009). I interviewed the participants at various locations such as the public library, a karate studio, and their homes for a duration of 30–75 minutes. Each participant determined the time and date of the interview. On that date, the interview was conducted one-on-one using a tape recorder. Each participant signed the informed consent form before the interview began. The consent form informed the participants of their rights, including the right to withdraw from the study. Each participant responded to 13 open-ended questions, which dealt with their feelings, beliefs, experiences, and convictions about PD and their application of the math standards in the classroom.

I asked a series of questions from the interview protocol (see Appendix B), and then asked probes or sub-questions to elicit more information. While the participants responded, I recorded information on the Interview Protocol form. The interview protocol form included the interview instruction, process, and questions (Creswell, 2012). The questions were based on the emergent strategy, which allowed the method of analysis to follow the nature of the data itself. The emergent strategy allowed themes and patterns to emerge. The entire interview focused on understanding the teachers' lived experiences during PD sessions and during the application of the CCSS in the classroom. The Interview Protocol included questions that examined each participant's thinking process and actions before, during, and after the implementation of the standards.

The conclusions from this study derived from rich description and details. The interviews produced 100 pages of transcript. These details were explicit in the participant's quotations, which is an element of qualitative design (Creswell, 2003). In this phenomenological study, my role was somewhat different from in other research designs. In this study, my main role was data collection and analysis. The process included conducting interviews, organizing the data, transcribing the data by hand, coding the data, describing and developing themes from the data, representing findings, and reporting the findings.

Data Analysis

In phenomenological studies, the focus is on understanding the rich descriptions of data to understand the experiences of the participants fully, which is attained by identifying the similar themes. In this study, the overall objective was to interpret the 5th

grade teachers' experiences or to capture the essence of their perspectives on how PD influences their application of the math standards in the classroom.

In qualitative studies, analysis occurs upon data compilation. Analysis actually begins when the data is compiled and transcribed. Then data is sorted into codes based on similarities and differences of ideas. Themes emerge from the coded ideas using inductive reasoning. During data analysis, I used memoing to keep track of data and emerging understanding. Using Glaser's (1998) method of memoing, I coded and further categorized the data. I recorded notes about what I learned from the data during collection and analysis. I wrote down my ideas and grouped them into relationships. The process of memoing ensued by taking notes to track the flow of ideas and to ask probing questions. I noted my personal thoughts, perspectives, and beliefs using the memoing process.

Once the interview data were collected, it was transcribed by hand. During this process, the data was marked by hand and divided into parts. To help with member checking later, I created five files on the computer using alphanumeric codes. I used P1, P2, P3, P4, and P5 to represent the participants' confidentiality. The transcribed data was input into a Word document format for neatness and organization. The typed copies were then printed and filed in similar alphanumeric file folders and stored in a safe in the office. The typed transcriptions on the computer were subsequently deleted for security.

Data analysis involved coding the data into categories. I used the iterative process of coding in which I formed and named categories (Dana & Yendol-Silva, 2003). I located text segments and assigned a code to label them. I used coding to make sense of

the data. During this phase, I thoroughly examined and identified data from each participant that addressed the research question. Data from Participant 1(P1) was analyzed first and then data from Participant 2 (P2) was analyzed. Data from P1 and P2were compared to determine similarities and differences in comments. I then analyzed data from Participants 3 (P3) and Participant 4 (P4).

The data from all participants were analyzed and compared to determine similarities and differences in comments. Participant 5 (P5) data was analyzed and compared with P1 through P4. This method is the constant comparative method. Glaser and Straus (1967) developed this method to develop categories from the data. Using this method differences between categories became apparent. This method enabled a systematic comparison of each comment. As new data became available, I checked and rechecked the coding repeatedly to prevent misinterpretations of data. Using the open code method, I was able to identify the data by making comparisons between the comments. Using the open coding method, similar comments were grouped together to form 20 codes.

Merriam (2009) stated, "Data analysis is the most difficult process in qualitative research" (p. 175). Merriam further noted that qualitative data cannot be measured because it is based on the researcher's interpretation. Furthermore, Merriam stated, "It is the process of reading the data for meaning, comparing that meaning with the research question, and determining that meaning as making sense out of the data" (p. 175). While coding, I sorted the data and placed texts into categories and then into broad themes, which became the basis the findings.

Themes

Each interview transcription was coded separately from the others. The data collection and analysis process was completely by hand; therefore, I had to rely on the use of word repetition to identify the codes and major themes. I looked closely at the frequency of words in each interview. Similar codes were aggregated or reduced to create nine categories. The following category codes were developed for the analysis process:

tk   Teacher knowledge
ctp   Change in teaching practice
nctp   No change in teaching practice
ra   Resources available
nra   No resources available
pdo   PD offered
npdo   No PD offered
pi   Problem with the implementation process
npi   No problem with the implementation process

Similar codes were further aggregated or reduced to create three major ideas or themes that would support the main research question. These three main ideas or themes were discussed extensively during the interview. They also had the most word frequencies. The themes are insufficiency of usefulness of PD offered at the local level, insufficiency of resources to teach the math concepts, and need for additional training on the math standards.

Findings

The data were analyzed for emerging codes and categories related to the main research question. The question was what are 5th grade teachers' lived experiences of PD to help teach the Common Core Math Standards? From the categories, I reduced the

codes to reflect the four main interview questions that answered the main research question. Using data coding, common themes emerged from the during data analysis.

The themes formulated using a selection of questions from the interview protocol. The interview data were analyzed for evidence of how the 5th grade teachers experienced PD during their application of the CCSS. From 20 codes, three major themes emerged (a) insufficiency of the usefulness of PD, (b) insufficiency of math resources, and (c) need for additional PD. These themes represented the major ideas expressed during the interviews with all five teachers.

Ineffective PD. The first theme to emerge was the insufficiency of useful PD. I asked all participants the same questions according to the Interview Protocol; however, P1and P2 comments were common and both illustrated the insufficiency of useful PD. P1 commented, "At my school, we have done staff development around Number Talks. I know I have sat in more than one Number Talk sessions at school." P1 further commented on the manner in which the teachers were selected for specific PD sessions. P1 noted, "I was assigned to literacy." Closely examining P1's comment, "I was assigned to literacy" suggested that the opportunity to choose PD sessions based on teacher interest was not a standard practice at the research site. Another important idea to note is that the teacher had participated in several workshops for Number Talks; however, none was for any of the Common Core Standards in mathematics.

P2 also felt there was an insufficiency of useful PD at the research site. An illustrative example of the theme was a comment that P2 made: "I don't feel that there is a lot of PD going on that is relative." When asked to clarify relative, P2 stated, "Relative

meant what is necessary for success in the classroom or what applies to the curriculum taught to the students." Another participant, P4, also shared the same similar theme to insufficiency of useful PD. P4 expressed the need to choose what is important to the success of students. P4 stated,

> I would like teachers to have the ability to choose what they want to do, honestly. I feel like the school chooses what they think we should know and some of the stuff has gotten so repetitive that it's honestly not helpful.

Sixty percent of the participants shared the common theme of insufficiency of useful PD. This is more than 50% of the fifth grade teachers at the research site. In reflecting on the interviews, it is apparent that the teachers wanted the opportunity to choose what is important to them. They wanted PD that was relevant to the implementation of the math standards.

Insufficiency of math resources. Another theme that emerged was the insufficiency of math resources. All participants discussed the topic; however, P2, P3, and P4 comments contributed to the emergence of the theme. P3 commented, "If I had to say that I encountered any problems at all, it probably would be I wish I would have had more resources in terms of assessments and things of that nature." P3 went on to discuss how materials were shared, "And if everyone is doing math at the same time, it makes it difficult to utilize those resources." P3's comments suggested that teachers had to share math materials. This presented a problem for the participants because they all had a classroom size of 30 or above students. As noted in P3's statement above, not having

their own resources made it difficult to effectively teach the concepts if the materials were not readily available for students to use.

P2 also felt there was an insufficiency of resources. "We didn't even have books up until now. This is the first year they're getting new books, but we were expected to teach for two years, now we were expected to teach common core without any resource." P2's views on resources mirrored P3's comments by noting that they had to search out information on the Internet to teach the common core standards effectively. P4 also expressed the insufficiency of resources by stating, "It's almost like we're expected to have to figure it on our own." In addition, P4 stated, "Problems yes, numerous ones far as not having enough resources, like our books were totally not correlated to common core at all, yet we had to implement it, yet we are using outdated materials." At the end of the data collection, the theme emerged that they had an insufficiency of math resources. The participants had to turn to the Internet because they did not want their students to be unsuccessful.

