Teacher Perceptions Of Professional Development Practices And Their Influence On Self-Efficacy: An Action Research Study

Jennifer McSweeney
William & Mary - School of Education, jmcsweeney@gc.k12.va.us

Follow this and additional works at: https://scholarworks.wm.edu/etd

Part of the Educational Leadership Commons

Recommended Citation
http://dx.doi.org/10.25774/w4-xsg8-8465

This Dissertation is brought to you for free and open access by the Theses, Dissertations, & Master Projects at W&M ScholarWorks. It has been accepted for inclusion in Dissertations, Theses, and Masters Projects by an authorized administrator of W&M ScholarWorks. For more information, please contact scholarworks@wm.edu.
TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT PRACTICES
AND THEIR INFLUENCE ON SELF-EFFICACY: AN ACTION RESEARCH STUDY

A Dissertation

Presented to

The Faculty of the School of Education

The College of William & Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree

Doctor of Education

By
Jennifer A. McSweeney

November 2019
TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT PRACTICES
AND THEIR INFLUENCE ON SELF-EFFICACY: AN ACTION RESEARCH STUDY

By

Jennifer A. McSweeney

Approved November 20, 2019 by

Michael F. DiPaola, Ed.D.
Committee Member

Leslie Grant, Ph.D.
Committee Member

Margaret Constantino, Ph.D.
Chairperson of Doctoral Committee
Dedication

This is dedicated to all educators who want to continuously learn, and who work hard to do so, while always striving to help their students learn and achieve so they can do great things. Teachers make a difference.
# Table of Contents

List of Tables .................................................................................................................. vii

List of Figures .................................................................................................................... viii

Chapter 1: Introduction ..................................................................................................... 2

  Background ...................................................................................................................... 2

  Statement of the Action Research Problem .................................................................. 4

  Context for the Action Research Study ....................................................................... 8

    Information Related to the Organization .................................................................. 8

    Support Personnel ...................................................................................................... 8

    Professional Development .......................................................................................... 9

  Information Related to the Intended Stakeholders ....................................................... 10

  Theoretical Framework ................................................................................................. 12

  Action Research Questions .......................................................................................... 13

  Action Research Model ............................................................................................... 13

  Brief Description of the Intervention ......................................................................... 15

  Definition of Terms ...................................................................................................... 17

Chapter 2: Review of Literature ......................................................................................... 20

  Self-Efficacy in the Context of Teacher Practice and Classrooms .................................. 20

    Understanding the Constructs of Self-Efficacy and its Impact on Teacher Performance ................................................................................................................. 20

    Outcome Expectations and Efficacy Expectations .................................................... 22

    The Influence of Context on Teacher Self-Efficacy ................................................... 23