Irrelevant PD. The final theme that emerged as I compared interviews is the need for relevant PD on the common core math standards. P4's comment illustrated the theme when he or she stated, "I believe the feeling is that students will be successful if the educator is equipped and knowledgeable." When asked to clarify, P1 further explained that knowledge "comes from what you are taught." This is similar to the students in the classroom. The students gain knowledge based on what is taught to them. The participants viewed themselves as children gaining knowledge in the classroom. One participant even commented, "The more you are taught the more you will know."

Other participants' comments led to the emergence of the theme. For example, P3 noted the importance of PD, "I just think that PD is of utmost importance." When asked why it is so important, the teacher responded,

You can't just go into something new completely blocked without having any PD or being exposed to it, but if you prepare yourself through PD it's going to be a more smoother transition and you will have more success as a teacher.

In reviewing all five interviews, it became apparent that additional PD is what the teachers needed to feel and become successful in the classroom. P5 commented, "I would like more PD offered because I haven't per se seen any that was just math and that would be nice." This comment suggested that while PD was offered, it was not on the math CCSS.

In today's education system, teachers face a variety of different challenges such as diversity within the classrooms, technology integration across content areas, and higher, more rigorous academic state standards. Considering all these factors, it is an absolute necessity for teachers to acquire the tools and knowledge necessary to implement fully the curriculum in the classroom. Unfortunately, if there is an insufficiency of useful PD, an insufficiency of resources to teach the standards, and a call for relevant PD, then students will not perform as expected. These findings indicate why the students at the research cite did not perform satisfactory in math on the state assessment.

Evidence of Quality

Evidence of quality is very important in all types of studies. It explains how the study addressed the accuracy of the data. Data were collected in this study using recorded interviews. Once an interview was completed, the audio was transcribed and the data coded. The information was then compared to the other participant's information. To ensure accuracy, credibility, and validity of the study I used member checks. Member checking is a great technique for ensuring rigor in the study for several reasons. First, it is a platform for the participants to validate the findings. Second, it allows the participants to correct any type of errors in interpretation. Third, it provides an opportunity to summarize findings, and finally, it provides the participants the opportunity to assess the accuracy of the data (Merriam, 2009).

I used member checks at three critical points during the data collection and analysis; during the interview, after the transcription process was completed, and to validate the findings. During the interviews, I used member checks by restating the information and questioning the participants to determine accuracy. After the interview was transcribed, I used member checks to ensure that the interview was transcribed correctly by giving each participant a copy of the transcript. During this phase, they had the chance to add or remove information they deemed fitting. Some of the participants held on to the transcription for more than two weeks as they carefully read over the transcript. When all the data were analyzed, I used member checks again to validate the findings. At this point, the participants had the chance to critically analyze the findings

and comment. I used member checking repeatedly because I wanted to provide authentic and reliable findings.

Limitations, Scope and Delimitations, Assumptions

Limitations

Limitations are factors and influences that were out of my control. This study had several limitations. The first limitation was the sample size. The study was limited to five 5th grade teachers. I could only use five because only five participants met the criteria for the study. This presented a limitation because it was difficult to generalize the findings. The second limitation was the limited population that was available. The research site had seven 5th grade teachers. The final limitation was the measure used to collect the data. It was collected using interviews, so there is a possibility that specific questions were excluded, which could have elicited a somewhat different result. For this reason, there is a need for further research on this topic.

Scope and Delimitations

Delimitations were the factors that were in my control. Those factors included the problem, research question, population, and region. The first delimitation was the choice of problem. There were other related problems at the research site; however, I chose to address and focus on the students' lack of achievement in math. The second delimitation was the research question. The question I used explicitly set out the accomplishment and understanding of the study. It explicitly excluded anything not related to the question. I also chose to address one question, instead of three of four. The third delimitation was the population. The study focused on gathering data from 5th grade teachers. The problem

identified affected the entire research site; however, I deliberately chose to focus on fifth-grade only. I focused on teachers who attended a minimum of three PD sessions on teaching the math CCGPS. This highlights the need for future research at the other grade levels. The final delimitation to this study was the region. The participants selected were employees of the same school district in the state of Georgia. This was a delimitation because it made the results of the study applicable to teachers in Georgia within that specific school district.

Assumptions

In this study, there were three basic assumptions. First, I assumed that the participants would be candid and honest. Second, I assumed that participants would understand the interview questions and articulate a detailed response that accurately portrayed their personal experiences and perceptions. Finally, I assumed that the sample size would be a representation of the population of 5th grade teachers.

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Summary

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The question for this phenomenological study was, What are 5th grade teachers' lived experiences of PD to help teach the Common Core Math Standards? The results of the data analysis describe five teachers who are calling for change in the way PD is offered and implemented at their location. They shared personal experiences about PD sessions that they considered useless to them in the classroom. They shared lived experiences that are redundant. For example, when P4 shared how many times he/she attended the session on the RTI process. All these factors make a difference in how they teach the Common Core Georgia Performance Standards in math. This in turn affects the

students in the classroom. The findings suggest that teachers are looking for training on teaching the Common Core in the classroom. This is evident in P2's comments about the relativity of the sessions offered at the local level. It is for the reasons above I am proposing a PD workshop that will last three full days to the research site at the completion of this project study. The project would be a professional training for 5th grade teachers. The goal of the workshop would be to provide hands-on math lessons and activities in alignment with the common core math standards. The intent would be to equip new and veteran 5th grade teachers with strategies to help plan and teach math in the classroom.

Section 3 describes the project as a whole, the project's main objective, and rationale. It includes a review of various literature supporting the project's development, the implementation proposal, an evaluation plan, and implications locally and beyond.

Section 3: The Project

Introduction

The purpose of this phenomenological study was to explore five 5th grade teachers' lived experiences of PD and its influence on their application of the Common Core state standards. In this section, I explain the project, its goals and rationale. A review of the literature follows. The section concludes with a description of the implementation plan and a proposal for project evaluation.

According to the findings of this study, participants needed more useful and meaningful PD to help guide their teaching and implementation of the Common Core Math Standards. They also needed more resources. To remedy the problem, I proposed a PD program that would provide classroom teachers with 3 full days to create, implement, and assess instructional lessons for the Common Core Georgia Performance Math Standards.

Description and Goals

The research problem that guided was low test scores. At a school in Georgia, a subgroup of students did not achieve a score of at least 800 on the state's Criterion Referenced Competency Test in math. At one particular school in the state of Georgia group of students did not achieve . The objective of this phenomenological study was to explore five 5th grade teachers' lived experiences of PD and to determine how it influenced their application of the Common Core math standards in their classrooms.

The project originated to address study findings (see Appendix A). Since the research site has a specific day set aside each month for PD, it would be easy to

incorporate each session into the monthly calendar. The project proposes a PD module that would utilize three full days. The module would involve the creation, implementation, and assessment of the CCMS. The module would run during the beginning of each quarter to ensure that teachers acquire the tools necessary for a successful school year. The goal of the PD sessions could be for new and veteran teachers to learn strategies that will help them teach the Common Core Georgia Performance math standards successfully at the 5th grade level. Other goals are as follows: to offer strategies to the teachers that will aid in the application of the math standards, to allow teachers to work collaboratively with each other, and to give teachers the opportunity to take away a concrete make and take resource(s) that will assist in the creation, application, and assessment of the math standards. The main intent of this workshop module would be to offer hands-on purposeful activities and lessons that teachers utilize in the classroom with students. Each PD session could focus on one of the major math components within the 5th grade math curriculum in alignment with the Common Core Georgia Performance Standards:

1. Developing fluency with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases.

2. Extending division to two-digit divisors, integrating decimal fractions in the place value system and developing understanding of operations with decimals to hundredths.

3. Developing understanding of volume. (http://www.corestandards.org/)

The PD sessions would use the framework of adult learning theory as the theoretical foundation to provide hands-on and collaborative opportunities in a learning environment conducive to adult learners. The main function of the proposed PD sessions would be to enhance the educational experiences of all children by having teachers who are confident and comfortable to create, implement, and assess math lessons. In addition, these sessions could ensure high quality common core lessons, as well as enable teachers to improve their craft and skill of teaching math in the classroom.