    Benefits of Efficacy .................................................................................................... 23
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reasons Why Teacher Training Falls Short</td>
<td>45</td>
</tr>
<tr>
<td>Lack of Planning for Teacher Training</td>
<td>46</td>
</tr>
<tr>
<td>Lack of Research That Supports the Construct and Structure of Training</td>
<td>47</td>
</tr>
<tr>
<td>Professional Development and Its Potential Impact on Teacher Efficacy</td>
<td>48</td>
</tr>
<tr>
<td>Summary</td>
<td>52</td>
</tr>
<tr>
<td>Chapter 3: Methods</td>
<td>54</td>
</tr>
<tr>
<td>Rationale for Choosing Action Research</td>
<td>54</td>
</tr>
<tr>
<td>Precursors to Action Research Intervention</td>
<td>56</td>
</tr>
<tr>
<td>Description of Intervention</td>
<td>57</td>
</tr>
<tr>
<td>Professional Development Options</td>
<td>58</td>
</tr>
<tr>
<td>Lesson Study</td>
<td>58</td>
</tr>
<tr>
<td>Book Study</td>
<td>59</td>
</tr>
<tr>
<td>Peer Observation</td>
<td>59</td>
</tr>
<tr>
<td>Participants</td>
<td>61</td>
</tr>
<tr>
<td>Data Sources and Data Collection</td>
<td>62</td>
</tr>
<tr>
<td>Teacher Journals</td>
<td>62</td>
</tr>
<tr>
<td>Field Notes Journal</td>
<td>63</td>
</tr>
<tr>
<td>Interviews</td>
<td>63</td>
</tr>
<tr>
<td>Focus Group</td>
<td>64</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>65</td>
</tr>
<tr>
<td>Action Research Question 1</td>
<td>68</td>
</tr>
<tr>
<td>Action Research Question 2</td>
<td>69</td>
</tr>
<tr>
<td>Role of the Researcher</td>
<td>71</td>
</tr>
</tbody>
</table>
Timeline .......................................................................................................................... 71
Delimitations, Limitations, and Assumptions ................................................................. 72
  Delimitations .................................................................................................................. 72
  Limitations ...................................................................................................................... 73
  Assumptions ................................................................................................................... 73
Ethical Considerations ..................................................................................................... 74
  Positionality .................................................................................................................... 74
  Accuracy, Credibility, Dependability .............................................................................. 74
    Triangulation ................................................................................................................ 74
    Member Checking ......................................................................................................... 75
    Time in the Field .......................................................................................................... 75
    Notetaking Methods .................................................................................................... 75
  Institutional Review Board ............................................................................................ 76
Chapter 4: Findings ........................................................................................................... 77
  Adjustments to the Study ............................................................................................... 79
  Action Research Question #1 ....................................................................................... 80
  Action Research Question #2 ....................................................................................... 102
  Summary of Findings ................................................................................................... 114
Chapter 5: Recommendations .......................................................................................... 117
  Discussion of Findings ................................................................................................. 118
  Implications for Policy or Practice .............................................................................. 124
  Recommendations for Future Research ..................................................................... 131
  Lessons Learned .......................................................................................................... 133
Summary..................................................................................................................................................135
Appendices..................................................................................................................................................137
Appendix A: Lesson Study Protocol.........................................................................................................137
Appendix B: Book Study Protocol ............................................................................................................143
Appendix C: Peer Observation Protocol..................................................................................................145
Appendix D: Interview Protocol...............................................................................................................146
Appendix E: Focus Group Protocol..........................................................................................................149
Appendix F: Table of Specifications ........................................................................................................150
References..................................................................................................................................................152
Vita..............................................................................................................................................................158
Acknowledgments

Thank you to my family, friends, colleagues, professors, and organizations who helped and supported me for five years by: doing homework along with me during evenings at home, encouraging me and making me believe I could do it, gifting me a laptop which saw me through this journey, providing me with scholarships so I could continue my education, wishing me luck every semester on the first day of class, imposing deadlines so I would keep working, providing me with constructive feedback while supporting my efforts in order to produce a worthwhile study, and helping me discover the leader I can be. I know that educators make a difference, and now I know I can, too. I am grateful for this entire experience and for the person I have become because of it.

Katie and Mary, Mom, and Dad
Teresa, Scotty, Niko, and Julie
Delta Kappa Gamma and P.E.O.
Molly Broderson
Dr. Peggie Constantino, Dr. Michael DiPaola, Dr. Leslie Grant, Dr. James Stronge
The College of William & Mary
GCPS Teachers and All Staff
### List of Tables

Table 1. Teacher Tasks to Determine Professional Development Activity ..................16

Table 2. Professional Development Formats ......................................................................17

Table 3. Summary of Study Findings of the Impact of Self-Efficacy .............................30

Table 4. Summary of Study Findings of Effective Professional Development
Features ..........................................................................................................................40

Table 5. Summary of Study Findings of Effective Professional Development that Impacts
Self-Efficacy ........................................................................................................................52

Table 6. Professional Development Choices for Educators ........................................60

Table 7. Teacher Participants ........................................................................................62

Table 8. Action Research Questions, Data Sources, and Data Analysis ......................70

Table 9. Study Timeline ..................................................................................................72

Table 10. Revised Teacher Participants ........................................................................80

Table 11. Areas of Action Research Teachers Chose ......................................................88

Table 12. Participants’ Acknowledgment of Features Within Their PD .......................97

Table 13. Themes Emerging for Research Question #1 ..............................................102

Table 14. Sources of Self-Efficacy Most Preferred by Participants ..............................108

Table 15. Themes Emerging for Research Question #2 ..............................................114

Table 16. Study Recommendations Based on Findings .............................................125
List of Figures

Figure 1. Impact of Professional Development ................................................................. 5
Figure 2. Process of Action Research .................................................................................. 15
Figure 3. Data Analysis for Qualitative Research ............................................................... 67
Figure 4. Teacher Change and Impact on PD ................................................................... 135
Abstract

Teachers play a critical role when it comes to impacting student achievement. As a result, quality of teachers is an issue that is being addressed through continuing professional development. Even with this emphasis, current professional development is perceived by teachers as being ineffective and lacking in relevance to student and teacher needs. However, research-based professional development practices do exist, and this study sought to explore which of these features teachers perceive to be effective within the learning experiences of lesson study, book study, and peer observations. Additionally, self-efficacy can affect teacher impact on student achievement. Four sources of efficacy contribute to feelings of confidence and can be embedded within professional development activities. Two research questions were asked in this study: Do teachers perceive lesson study, peer observations, and book study as effective forms of professional development? What are teacher perceptions of their own self-efficacy following an academic year of professional development? This qualitative study used interviews, focus group meetings, teacher journals, and field notes to answer the questions after teachers engaged in an action research cycle that included a professional development activity of their choosing. Results revealed that teachers find value in learning that includes ongoing time to learn, meaningful collaboration with peers, and teacher choice. Teachers also benefit from the self-efficacy sources of mastery experience and emotional arousal. Recommendations of this study include protecting time for teacher learning and linking it to teacher evaluation and providing teachers with opportunism to experience sources of efficacy within their learning activities.
TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT PRACTICES
AND THEIR INFLUENCE ON SELF-EFFICACY: AN ACTION RESEARCH STUDY
CHAPTER 1
INTRODUCTION

Background

Teachers are the heart of education. Of all the factors within the control of schools, teachers have the most direct and powerful influence on student learning and achievement (Hattie, 2009; Marzano, 2003; Stronge, 2010; Stronge, Ward, & Grant, 2011; Stronge, Ward, Tucker, & Hindman, 2008). As a logical consequence of this centrality of teachers to student success, teacher quality is currently an emphasis of policy, preservice teacher training, and professional development (PD). If teacher quality is critical to student achievement and performance, then effective training of teachers and their own self-efficacy must be considered. Teachers frequently feel that their training is not effective (Bayar, 2014; Bezzina, 2006; Borko, 2004; Guskey, 2014; Knight, 2000). For example, a recent study found that even with a large financial investment of more than $18,000 of PD money per teacher, in the span of 3 years, both teacher practice and student achievement either stayed the same or declined (Darling-Hammond, Hyler, & Gardner, 2017). To fix this important problem, school districts must implement effective PD which is designed to increase efficacy, resulting in higher teacher quality and increased student achievement.

Studies evaluating the effectiveness of teacher training have always been vital, but the topic has become even more prevalent following the passage of the No Child Left Behind (NCLB) Act of 2001 (Bayar, 2014; Borko, 2004). Provisions of this act suggested
that high-quality PD programs improve student achievement. However, few guidelines provided guidance to assist administrators and school districts in providing efficient and effective teacher training.

Following NCLB, President Obama emphasized professional training in The Obama Educational Plan of 2009. It reflected a policy of building human capital and assumed that developing teacher talent will improve student performance. This plan included funding opportunities for improving teacher quality (Bezzina, 2006; Whitcomb, Borko, & Liston, 2009). Currently, states and districts can integrate professional learning into the Every Student Succeeds Act (ESSA) school improvement initiatives, such as efforts to implement new learning standards, use student data to inform instruction, improve student literacy, and create a positive and inclusive learning environment (Darling-Hammond et al., 2017). ESSA requirements provide districts with flexible opportunities to address these issues and to improve teacher PD.

Although research provides data about what are perceived to be best PD practices, school districts often do not consider implementation of these best practices and teachers continue to have poor perceptions about their ongoing training (Bezzina, 2006; Knight, 2000). Further, even the claims of “best practice” PD have come under scrutiny due to the meager empirical evidence regarding whether PD is effective in improving teacher practices and impacting student learning (Bayar, 2014; Guskey, 2014; Guskey & Yoon, 2009).

Among research-based PD practices lesson study, book study, and peer observation have been found to be effective formats that include learning elements of active participation, sustained duration, content-based learning, expert support, and
reflection (Burbank, Kauchak, & Bates, 2010; Darling-Hammond et al., 2017; Grimm, Kaufman, & Doty, 2014; Tolle, 2010). Lesson study is a format of PD emphasizing teacher learning through implementation of lessons, observation, and reflection of these lessons (Schipper, Goei, de Vries, & van Veen, 2018; Tolle, 2010; Puchner & Taylor, 2006). Book study engages teachers in participatory experiences in which they explore their own knowledge about specific content through sharing, reflecting, and discussion (Burbank et al., 2010; Tschannen-Moran & Johnson, 2011).