Rationale

Informed and highly trained teachers are essential for student success. In Section 2, the findings suggested an insufficiency of useful PD, and an insufficiency of resources offered at the research site prior to, during, and after the adoption of the new math curriculum. The participants utilized each other, as well as the Internet to implement the math curriculum in the classroom. According to Bandura (1997), people achieve results when they are motivated and believe they can make it happen. The participants felt empowered because they had each other along with the resources from the World Wide Web provided by other teachers across the United States, who have implemented the Common Core. Considering the data analysis in Section 2 and the findings, I have chosen to create a professional development-training module that would enable new and veteran teachers to successfully create, implement, and assess the Common Core Georgia Performance math standards in the classroom. Burkman (2012) opined that the method by which content is delivered is a key aspect of PD. I chose to create a PD module for this project because of the themes that emerged during data analysis. The participants

expressed a need for additional PD geared towards helping them to create, implement, and assess the common core math standards. I believe that PD specifically addressing the common core standards will empower the teachers a chance to become experts versus a novice in the classroom. The program could also help build teachers' confidence level.

Examining the original problem that students were not achieving satisfactory test scores in math could be linked to the findings of my study. If teachers were given PD that was not specifically about creating, implementing, and assessing the math standards, it would definitely affect how the concepts were taught in the classroom. This in turn could affect how the students performed on the state Criterion-Referenced Competency Tests assessment. Students will reach their full potential when teachers acquire the necessary tools. To emphasize the idea, Darling-Hammond and McLaughlin (2011) noted that educators should see the necessity to become lifelong learners. PD is a means for educators to become life-long learners. The content of my proposed project will address the problem and findings of the study.

Review of Literature

This project could offer 5th grade teachers professional workshops centered on the development of their mathematics craft. In the field of education, professionals need different levels of support systems throughout their careers. For example, there are programs designed for new teachers that offer general information important to their first few years. This project could meet the needs of educators at whatever stage they are at in their career. Guskey and Yoon (2009) stated, "Effective PD requires considerable time, and that time must be well organized, carefully structured, purposefully directed, and

focused on content or pedagogy or both" (p. 499). In order for teachers to receive effective PD as noted by Guskey and Yoon, schools need to provide purposeful learning opportunities for teachers.

Purposeful learning opportunities are determined by the quality of the professional training. The quality of the learning opportunity will in turn determine the success of the students. Guskey and Yoon (2009) explained how PD influences student achievement: First, it advances the teachers' knowledge and skills, next, the teacher gains improved knowledge to enhance the classroom instruction, and finally the enhanced teaching raises the student achievement.

The major findings from the study determined the content of the project. The three themes that emerged were the insufficiency of useful PD, the insufficiency of resources, and the need for purposeful and effective PD sessions. In creating the project, I reviewed literature on PD and the adult learning theory.

The review of literature involved an extensive search related to PD programs. I used ProQuest, Sage, and ERIC databases to reach saturation using relevant studies, peer-reviewed journals, articles, books, dissertations. The search included the following key terms: PD, teacher education, effective PD programs, adult learning theory, and effective workshop modules. I needed to determine how exactly theory and research could be used to support the content of the study. The review comprised over 25 articles. The search was limited to peer-reviewed articles and research journals from 2007 to 2014. The literature was very comprehensive and thorough in what was required to

design and support an effective PD project. The information researched was used to aid in the design of my PD project.

Adult Learning Theory

Reflecting on the research findings and examining the major themes that emerged, I turned to the theoretical framework of adult learning theory. Adult learning is just as it sounds. It is the route used by adults to gain knowledge and build craft in their profession. The adult learning theory guided the format of the project because I needed to help adults gain additional knowledge to build on their craft in mathematics. Comparing the study of the learning of children and the study of the learning of adults, Merriam and Caffarella (1999) noted that adults have different needs than those of children and adolescents. Merriam and Caffarella (1999) further explained, "The configuration of learner, context, and process together makes learning in adulthood distinctly different from learning in childhood" (p. 389). The learning needs of adults derive from their experiences and cognitive processes, which differ from those of children.

Experience is important because it helps the educators to connect and relate to the topic. The ability to relate to the topic allows educators to think critically through experiences. Brookfield (2010) noted life experiences help adults to think empirically. These life experiences are what they bring into the classrooms. It is common knowledge that practice makes perfect or the more one practices then the more proficient one becomes. The situation is the same for the adult learners. If given the right amount of PD, they will become stronger educators.

Beavers (2009) and Trotter (2006) both noted that administrators should provide more opportunities for educators (adult learners) to take responsibility for their learning. Beavers outlined adult learning concepts and offered suggestions to individuals who lead adult learning. Utilizing Beaver's summaries of characteristics of adult learners, I will need to ensure that the professional learning opportunities I recommend at the local level include self-directed learning, transformative learning, and critical reflection opportunities. The integration of adult education practices into PD opportunities provides the foundation for an effective and purposeful learning session. Beavers further recommended that the experiences of the adult learner should serve as a foundation, and the content provided to the learners should contain practical and applicable topics related to their position. Similar to student learning, providing options and alternatives learning activities should support participants' learning styles. Trotter supported the idea of these options through adults creating their own "educational paths based on their interest" (p. 12). Speck (1996) noted that if adults see the importance or the value of the PD session, they would commit their time. Similar to children, adults want to see the connection of the lessons to their daily activities, and know that it matters in the real world (Speck, 1996). The relevance of the lessons is therefore very important when designing a PD workshop. In addition to relevance, PD designers have to be mindful of the knowledge and experiences of the individuals participating (Trotter, 2006).

Professional Development

PD is an important factor to consider when examining the success of a school. Coleman and Goldenberg (2010) asserted that PD is an important component that should

be considered when evaluating accomplishment and achievement of a school. In addition, educational professionals play important roles in social reform. Lodico, Spaulding, and Voegtle (2010) noted that instructors are able to influence and modify educational practices. They modify practices by the strategies they bring into the classroom. PD is important to achieving quality in teaching. Bryck (2010) noted that a school's success is directly connected to the quality of the teaching staff. In essence, in order to determine the success of the students, one should look at the effectiveness of the educators in the classroom. In analyzing the effectiveness of the educators, you cannot disregard the quality of the learning opportunities offered.

Examining the findings of this study, three main themes emerged. One theme that emerged shows that PD sessions were offered, however, these sessions were not by choice or of interest to the participants. The participants did not find the sessions practical or applicable in the classroom. The administrative team decided on the topics without looking into the teachers' needs and interests. Similar to children, interests motivate adults. Kelly (2012) emphasized that when creating PD programs, administrators should try to provide purposeful experiences for teachers and choices to ensure meeting individual needs. Teachers and children learn from experiences that are of importance to them. In essence, for teachers to view a learning opportunity as applicable and valuable, they first will have to see the need for it in the future. Once they see the need, they will become interested and open to learning.

Lee (2008) also noted that interest, enthusiasm, and vivacity motivate teachers. When creating PD modules, it is necessary to consider the interest of the learners.

Educators should be offered training useful and applicable in the classroom. In examining what makes quality-learning opportunities, it is necessary to note the synthesis from Penuel, Fishman, Yamaguchi, & Gallagher (2007). They proposed the criteria for designing PD workshops. They used research-based precepts to explain what effective PD entails. In summary, they noted that PD should have a focus, allow teachers to broaden their learning experiences, be an on-going process, and allow for evaluation of the program (Penuel et al., 2007).

The PD sessions that I propose would focus on creating, implementing, and assessing the three main 5th grade common core math concepts: fractions, decimals, and measurement. The sessions would utilize the principles above. In creating the PD program, I would ensure teachers fully understand the content they are required to teach. Papinczak, Tunny, and Young (2009) called for regular, consistent PD to assist teachers. The PD program would be school-based, meaning that the math coach at the research site would help to help to facilitate the sessions. To support the school-based idea, Drago-Severson (2007) noted that the proper venue for professional learning opportunities should be at school.

Offering educators the ability to attend sessions based on their interest is one way to achieve success in the schools. Another way is offering resources and strategies to teachers to aid in understanding the concepts. Another finding from my study was the insufficiency of resources such as textbooks at the local level. In society today, teachers face a plethora of strategies from the World Wide Web, in addition to resources found in books; however, knowing which ones to utilize can be overwhelming. Therefore, it is

necessary to provide some type of a guide with proven strategies and resources that are effective in the classroom. Jones, Michael, Mandela, and Colachico (2008) commented that teachers face challenges daily to determine which professional quality strategy they can utilize to ensure effective teaching in the classroom. In addition to utilizing effective strategies, teachers need to remain abreast of students' individual needs in order to quickly change or modify instructional practices when necessary to aid the students (Copple & Bredekamp, 2009). Sanders (2014) stated, "Before the above can occur, teachers must be provided instructional support and effective and recurrent PD that will inform them of which strategy to use and when to use it" (p. 16).