Peer observation is a different approach to PD that empowers teachers in gathering and analyzing classroom data (Grimm et al., 2014). All three of these training formats have the potential to engage teachers in activities that allow them to fully participate in their learning, study specific content, and reflect on their learning in ways that can impact their instruction and consequently, student achievement.

Although not specifically addressed in current policy or PD practices, self-efficacy is another factor that has received attention as a potential impact on teacher quality and effectiveness (Hoy & Miskel, 2013; Reeves, 2018; Tschannen-Moran & Woolfolk Hoy, 2001; Wheatley, 2002; Yoo, 2016). Self-efficacy is the belief that one can perform an action that elicits specific results, and is based on social cognitive theory (Bandura, 1977). Therefore, when teachers exhibit self-efficacy, there is a positive impact on student learning and achievement. There are four ways to obtain and increase self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. Bandura (1977) defined mastery experience as engaging in a successful experience, vicarious experience as the act of watching someone else do something successfully, verbal persuasion as the suggestion of belief, and emotional arousal as
experiencing emotions that affect behavior and actions. These four sources of self-efficacy can be obtained through research-based experiences and activities and can include the effective learning elements of active participation, sustained duration, content-based learning, expert support, and reflection. The question therefore, becomes: Can research-based practices include components that are effective for teacher learning while increasing self-efficacy?

Statement of Action Research Problem

Even with an emphasis on PD and a clear connection between teacher quality and student achievement, educator training is less than effective and traditional PD practices are currently criticized as lacking efficiency in addressing specific teaching skills, wasting resources, using up valuable time, and lacking relevance to teacher needs and skills (Bayar, 2014; Borko, 2004; Guskey, 2014; Knight, 2000). Moreover, teachers report that they wish they had more support, yet consistently state that their training is ineffective (Bayar, 2014; Bezzina, 2006; Knight, 2000). When asked what support teachers desire, Bezzina (2006) cited that resources, teamwork, and experienced colleagues help teachers learn best. Educators believe PD is necessary to keep up with developments but would like to see more collaborative experiences and teacher input. Teachers believe some positive practices are not put into place due to time constraints, reluctance to change, and lack of funding (Bezzina, 2006). Figure 1 provides a model suggesting that professional development makes an impact on teacher quality. This impact can be perceived by teachers as positive when PD is effective, and negative when the PD is viewed as a waste of time. How can PD be conducted so it is effective, resulting
in an increase in teacher self-efficacy, higher teacher quality, and an increase in student achievement?

Figure 1. Impact of Professional Development: Professional development makes an impact on teacher quality, which then impacts student achievement. This impact can be positive or negative and will vary according to effectiveness of the professional development. Yellow highlighted portions of the model were the primary focus of this study.

Traditional forms of PD have little impact on instruction (Bezzina, 2006; Darling-Hammond et al., 2017; Grimm et al., 2014; Knight, 2000). Specifically, teachers do not appear to benefit systemically from single, isolated sessions. Additionally, teacher experiences in previous training shapes their expectations of future experiences. They often feel their PD will be impractical with little to no follow-up, and that their time can be better spent doing other activities. Further, teachers do not change their practice in line with research findings due to communication gaps between presenters and educators (Darling-Hammond et al., 2017). Therefore, PD must improve and address specific areas and skills.
Although professional training continues to be perceived as ineffective, research-based practices do exist. These include features such as content-based learning, active participation, follow-up and expert support, sustained duration, and opportunities for reflection (Bayar, 2014; Birman, Desimone, Porter, & Garet, 2000; Darling-Hammond et al., 2017; Garet, Porter, Desimone, Birman, & Yoon, 2001; Guskey & Yoon, 2009).

Teachers respond positively when these features are present in PD. Thus, it is important that these practices be embedded in teacher PD.

In addition to PD, teacher self-efficacy also has an impact on teacher quality and has received increased attention in the past three decades. The most powerful benefit of teacher self-efficacy is a significant impact on student achievement and learning (Goddard, Hoy, & Woolfolk Hoy, 2000). For example, this can include an increase in the effort teachers put forth in the classroom, increased persistence when working with students, holding high expectations for students, and setting high goals for themselves and others (Hoy & Miskel, 2013; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & Woolfolk Hoy, 2001; Yoo, 2016).