Finding a solution to the major themes involves designing a strong PD program that allows a better understanding of the math standards. Sato, Wei, and Darling-Hammond (2008) expressed that effectively designed PD results in well-implemented standards.

My decision to utilize the adult learning theory to serve as a theoretical foundation for the creation of the of the PD sessions could be used to support the teachers at the research site as he or she transitions to the Common Core Georgia Performance Standards successfully. According to Kohm and Nance (2009), educators who use PD understands that it is necessary for implementing new instruction. In addition, Riggsbee, Malone, and Straus (2012) reiterated that PD present educators with the specific tools for success. Shortland (2010) also encouraged the use of PD to bring about change. Change is what brings about success for all.

Discussion of Project

The proposed project developed because of the findings of this study. The findings of the study revealed the following: insufficiency of useful PD, insufficiency of math resources, and a need for more professional development. To remedy the findings, I created a PD 3-day module that would meet all the needs of the findings. First, I included sessions that would be useful to the teachers by focusing on the Common Core Georgia Performance Math Standards. I elected to focus on fractions, decimals, and volume based on what participants shared during the interviews. Second, during the sessions, the teachers would be shown how to create hands-on, as well as receive math resources that would help them create, implement, and assess the math standards successfully. Third, the module would give teachers 24 hours of PD focusing directly on their needs shared during the interview process, so the project aims towards meeting their needs.

The project incorporates adult learning theory into the development of the professional learning modules. The intent is for teachers to receive valuable information and guidance to create, implement, and assess the CCMS. The professional learning modules consist of three full days of learning. The objective of each session is to achieve the following goals:

1. Offer strategies to use to impact the success of the students in mathematics,

2. Allow teachers to work collaboratively with each other,

3. Offer teachers the opportunity to leave with a concrete make and take resource(s) to assist with the creation, implementation, and assessment of the math standards.

The mathematics standards consist of the three basic 5th grade concepts: decimals, fractions, and volume. Each day of staff development will address one standard. The teachers will acquire all the necessary resources and materials.

To introduce the program, I will use a PowerPoint presentation to discuss the purpose, rationale, goals, and standards that will comprise each of the three sessions. This initial meeting will take place in the grade chair's room on a Wednesday during the 5th grade teachers' assigned grade level time. At the initial meeting, the 5th grade teachers will be introduced to the learning opportunities and given the opportunity to sign up for one, two, or all three sessions. After the initial meeting, the remaining three sessions will take place in the Staff Development room. Each module will be offered on staff development days at the beginning of each new quarter. The administrator in charge of PD at the school will add the three sessions to the schools' master calendar. The PowerPoint will be emailed to all the 5th grade teachers and will explain and outline each of the three sessions. Appendix A includes a copy of the presentation, PD implementation timetable, sample activities, and program evaluation.

The rationale for the program is to provide valuable learning strategies and activities to 5th grade teachers in order to assist them in creating, implementing, and assessing the CCMS. At the last session, the participants will complete a short open-ended formative evaluation that will gauge the efficacy of the program. The conclusions from the questionnaire will enable the stakeholders involved to identify strengths and weaknesses of the program. The evaluation questions below will determine the effectiveness of the program:

1. How confident are you with creating lessons that align with the standards?

2. How confident are you with implementing lessons learned in the PD sessions?

3. How confident are you with assessing the common core math standards?

4. What areas from your PD would you like to see modeled again in your classroom?

5. What area(s) was/were the most helpful to you and your student's success in the classroom?

6. What areas from your sessions would you improve? How?

Needed Resources and Existing Supports

All resources needed for the project are available at the research site. This is an advantage because the project will not require an extensive budget. Logistically, the staff development room is always available for learning opportunities such as this project. Inside the room is a projector that attaches to a computer. There are eight tables and enough chairs for each teacher. The room uses wireless Internet connection, so the teachers would be able to get online if needed. Each participant will receive a copy of the Common Core Math Standards that will be discussed and demonstrated at the beginning of each session. Access to a copier is not an issue because the PD administrator along with the school's math coach will ensure that the necessary copies are available for each session. At each session, the teachers will be supplied with a binder to hold all the copies, state standards for mathematics, district standards for mathematics, test item bank correlated to the standards, and the PowerPoint presentation (Appendix A). Teachers can bring resources that they would like to share during the session.

The main resource needed would be an instructor to lead each session. This would have to be someone who completely understands the standards and has ample resources and activities to share with the teachers. Perhaps one of the teachers on the team that attended the summer math institute offered by the district, it could be the school's math coach, or it could be someone from the district. Selecting instructors within the district eliminates additional funding. Ideally, it would be the math coach whose main job is to support teachers based on their instructional needs. Another necessary resource is the PD administrator who is needed to create the staff development logs to document the professional learning hours for the district. One log with all three dates for each session is a strong possibility.

Additional supports available at the school include every teacher provided with a laptop since every classroom has a projector and either a Smart board or a Mimio mounted to the whiteboard. The school also has a local school technical support specialist available for any technical issues. Another support is all the websites available to teachers because the school provides access to websites such as Learnzillion and Khan Academy.

Potential Barriers and Solutions

There are always potential barriers when any new idea is proposed. One barrier and perhaps the most important would be the principal not buying into the proposal, and therefore shutting down the project before it even begins. At this school, the principal is not very receptive to change and may not see the value in such a program. Another barrier would be the math coach not agreeing to instruct the three sessions. Perhaps time restraints or other commitments would affect the math coach's availability. Another

potential barrier is the availability of the staff development room. It may be booked for another PD session. The last potential barrier would be none of the teachers seeing the value in the training, and therefore not signing up for any of the sessions.

In anticipation of the principal's reluctance to the idea, I am prepared to discuss the idea with the assistant principal in charge of PD for the school. In the event the math coach is not available to instruct the sessions, I will ask one of the teachers who attended the summer math institute. If the staff development room is unavailable for the day, the session would be moved to the grade chair's room. In the event none of the teachers sign up for the sessions then I will schedule the sessions on a day such as a delegated planning day when the teachers have to attend staff development.

Proposal for Implementation Plan

I propose an implementation plan that will span three full days to address the needs of the participants and the findings of the study. The goals of the PD modules are as follows: offer strategies to use to impact the success of the students in mathematics, allow teachers to work collaboratively with each other, offer teachers the opportunity to leave with a concrete make and take resource(s) to assist in the creation, implementation, and assessment of the math standards. The implementation plan includes an initial meeting with the 5th grade team at which point they will be informed about the PD sessions. The first session will occur in August during pre-planning week. The second session will occur in October after the first quarter during the teachers' staff development day. The third session will occur in January after the second quarter during staff development day.

The initial meeting with the grade level will occur during the teachers' pre-planning in August. During this meeting, I will introduce the Common Core math workshop module to the teachers using a PowerPoint presentation. I will leave the sign-up sheet with the grade chair for the teachers to sign up at their choice. The first session will take place during the same week just a few days later. At this session, the teachers will expand their knowledge of division using two digit divisors. The teachers will use hands-on methods and strategies to learn how to teach the concept in the classroom. The second session will occur in October. During second session, teachers will expand on their knowledge of fractions (adding, subtracting, multiplying, and dividing).. During the third session, the teachers will develop an understanding of volume. At each session, the teachers will learn how to create, implement, and assess the Common Core Georgia Performance Standards through a series of hands-on and innovative strategies.

Each assigned PD day will allow for required training, best practices, instructional improvements, collaboration, and the hands-on workshop model. The math instructional coach will also provide on-going opportunities throughout the school year for the teachers who wish to see the lessons from the workshop modeled in their classroom. The math instructional coach will make every effort to provide follow-up to ensure that PD is continuous and sustained.

The school's PD assistant principal will provide coordination, materials, and space, for groups to meet. 5th grade teachers, staff, and paraprofessionals will be encouraged to participate. The school will recognize that all stakeholders need to be lifelong learners. These combined expectations will contribute to building a positive

school culture. The objective of the three days of PD will be to offer consistency among teaching the math standards. At the end of the last session in January, evaluation of progress toward goals will occur and results shared with the local administrative team. Evaluation tools may include electronic or paper surveys of sessions. Teachers may choose to share learning or teaching outcomes at faculty meetings.