There are four sources in which to obtain self-efficacy, which include vicarious experiences, mastery experiences, verbal persuasion, and emotional arousal (Bandura, 1977). It would be beneficial for teachers to experience these four sources in their PD. However, little is mentioned in PD research about how to engage teachers in these four types of experiences through their training.

There are PD formats that demonstrate the use of self-efficacy to train teachers and increase self-efficacy. For example, lesson study, a mastery experience, has gained attention among American researchers in recent years. Japanese schools have been effectively using this method of engaging teachers in their own PD and find it to be
effective and valuable to teacher learning (Fernandez, 2002; Puchner & Taylor, 2006; Tolle, 2010). Lesson study can be a mastery experience because teachers are actively engaged in experiences in which they experience success. Another PD format is book study, a vicarious experience and verbal persuasion that engages teachers in learning (Burbank et al., 2010; Tschannen-Moran & Johnson, 2011). It is a vicarious experience because teachers read about what others have successfully accomplished, while being verbally persuaded that they can do the same. Finally, peer observation, also known as teacher-driven observation, is a note-worthy type of vicarious experience (Grimm et al., 2014). Peer observation allows teachers to not only observe their peers engaging in instructional activities, but also to have the opportunity to discuss and analyze this information so it can be applied in their own instruction. Lesson study, book study, and peer observation engage teachers in specific content, while requiring that they actively participate and reflect, a few of the features of research-based practices (Bayar, 2014; Birman et al., 2000; Darling-Hammond et al., 2017; Garet et al., 2001; Guskey & Yoon, 2009).

Consequently, when teachers study specific content related to their area of instruction, and can actively engage in PD activities and reflect, they create meaning and can synthesize the knowledge they gain. Therefore, when teachers participate in meaningful PD, training, and learning that include the sources of self-efficacy and research-based PD practices, their belief in their work will increase and so will student achievement. This study will seek to explore the impact of PD on teacher efficacy while engaging in participatory and reflective PD approaches such as lesson study, book study, and peer observation.
Context of the Action Research Problem

The proposed action research took place in a rural public-school district in a mid-Atlantic state. It contained five elementary schools, two middle schools, and one high school, educating approximately 5,400 students. The study occurred among teachers in several of the schools at both the elementary and middle school levels. Understanding the context of the school district and history of typical PD in the district was necessary to addressing the issues of PD that exist there.

Information related to the organization. The school district was in a small, rural community. All eight schools were currently fully accredited according to state standards and in the past three years, reading proficiency and math proficiency were both at 81%. Attendance rates indicate that 94% of students attended school more than 10% of the school year. Student membership was 80.1% White, 6.8% Black, 6.8% two or more races, and 5.3% Hispanic. Teachers with advanced degrees consisted of 55% holding master’s degrees and 1% holding Doctoral degrees. This data was pulled from the study’s state education website.

Support personnel. The school district employed four instructional specialists allotted for elementary math, secondary math, elementary and secondary language arts, and special education. District central office employees with additional roles supervised science, social studies, gifted education, and the English Learners population. These specialists supervised curriculum and provided PD for all teachers in the specified content areas. Instructional specialists and other central office personnel provided much of the training for the district.
Professional development. Typically, district PD consisted of one week in August in which teachers attended content-related training for the school year. These were required sessions including all teachers of similar content, grade level, or level of teaching (elementary or secondary). Generally, they were centered around the following topics: district curriculum guides, assessments, and expectations for the upcoming school year. Sometimes content experts outside of the school district were invited to present sessions to teachers, but for the most part, central office staff and district content specialists provided this training. There was little teacher choice or input considered, although some of these sessions may have included breakout sessions and group discussions. In most of these trainings teachers were required to attend, and everyone received the same training and PD sessions. New information was included, but teacher expertise and needs varied. After the August training occurred, teachers often requested follow-up activities and discussions about the information disseminated. There were no other universal days dedicated for district training due to scheduling and availability of time, so other PD conducted during the school year was done at the school level or with the instructional specialists who traveled to different schools to conduct training.