Roles and Responsibilities

The roles and responsibilities of the participants in the program will be very important to the successful implementation of the program. I will serve as the facilitator for educating the 5th grade teachers at the initial meeting in the grade chair's room. During this meeting, the facilitator and the participants will be present. At the three sessions, the math coach will serve as the instructor/facilitator. The math coach will be responsible for determining the resources and activities to model and discuss during each session. The assistant principal in charge of PD is responsible for providing and securing the staff development log.

The teachers are responsible for attending the sessions, as well as signing in on the attendance log. This log is necessary for the teachers to obtain their PD hours. After the first meeting, the grade chair will be responsible for discussing the importance and value of the training with the other teachers in order to become teachers that are more successful. At the last session, teachers will use an evaluation form to provide feedback on the program.

Project Evaluation Plan

The reason for changing the current PD program at the research site is the findings of my study. The participants all wanted a change to something that was important and necessary for the success of the students. The main objective of the proposed program is to offer educators new strategies and activities for creating, implementing, and assessing the CCMS at the 5th grade level. A formative evaluation will consist of six open-ended questions.

I chose to use the formative design for the evaluation because I wanted to gain a complete understanding of deficiencies within the program. Especially since the program would be new, and the participants being so few, the formative evaluation design is appropriate. In addition, the formative evaluation design comes from Popham (2008) who used it as a tool to support assessment for learning from teachers in learning communities. The feedback will promote further staff development opportunities.

In considering who would benefit from the success of the program, I would consider stakeholders. The key stakeholders are the teachers, the administrators, and the students. Ultimately, additional stakeholders would include the parents and teachers at the next levels, such as the middle and high schools. The district as a whole and eventually the community would benefit from the success of the program.

Implications Involving Social Change

This project could possibly bring about social change; specifically in knowledge and practice for teachers and students. As indicated in the Literature Review Section, teachers who receive effective PD have the self-efficacy to implement the curriculum

effectively; thus enabling students to achieve academic success through application of the standards. Teachers who participate in my PD modules could learn new strategies on how to implement and assess the CCSS; therefore, enabling them to build on what they already know. The newly attained knowledge could be demonstrated in the classroom as teachers implement the standards. As a result, students would achieve academic success because they would be able to apply the strategies at a higher level as they become critical thinkers, and as such, would make deeply informed decisions. These decisions would be applicable to not just academic situations, but social and economic as well. Jobs and careers would be undertaken more skillfully because of higher-level thinking.

Conclusion

In Section 3, I discussed the project extensively using various formats. First, I presented a description and articulated the goals. I explained the rationale behind choosing this particular project genre. Next, I reviewed the literature as I contemplated the design of the project. I presented a summary as I discussed the project and its proposed implementation plan. The plan included the resources, evaluation, and finally implications for social change.

In Section 4, the pertinence of the project is discussed. The section also includes the limitations, recommendations, and analysis of self. The section ends with suggestions for future research and personal reflections.

Section 4: Reflections and Conclusions

Introduction

The purpose of this phenomenological study was to explore five 5th grade teachers' lived experiences of PD and its influence on their application of the Common Core state standards. Section 4 presents my reflections and conclusions about the project, including its strengths and limitations, scholarship, development and evaluation. There is an analysis of myself as a scholar, practitioner, and project developer. There is also a discussion of the potential impact on social change, implications, applications, and directions for future research.

Project Strengths and Limitations

The project came with strengths and limitations. One strength of the project is the fact that it offers teachers various strategies and hands-on activities to utilize in the classroom. Another strength of the project is the ability to meet the educators at whatever stage of their career they are. Guskey and Yoon (2009) stated, "effective PD requires considerable time, and that time must be well organized, carefully structured, purposefully directed, and focused on content or pedagogy or both" (p. 499). In order for teachers to receive effective PD as noted by Guskey and Yoon, schools need to provide purposeful learning opportunities for teachers. Another strength of the project is the purposeful nature of the program. The program was designed with the intention of appealing to the interest of the teachers. The research findings determined that educators want Common Core Math standards learning opportunities; therefore, the program was developed to meet those needs. Speck (1996) noted in his discussion of the adult theory

that, "adults will commit to learning when the goals and objectives are considered realistic and important to them" (pp. 36-37). If I create a program that is important to the teachers then they will find value in attending the sessions. The common core is an important issue in the field of education, therefore the teachers will commit as Speck noted. Just as there are strengths of the program, there are also limitations.

One limitation of this project is that only two personnel would be able to serve as a facilitator or instructor for the sessions. This might present a problem if either personnel are unable to serve as the facilitator. One recommendation would be for me be trained at the district office, then I will be able to serve as a facilitator also. Another limitation would be the unwillingness of the educators to participate in the training sessions. A remedy to this problem might be allowing the teachers to determine the content of the workshop sessions. Kelly (2012) noted that when creating PD programs, administrators should provide valuable experiences, as well as choices offered to meet individual needs.

Scholarship

Scholarship to me is significant because it demanded diligence as I carefully developed the professional development sessions. During project development, I learned that diligence and perseverance was key to my success. The need and desire to attain the most recent, if possible articles and publications kept me digging for more. I had to practice perseverance and determination because the process became somewhat difficult. Therefore, the idea of scholarship to me means applying perseverance and determination.

I have also learned that scholarship requires a complete understanding of the different views and perspectives. During data collection, I was exposed to five different

views on the use of professional development. As I sat down to analyze the data, I had to

listen to the tape recorders several times in order to gain complete understanding. During

the interviews, I also had to ask follow up questions to clarify perspectives.

Scholarship is important to me because it involves a complete metamorphosis

similar to a butterfly as it undergoes the stages of its life. In the beginning of this journey,

I was inexperienced and ignorant to writing on a doctoral level. As time went on I

continued to learn and grow in my knowledge. Through research, many rewrites, and the

support of my committee members, I started to gain a deeper understanding of how to

write on a doctoral level. At the end, I was able to elevate my writing to reflect a

scholarly dissertation that utilizes research effectively. Looking forward, I will be able to

utilize everything that I have learned during this journey to become an agent of change in

society.

Project Development and Evaluation

The development of the project was the most fulfilling part of the dissertation

process. I realized the important role that research plays in the design and evaluation of

PD workshops. Once I determined that I was going to utilize PD as a solution to the

findings, I had to research what makes an effective PD program. Through my research, I

learned that an effective PD program is continuous, offers collaboration among teachers,

and presents critical thinking strategies. As I considered the structure of my PD

workshop, I found myself revisiting the words of Coleman & Goldenberg (2010), who

asserted that PD is an important component that needs consideration when evaluating

accomplishment and achievement of a school. Once I began the framework of my

project, I had to ensure that it was continuous, would offer collaborative opportunities, and would offer strategies to help students with critical thinking.

Research was also important in the development of an evaluation plan for the project. I had to research the most effective way to evaluate the program. Through my research, it was determined that a formative evaluation would be the most appropriate form of evaluation to use. Using the formative evaluation method, I devised six open-ended questions that focused on the strengths and the weaknesses of the program. It is my hope that the leadership team could use the feedback from the evaluation to adjust the model for the upcoming school year if it is successful.

Leadership and Change

Leaders are agents of change. A true leader is one who is able to use knowledge and skills to influence people. Maxwell (2007) stated, "The true measure of leadership is influence—nothing more, nothing less" (p. 16). In order to become an influential leader, one has to be able to influence change, as well as allow himself to be influenced by change. Of course, the change being instituted has to be for the good of the whole.

My research and interaction with the participants have helped me to realize the importance of professional development. PD is one way that educational leaders can use to bring about changes in schools. Because students have to be ready to compete globally, teachers have to be able to cultivate and mold strong critical thinkers. In order to elevate students' critical thinking skills, teachers must have effective training to implement the curriculum in the classroom. This cannot be achieved without a catalyst or someone pushing for effective and continual professional development. Continual and effective PD

should be a leader's responsibility. Covey and Gulledge (1992) commented, "Highly effective leaders can develop a foundation for quality and continuous improvement by striving to achieve total organizational integrity through Principle-Centered Leadership" (p. 73). Principle-centered leadership focuses on four main principles: trustworthiness, trust, empowerment, and alignment (Covey & Gulledge, 1992). In my role as a change agent for the future, it is my intention to adopt the four main principles above. I believe that when leaders lack one or two of Covey & Gulledge's principles, the ability to influence others or serve as an agent of change decreases.

<div align="center">**Analysis of Self**</div>

As Scholar

This has been an enlightening journey. Throughout this process, I have learned so much about PD, Bandura's theory of self-efficacy, adult learning theory, and the CCSS. As I read many peer reviewed journals, I found myself exhibiting the following characteristics: questioning everything, having a natural curiosity for the unknown, and forming opinions on what is stated. It took me up to now to fully realize and understand those particular behaviors. As I reflect on those behaviors, it was because I was transforming into a scholar. A scholar to me is someone who is intellectual in how one thinks and acts. One is able to think beyond the normal means. One is a specialist or an expert in his or her field.

My responsibility is to ensure that I assume leadership roles that will allow me to serve as an agent of change for others. In those roles, I will be able to ensure everyone receives social fulfilment of the resources around them. Now that I know the importance

of PD and the role it plays in students' success, I embrace the challenge to ensure I will not overlook my role as a scholar.

As Practitioner

When I think about the true definition of a *practitioner*, I think about someone who practices a skill that requires a special license or attains a certain level of education. In reflecting on the later part of the definition, I could then ascertain that because I challenged myself to reach for the highest degree level, the Doctor of Education (Ed.D.), I could easily wear the title of a practitioner. However, obtaining the title came with a lot of research, practice, and self-reflection. I learned new information and experimented with various strategies throughout my journey. Reflecting on the past, I can trace my growth from the beginning to where I am now. When I first started this process, I knew the basics about my field. I would be the last person to speak during collaborative experiences. Over the years, I have watched my skills improve by the various positions that I assumed as well as the various knowledge I have gained. Now other teachers rely on me to develop them to their fullest potential.

In retrospect, as a practitioner, my challenge is to utilize all the research that I have learned to help develop others. This will entail the implementation of specific practices, reflection, to share expertise during collaboration, and facilitation of various PD programs. In this sense, I can infer that under the premise of a practitioner, I have learned that knowledge gives you power and that makes you into more of a practitioner.

As Project Developer

As a project developer, I learned that projects are research driven. I conceived the project after the findings of the study. Based on the findings, I had to design a project that would effectively present a solution to the findings. After research, I chose to offer PD sessions. I had to determine what makes an effective PD program. I conducted additional research to identify the traits of effective professional development. Reflecting on the project development, I learned how to design and instruct PD for staff members. Through this experience, I learned how listen to others' needs and use them as the starting point for any type of professional development.

<div align="center">

Potential Impact of the Project on Social Change

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If leaders utilize a basic mathematics PD framework across the entire school, this could potentially lead to improved test scores. These strategies could give educators tools to help prepare lessons that will meet the intent of the standards. This project was limited to 5th grade teachers; however, leaders can build on this project to help teachers at all grade levels achieve confidence in creating, implementing, and assessing the CCMS.

PD is necessary for the effectiveness of all teachers. Research has shown that teachers need effective and relevant professional learning opportunities. According to Kohm and Nance (2009), educators who utilize PD to help create and teach new instruction will be successful. In addition, Riggsbee, Malone, and Straus (2012) reiterated that PD provides educators specific knowledge needed for student success in the classrooms. Shortland (2010) also emphasized the use of PD as a tool used to bring about change.

As mentioned in Section 3, this project has the potential to change the way teachers teach the curriculum, and how students process information. In looking back at the study and the findings, I think this project has the potential to influence a social change not only at the local level, but also at the district level. It potentially could begin a ripple effect that stands to create benefits for students in the years to come.

Overall Reflection

As I reflected on the overall process of the project study, I am enthralled to think of myself as a scholar practitioner. As a scholar, I have learned a great deal about persistence and determination. I was determined to complete this program in a timely manner, so I practiced persistence. My persistence became an issue when I considered the importance of my topic. Because I felt my topic was important to society, I devoted many hours to the research process. I read countless journal articles to gain a clearer picture of professional development. I have gained a deeper understanding of PD, the common core standards, Bandura's theory of self-efficacy, and adult leaning theory. Through in-depth research, I could say that I am now an expert on each topic. I have also learned that there are multiple ways to enhance educators' skills and mastery. I may have selected just one platform of PD, but there are so many more. During the process, I have also made friendships with others who are hoping to become change agents as well. I will continue to value the friendship of my committee chair Dr. Marcia Griffiths-Prince. She made this process a reality with guidance and experience.

Implication, Applications, and Direction for Future Research

Educators should be empowered with effective professional development. Leaders should feel a sense of obligation to support educators in their attempts to enhance their mastery and craft in the classroom. If teachers have the option to attend a PD workshop that they value and find interesting, they will make the time to attend.

My project has the potential to impact students and teachers socially and theoretically. Theoretically, if teachers attend effective PD workshops, they will develop the self-efficacy to teach the state standards. Socially, once they implement the standards in the classroom, students would in turn use the new knowledge to further their critical thinking skills. Enabling students to elevate the way they think and make decisions could have positive consequences for students' future. For example, the higher order one's thinking is, the more successful one becomes in the future. The teachers in my study all indicated they needed additional PD focused on the common core math standards. This was an outward appeal to make changes to what is already in place.

I have developed a PD module used to meet the needs of the faculty because they specifically indicated what they wanted. Considering the common core is a state initiative and there may be a lack of funding to bring in an expert, perhaps my proposal is a possible solution. Even if future school reform supersedes the CCSS, my project remains a structure upon what is applicable to any type of initiative. It forms the basis of what the teachers needed. With the above in mind, a suggestion for future studies is to build on my topic. PD is such a broad topic to explore. Over the years, there have been many

investigations about professional development; however, many areas still need investigating.

Conclusion

PD is essential to the success of teachers and students. There is no other way to say this, except, leaders need to provide opportunities for teachers and students to be successful. This study originated from the fact that a subgroup of students did not achieve satisfactory (800 or higher) on the Criterion Referenced Competency Test in math at one particular school in the state of Georgia. I am sure this was not and will not be the only school within the state with this problem. It is crucial now because the Criterion Referenced Competency Test has been replaced with the Georgia Milestones Assessment System (GMAS), as well as the implementation of the Common Core State Standards. The CCSS curriculum and GMAS are both rigorous and require the use of critical thinking skills from students. Both require students to explain their thinking process. How can we expect our children to think critically without teaching them how? Then again, how can we expect to teach critical thinking skills to students without providing teachers with proper training on how to teach critical thinking skills? This is a call for change.

I have developed a PD program that has the potential to become a catalyst for teaching critical thinking skills in the classroom. My program started out as a solution, but it is also a framework for many other initiatives. The project originated from the findings of my phenomenological study. The findings indicated insufficiency of useful professional development, insufficiency of math resources, and a need for relevant PD in

teaching the state's math standards. I know this is just one study on the issue; however,

this major problem needs solving in other schools.

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Appendix A**:** The Project

Framework for Professional Development Plan

Timeline	Key Components	Approximate Time Needed
1st Quarter Introduction	Initial contact meeting	30 minutes
	Introduce the Common Core workshop module to teachers using a Power Point presentation. Leave the sign-up sheet with grade chair for teachers to sign up.	
1st Quarter Session # 1	Focus: Decimals Extend division to two-digit divisors, integrating decimal fractions in the place value system and develop an understanding of operations with decimals to hundredths.	8:30 - 11:30 12:30 -3:30 6 hours
During pre-planning week	Activities: Clearing Protocol The facilitator will give teachers time to clear any thoughts that are on their minds. Rules include: nothing is irrelevant; only speak twice if everyone else has already spoken	

Norms & Expectations
Learning goals for teachers: What will I gain?
The facilitator will work with teachers to create norms and expectations for each session.

Introduction to the standards
The facilitator will introduce the teachers to the standards by using a PowerPoint presentation.

Temperature Check Protocol: I am a ? Poster

Facilitator will ask teachers to evaluate their confidence in teaching decimal division.
Ask teachers to place a sticky note on the I Am Poster.
Pair Share Protocol: Where am I with decimals?
Teachers will turn to a partner and share their

expertise on teaching decimals. They will talk with the person next to them for 3 minutes about decimals. Then they will share anything surprising/interesting that has come up.

Break

Model
Deeper understanding of decimals
The facilitator will use Learnzillion as a resource and tool to demonstrate how to teach the concept.
Using manipulatives to implement and teach decimals
The facilitator will use math manipulatives to model how to teach the concept in a small group setting.

Creating assessments
The facilitator will demonstrate how locate which websites and what resources to use when creating decimal assessments.

Lunch Break - Teachers will break for lunch

Breakout Sessions (Hands-On) - Teachers
Using manipulatives to implement and teach decimals
The facilitator will pair the teachers up with a partner then give them three different manipulatives. Teachers will model how to teach the math concept to their partner teacher using the manipulatives. Partners will then switch with each other.