District professional development was regularly evaluated and reviewed in order to collect information about teacher learning. Recent informal surveys and PD feedback forms provided evidence regarding current PD practices. For example, one survey indicated that there were some prominent issues and concerns that teachers cited about their learning. Some of these problems included too much content included in PD, PD was not relevant to teacher needs, and teachers lacked choices regarding their own learning.
Another teacher survey listed top issues of one-size fits all PD, relevance to teacher needs, lack of follow-up and support, and expectations for implementation. In this same survey, teachers had to rank ten PD formats according to their appeal. The top choices included meeting in person with teachers, school grade level meetings, individualized support and help, modeled demonstration lessons, and peer observations. Teacher comments also provided insight into district PD. Some of these comments included: “Give teachers useful information and resources,” “All teachers should feel supported in their practice,” “The goal of PD is to improve and increase student growth and improvement,” and “Provide meaningful and focused learning for teachers.” These feedback forms and surveys were taken into consideration and valued when planning future PD and providing support for teachers.

**Information related to the intended stakeholders.** Teachers in grades Kindergarten through eighth grade were included in this study. These teachers frequently desired professional development of various formats, were interested in learning more about specific content topics, and asked instructional specialists for support. They volunteered to be a part of this PD intervention, which addressed different skills and content areas. Of these educators, their content areas included language arts, social studies, math, and science. The kindergarten through second-grade teachers taught all subject areas in self-contained classes, and Grades 3-8 were departmentalized. Stakeholders also included teachers of students with disabilities and reading specialists.

District teachers were required to attend district PD. Although important and necessary for implementing curriculum throughout the school year, it did not address individual teacher needs and interests. During the year, teachers had opportunities to read
books, attend conferences, and engage in school training. They met with central office specialists and as departments and grade levels. Other training included webinars, faculty meetings, and continuing education courses at universities. Most of these opportunities were one-time events. Books were placed on bookshelves, notes were tucked away in files, and excitement during good PD receded as daily expectations were realized. There was no structure in place to provide follow up or sustained focused PD learning. Even when teachers were interested in their learning and wanted to improve their instruction, they needed support for their efforts in sustaining initiatives and trying in the classroom what they learned from books, conferences, and training (Darling-Hammond et al., 2017).

This action research study attempted to provide effective PD for teachers in the context of their classrooms. The past decade in education has emphasized new state standards, assessments and progress monitoring, and closing achievement gaps of student subgroups. As student success continues to be the goal of educators, they benefitted from PD that included research-based practices, and experiences that increased self-efficacy. Since their participation in this study and professional development was voluntary and several options were presented, it considered teacher choice and needs of teachers to improve their instruction.

Results from the study were beneficial to teachers, central office, and support personnel, and school administrators. Information gained was used to improve PD practices for all teachers, making their efforts to improve instruction worthwhile and effective. Teachers also gained insight about how to make meaning out of their own learning, and to use this information to make decisions about their teaching practices.
Valuable time and funding are spent in teacher training. Therefore, it is critical that it is effective and useful.

**Theoretical Framework**

This study was designed to examine the implementation of specific professional development components and their impact on teacher learning and self-efficacy. It sought to improve PD by implementing research-based practices and analyzing teacher’s perceptions of their PD so that effective features and formats of PD can be implemented into future PD sessions. Additionally, these learning practices were embedded within PD formats that provided opportunities to experience Bandura’s (1977) four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. Teachers engaged in a choice of lesson study, book study, or peer observation while receiving support with their learning.

The study was best addressed through a constructivist worldview, focusing on understanding varied and multiple participant meanings and the generation of a theory (Creswell, 2014). The researcher looked for the complexity of views and relied on the participants’ views of the PD intervention being studied. Questions were broad and general, so participants could construct their own meaning, and the researcher focused on listening carefully to what teachers said and did throughout the study.

The constructivist approach also allowed the researcher to consider the specific context of each situation, and to generate a theory as meanings were conveyed and explored while using qualitative approaches to obtain data. Multiple sources of data were obtained and analyzed for similar categories and themes. The constructivist worldview,
while utilizing qualitative measures, supported the research questions and purpose of this study.

**Action Research Questions**

This qualitative study sought to combine research-based professional development practices with sources of self-efficacy. The study addressed two guiding research questions.

1. Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD?
2. What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?

**Action Research Model**

The action research model followed for this study was Mertler’s (2017) model of four stages: planning, acting, developing, and reflecting. Since the goal of action research is to address an identified problem of practice, this model incorporated a plan within the cycle of action research. The planning stage included identifying the topic, gathering information, reviewing literature, and developing the research plan. The acting stage involved collecting and analyzing data. Developing an action plan was part of the developing stage, and the reflecting stage focused on sharing and communicating results and reflecting on the process of action research. These steps ensured that the research questions were answered using an action research model. Both the researcher and participants engaged in this action research cycle.
During this study, teachers aligned research-based practices with what takes place in the classroom. They connected theory to practice by experimenting with instructional strategies and choosing interventions that would benefit and improve their experiences. This was a two-way process. As teachers learned about theories, they also used data to make decisions which guided their instruction and ideas about the learned theories. Additionally, teachers improved their educational practice through reflections of their experiences, as they gained new knowledge and made meaning of this knowledge when they implemented interventions in their classrooms.

The action research model for this study was intended to benefit the participants as well as the researcher. They studied their own practice as they engaged in action research. This was important because action research connects theory to practice, aligns with reflective teaching, improves educational practice, empowers teachers, and results in professional growth. While the researcher was conducting action research to improve professional development practices, teachers were also investigating their individual problems and choosing interventions to improve their instruction. Action research is also cyclical. The outcomes of one cycle informed the work of the next. This was intended to be ongoing and valuable to the work of teachers. Figure 2 demonstrates this cycle and the action research plan used for this study.
Figure 2. The ongoing, cyclical process of action research. Adapted from "Action Research: Improving Schools and Empowering Educators," by C. Mertler, 2017, p. 38. Copyright 2017 by SAGE. Reprinted with permission.

**Brief Description of the Intervention**

The focus of this study was the perceptions of educators while they were participating in specific PD designed to include research-based practices. These learning practices included active participation in the PD, opportunities to reflect throughout the PD, expert support, sustained duration, and content-based information pertinent to teachers’ classroom instruction. Teachers engaged in a choice of lesson study, book study, or peer observation while receiving support with their learning. This intervention included six tasks and steps.

Teachers chose their format of PD based on a problem they determined using suggested data. Data collected provided evidence that a problem existed which needed to
be addressed in order to improve instruction. The researcher supported teachers in learning about ways to solve the problem and choose an intervention and learned knowledge was applied to instruction. After a problem was discovered and realized, the teachers learned about relevant research regarding lesson study, book study, and peer observation. The PD activity that most effectively matched the problem was implemented and practiced by all participants. Finally, the PD activity included self-evaluation and reflection about the entire process of teacher learning. This process of PD embedded several best practices of learning, including content-based learning contained in a book, active participation of teachers in book study and online offerings, sustained duration throughout the school year as the book and learning strategies were discussed, and expert support from the instructional specialist who assisted in decision-making. Table 1 demonstrates the action research process for all teachers to determine their PD choice.

### Table 1

*Teacher Tasks to Determine Professional Development Activity*

<table>
<thead>
<tr>
<th>Step</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Make a list of possible problems to explore</td>
</tr>
<tr>
<td>2</td>
<td>Collect data and evidence related to possible problem</td>
</tr>
<tr>
<td>3</td>
<td>Choose one problem to address and set a goal</td>
</tr>
<tr>
<td>4</td>
<td>Learn about relevant literature and PD choices</td>
</tr>
<tr>
<td>5</td>
<td>Engage in PD and intervention</td>
</tr>
<tr>
<td>6</td>
<td>Self-evaluation and reflection</td>
</tr>
</tbody>
</table>

*Note. PD = professional development*

Once participants determined their problem, collected evidence of the problem, and learned about relevant literature, they chose their preferred formats of PD, which included lesson study, book study and peer observations. Table 2 describes the three PD choices and activities that took place for each PD group.
Table 2

**Professional Development Formats**

<table>
<thead>
<tr>
<th>Format of PD</th>
<th>Source of Efficacy</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Study</td>
<td>Mastery Experience</td>
<td>Process of lesson study to include lesson preparation, lesson presentation,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>discussion, and reflection</td>
</tr>
<tr>
<td>Book Study</td>
<td>Vicarious Experience</td>
<td>Read materials, discuss insights and ties to professional experience,</td>
</tr>
<tr>
<td></td>
<td>Verbal Persuasion</td>
<td>implications for teaching and reflection, Webinars as applicable</td>
</tr>
<tr>
<td>Peer Observation</td>
<td>Vicarious Experience</td>
<td>Identify a question, observation, discussion, reflection, and application</td>
</tr>
</tbody>
</table>