Creating assessments
Teachers will work with each other to pull information from the district test bank to help create common assessments.
Teachers will create an assessment with 15 questions for a common assessment.

Show Your Growth
Revisit Temperature Check Protocol
Teachers will evaluate their confidence in teaching decimal. They will place post it notes on the I Am Poster, which will be posted in the room.

Parking Lot

Teachers will use post it as an exit ticket out the door. They will write three new things they learned and one question they still have about teaching decimals.

Reflection/Plan of Action
Teachers will collaborate with each other then reflect on what they learned from the session. Teachers will complete a Plan of Action

2nd Quarter Session # 2 October	Focus: Fractions Teachers will develop fluency with addition and subtraction of fractions, and develop an understanding of the multiplication of fractions and of division of fractions in limited cases.	8:30 - 11:30 12:30 -3:30 6 hours

Activities:
Clearing Protocol
The facilitator will give the teachers time to clear any thoughts that are on their minds. Rules include nothing is irrelevant; only speak twice if everyone else has already spoken; no dialogue; silence is okay.

Introduction to the standards
The facilitator will introduce teachers to the standards using a PowerPoint presentation.
Temperature Check Protocol: I am a ? Poster
Teachers will evaluate their confidence in teaching fractions. They will place a sticky note on the I Am Poster, which will be posted in the room.

Pair Share Protocol: Where am I with fractions?
Teachers will turn to a partner and share expertise on teaching fractions. They will talk with the person next to them for 3 minutes about fractions. They will share anything surprising/interesting that has come up.

Break
Model
Deeper understanding of fractions

The facilitator will use Learnzillion as a resource and tool to demonstrate how to teach the fraction.

Using manipulatives to implement and teach fractions
The facilitator will use math manipulatives to model how to teach the concept in a small group setting.

Creating assessments
The facilitator will demonstrate to the teachers how to locate websites and what resources to use when creating fraction assessments.

Lunch Break - Teachers will break for lunch

Breakout Sessions (Hands-On) - Teachers
Using manipulatives to implement and teach fractions
The facilitator will pair the teachers up with a partner then give them three different manipulatives. Teachers will model how to teach the concept to their partner teacher using the manipulatives. Partners will then switch with each other.

Creating assessments
Teachers will work with each other to pull information from the district test bank to help create common assessments.
Teachers will create an assessment with 15 questions to be used on the grade level.
Show Your Growth
Revisit Temperature Check Protocol
The teachers will evaluate their confidence in teaching fractions. They will place post it notes on the I Am Poster, which will be posted in the room.

Parking Lot
The teachers will use post it as an exit ticket out the door. They will write three new things they learned and one question they still have about teaching fractions.

Reflection/Plan of Action
The teachers will collaborate and reflect on what

they learned from the session.
The teachers will complete a Plan of Action

		8:30 - 11:30
3rd Quarter
Session # 3
January	Focus: Volume
Teachers will develop an understanding of volume.	12:30 -3:30
6 hours

Activities:
Clearing Protocol
The facilitator will give teachers time to clear any thoughts that are on their minds. Rules include: nothing is irrelevant; only speak twice if everyone else has already spoken; no dialogue; silence is okay.

Introduction to the standards
The facilitator will introduce the teachers to the standards by using a PowerPoint presentation.
Temperature Check Protocol: I am a ? Poster
Teachers will evaluate their confidence in teaching volume. They will place a sticky note on the I Am Poster, which will be posted in the room.

Pair Share Protocol: Where am I with volume?
Teachers will turn to a partner and share their expertise on teaching volume. They will talk with the person next to them for 3 minutes about volume. Teacher will share anything surprising/interesting that has come up.

Break
Model

Deeper understanding of volume
The facilitator will use Learnzillion as a resource and tool to demonstrate how to teach volume.
Using manipulatives to implement and teach volume
The facilitator will use math manipulatives to model how to teach volume in a small group setting.

Creating assessments
The facilitator will demonstrate how to search the various websites and what resources to use when creating volume assessments.

Lunch Break - Teachers will break for lunch

Breakout Sessions (Hands-On) - Teachers
Using manipulatives to implement and teach volume
The facilitator will pair teachers up with a partner
then give them 3 different manipulatives.
Teachers will model how to teach the math concept
to their partner teacher using the manipulatives.
Partners will switch with each other.

Creating assessments
Teachers will work with each other to pull
information from the district test bank to help create
common assessments.
They will create an assessment with 15 questions to
be used on the grade level.

Show Your Growth
Revisit Temperature Check Protocol
The teachers will evaluate their confidence in
teaching volume. They will place post it notes on the
I Am Poster.

Parking Lot
The teachers will be given additional post it as an
exit ticket out the door. They will write three new
things they learned and one question they still have
about teaching volume.

Reflection/Plan of Action
Teachers will collaborate and then reflect on what
they learned from the session.
The teachers will complete a Plan of Action
Grade Level Challenge: Math coach will challenge
teachers to build the largest robot and find the
volume in their own classrooms.

4th Quarter Wrap up Session During grade level meeting on a Thursday	Focus: Program Evaluation At the end of the last session, teachers will complete a program evaluation survey. Results from the survey will be tabulated and presented to the principal of the site.	15 minutes

Common Core Georgia Performance Standards (Math)
Session 1: Decimals
August 2015
8:30 AM - 3:30 PM
Agenda

Clearing Protocol	8:30 AM

Norms & Expectations   8:45 AM

➢ Learning goals for teachers: What will I gain?

Introduction to the standards   9:00 AM

➢ Temperature Check Protocol: I am a ? Poster

➢ Pair Share Protocol: Where am I with decimals?

Break   9:30 AM

Model   9:40 AM

➢ Deeper understanding of decimals

➢ Using manipulatives to implement and teach decimals

➢ Creating assessments

Lunch Break   11:30 AM -12:30 PM

Breakout Sessions (Hands-On) - Teachers   12:30 PM

➢ Using manipulatives to implement and teach decimals

➢ Creating assessments

Show Your Growth   3:00 PM

➢ Revisit Temperature Check Protocol

➢ Parking Lot

Reflection/Plan of Action   3:15 PM

Common Core Georgia Performance Standards (Math)
Session 2: Fractions
October 2015
8:30 AM - 3:30 PM
Agenda

Clearing Protocol   8:30 AM

Norms & Expectations   8:45 AM

➢ Learning goals for teachers: What will I gain?

Introduction to the standards -   9:00 AM

➢ Temperature Check Protocol: I am a ? Poster

➢ Pair Share Protocol: Where am I with fractions?

Break   9:30 AM

Model   9:40 AM

➢ Deeper understanding of fractions

➢ Using manipulatives to implement and teach fractions

➢ Creating assessments

Lunch Break   11:30 AM -12:30 PM

Breakout Sessions (Hands-On) - Teachers   12:30 PM

➢ Using manipulatives to implement and teacher fractions

➢ Creating assessments

Show Your Growth   3:00 PM

➢ Revisit Temperature Check Protocol

➢ Parking Lot

Reflection/Plan of Action   3:15 PM

Common Core Georgia Performance Standards (Math)
Session 3: Volume
January 2016
8:30 AM - 3:30 PM
Agenda

Clearing Protocol   8:30 AM

Norms & Expectations   8:45 AM

  ➢ Learning goals for teachers: What will I gain?

Introduction to the standards   9:00 AM

  ➢ Temperature Check Protocol: I am a ? Poster

  ➢ Pair Share Protocol: Where am I with volume?

Break   9:30 AM

Model   9:40 AM

  ➢ Deeper understanding of volume

  ➢ Using manipulatives to implement and teach volume

  ➢ Creating assessments

Lunch Break   11:30 AM -12:30 PM

Breakout Sessions (Hands-On) - Teachers   12:30 PM

  ➢ Using manipulatives to implement and teach fractions

  ➢ Creating assessments

Show Your Growth   3:00 PM

  ➢ Revisit Temperature Check Protocol

  ➢ Parking Lot

Reflection/Plan of Action   3:15 PM

81

Professional Development on the Common Core Math Strategies

I would like to sign up to attend session #1 on fractions.

1.
2.
3.
4.
5.
6.

 I would like to sign up to attend session #2 on decimals.

1.
2.
3.
4.
5.
6.

 I would like to sign up to attend session #3 on volume.

1.
2.
3.
4.
5.
6.

Temperature Check Protocol

I am a(n)…

Novice
I have no idea how to teach this concept to the students, therefore I need to see it modeled in the classroom.
Apprentice
I attempt to teach the concept but gets a little confused.
Practitioner
I feel confident in teaching this concept, but needs some more strategies.
Expert
I have a quite a few strategies to offer the group because I feel very comfortable teaching this concept.

Introduction to Project PowerPoint
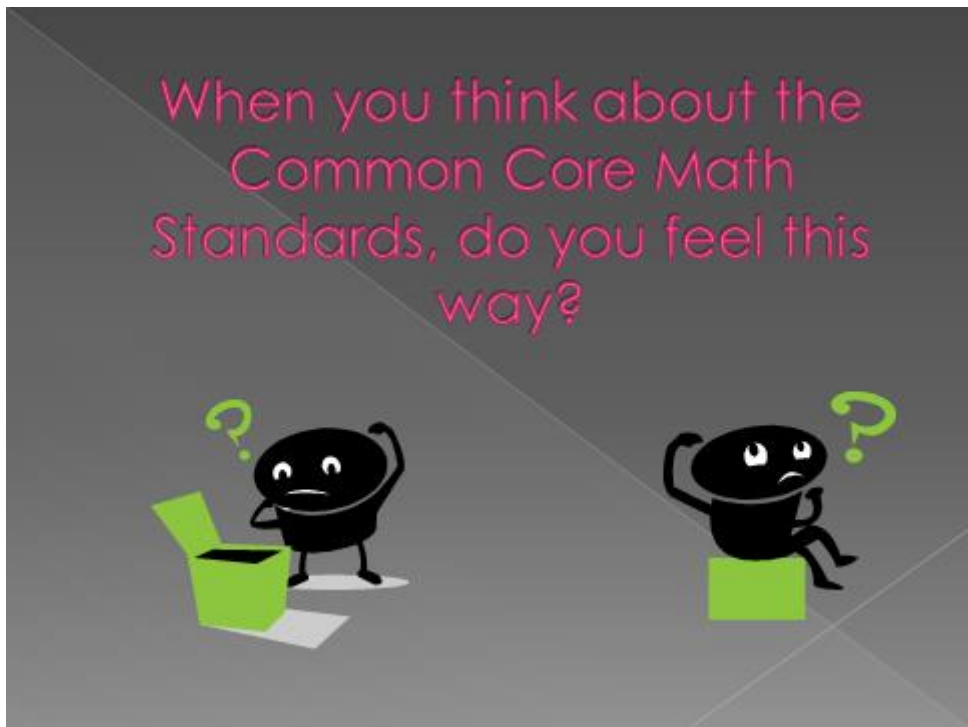
Purpose/ Rationale

- The program will provide specific training to prepare you to create, implement, and assess the common core math standards.
- The training conducted in these sessions will prepare you to teach the three main focused Common Core standards.

The Program Goals are as follows:

- To offer strategies that can impact the success of the students in the classroom,
- To allow teachers to work collaboratively with each other,
- To give teachers the opportunity to take away a concrete make and take resource (s) to aid in the creation, implementation, and assessment of the common core math standards.
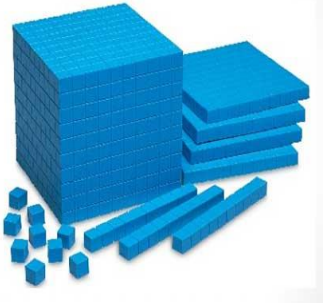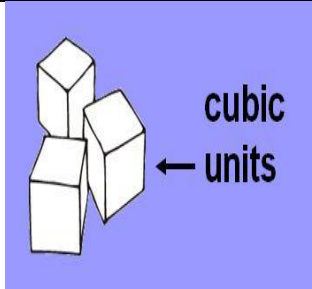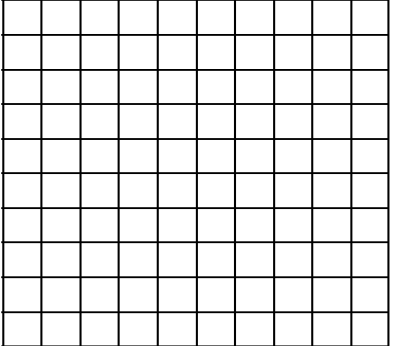
Learning Outcomes for Participants

Session	Objectives
#1	5th grade teachers will extend division to 2-digit divisors, integrating decimal fractions in the place value system and develop an understanding of operations with decimals to hundredths.
#2	5th grade teachers will develop fluency with addition and subtraction of fractions, and develop an understanding of the multiplication of fractions and of division of fractions in limited cases.
#3	5th grade teachers will develop an understanding of volume.

Math Manipulatives

Decimals	Fractions	Volumes
Base Ten Blocks	Fraction Tower	CM Cubic Units
Decimal Tower	Fraction Equivalence	Snap Cubes
Place Value Flip Chart	Fraction Dominoes	Grid Paper

Sample of the Volume Activity

Exploring Volume

Materials: cm grid paper, centimeter cubes

_____

1. Work with a partner. On a sheet of cm grid paper, draw 4 patterns for different sized

open boxes.

2. Cut out the patterns, fold up the sides, and tape them together.

3. Fill each box with cm cubes to find the volume.

4. Record your findings in a chart and describe any patterns or relationships that you

notice.

Plan of Action

Goal:

_____

Goal I want to achieve:_____

Steps to achieve this goal:

    1. _____

    2. _____

    3. _____

Resources needed:

    1. _____

    2. _____

    3. _____

Review   **Date:**_____

I know I achieved this goal because:

_____

_____

(Way to go! Make a new action plan)

_____I am making progress toward this goal and will keep implementing my

action plan.

_____I need to make changes to my plan to achieve this goal by revising the goal

or change the action steps.

Professional Development Program Evaluation

Self-Assessment

Please take a few minutes to provide responses to the following questions. Your feedback will provide valuable information into the effectiveness of the training plan.

1) How confident are you with creating lessons that align with the standards?

2) How confident are you with implementing lessons learned in the professional development sessions?

3) How confident are you with assessing the common core math standards?

4) What area (s) from your professional development would you like to see modeled again in your classroom?

5) What area (s) was/were the most helpful to you and your students success in the classroom?

6) What areas would you improve? How?

Appendix B: Interview Protocol Form

Participant Interview Protocol
Date: _____
Interviewee (Assigned Color): _____
Interviewer: _____
Other Topics
Discussed_____
_____
_____
Post Interview Comments or Leads:
_____
_____
_____

Introductory Protocol

You will be asked to sign a consent form devised to meet the human subject

requirements. Essentially, this document states that: (1) all information will be held

confidential, (2) your participation is voluntary, and you may stop at any time if you feel

uncomfortable, and (3) I do not intend to inflict any harm. Thank you for agreeing to

participate.

I have planned this interview to last no longer than 45-60 minutes.
Introduction
You have been selected to speak with me today because you have been identified as

someone who has a great deal to share about professional development, and its influence

on the implementation of the Common Core Georgia Performance Standards in math. My

project study focuses on the district's use of professional development, with particular

interest in understanding how educators view the Common Core implementation process.

This study does not aim to evaluate your techniques in the classroom. Rather, I am trying

to learn more about your perceptions about the use of professional development, and its

influences on the Common Core Georgia Performance Standards in math

A. Interviewee Background
How long have you been …
_____ in your present position?
 _____ at this institution?
_____teaching?

Interesting background information on interviewee:
What is your highest degree? _____
What is your field of study? _____
1. Briefly describe your role at the research site.

Probes: How are you involved in teaching, learning, and assessment of the Common Core

Math Standards?

2. What motivates you to use innovative teaching and/or assessment techniques in

teaching math?

B. Main Research Question
What are 5th grade teachers' lived experiences of professional development to help teach

the CCMS?

3. What strategies do you use to teach the CCMS in the classroom?

 Probes: Is it working – why or why not?

4. What resources are available to faculty for improving teaching and assessment

techniques in math?

5. What has changed about teaching math over the last three years?

Probe: What is being accomplished through professional development at this location or within the district?

6. Have you encountered any problems during the implementation of the Common Core Math Standards? Successes?

Probe: Tell me more about the problems that you encountered.

7. Describe your overall comfort level with teaching math.

8. Describe your experiences teaching math before the adoption of the Common Core State Standards.

9. Describe your experiences teaching math after the adoption of the Common Core State Standards.

10. What specific new teaching or assessment practices have you implemented in your classroom since the adoption of the common core?

11. What types of professional development opportunities do you see emerging at your school or within the district that focus on common core math strategies for the classroom?

Probes: What motivates you to participate in professional development programs?

12. How frequently do you attend such programs?

13. How are these programs advertised to faculty?

Post Interview Comments and/or Observation