*Note.* PD = professional development

**Definitions of Terms**

*Action research*- a professional development tool that can promote necessary active involvement, reflection, and development of problem-solving skills that results in change (Cabaroglu, 2014)

*Active learning*- learning that engages teachers directly in designing and trying teaching strategies that are connected to their classrooms and instruction (Darling-Hammond et al., 2017)

*Book study*- a way to read professional books which includes discussion of materials read and studied

*Content-based*- a focus on teaching strategies that are associated with specific curriculum content and supportive of teachers’ classroom contexts (Darling-Hammond et al., 2017)
Emotional arousal - a source of efficacy in which excitement, enthusiasm, and enhancing one’s well-being can increase efficacy (Hoy & Miskel, 2013)

Expert support - the sharing of expertise about content and evidence-based practices, focusing on individual teacher needs (Darling-Hammond et al., 2017)

Lesson study - a professional development activity in which teachers study the teaching and learning of a particular concept in depth (Tolle, 2010)

Mastery experience - a source of efficacy in which the participant models and experiences success through performance exposure and self-instructed performance (Bandura, 1977)

Peer observation - an activity in which teachers observe peers, while asking specific questions, collecting data, and discussing the data after the observation

Professional development - an activity intended to train educators to improve student performance in schools (Desimone, 2009)

Reflection - built-in time for teachers to think about, receive input on, and make changes to their practice so they can thoughtfully move towards expert visions of practice (Darling-Hammond et al., 2017)

Sustained duration - to provide adequate time for teachers to learn, practice, implement, and reflect upon new strategies to facilitate change in their practices (Darling-Hammond et al., 2017)

Teacher self-efficacy - A cognitive process in which one constructs beliefs about his/her ability to perform at a given level of attainment (Bandura, 1977)

Verbal persuasion - a source of efficacy in which people are led through suggestion to believe that they can be successful (Bandura, 1977)
Vicarious experience- a source of efficacy in which seeing others perform generates expectations in observers that they, too, can improve and perform in the same manner (Bandura, 1977)
CHAPTER 2
REVIEW OF RELATED LITERATURE

The purpose of this literature review is to investigate research about professional development and self-efficacy. It addresses why teacher training is important, current problems associated with PD, and practices of effective PD. Along with these research-based practices, this study focuses on how these features can be embedded in PD through activities such as lesson study, book study, and peer observation. This chapter also provides a framework of how effective professional development impacts self-efficacy. This includes information about the benefits of self-efficacy, the four sources of self-efficacy, and how context and PD play a role in individual self-efficacy. Furthermore, this literature review connects how the concepts of professional development and self-efficacy can impact teacher quality and student achievement.

Self-efficacy in the Context of Teacher Practice and Classrooms

Understanding the constructs of self-efficacy and its impact on teacher performance. Self-efficacy makes an impact on teacher performance and results in better classroom instruction, motivation, and student achievement (Goddard, 2001; Goddard et al., 2000; Hoy & Miskel, 2013; Kleinsasser, 2014; Puchner & Taylor, 2006; Tschannen-Moran & Woolfolk Hoy, 2001; Yoo, 2016). Research has generated many definitions of this construct, which most often originated from Bandura’s (1977) seminal work describing
self-efficacy as “the conviction that one can successfully execute the behavior required to produce the outcomes” (p. 193). Other variations and definitions related to teacher self-efficacy include:

- One’s judgement of his or her own ability to engage in certain action to achieve a certain type of performance (Puchner & Taylor, 2006)
- Individual beliefs of one’s capability to carry out an action successfully (Klassen & Chiu, 2010)
- One’s capability to organize and execute actions to produce certain results (Cabaroglu, 2014)
- Teachers’ beliefs in their abilities to influence student outcomes (Wheatley, 2002)
- Teachers’ ability to judge their own capabilities to bring about desired outcomes of student engagement and learning (Tschannen-Moran & Woolfolk Hoy, 2001)
- Teachers’ perceived capability to influence student behavior with all students, even unmotivated and challenging students (Tschannen-Moran & McMaster, 2009)
- The belief of one’s capabilities to bring about desired student effects, even with difficult and hard to teach students (Kleinsasser, 2014)
- The teacher’s belief in his or her ability to organize and execute action required to successfully accomplish a teaching task in a particular context (Hoy & Miskel, 2013).
Outcome expectations and efficacy expectations as a factor in determining self-
efficacy. Self-efficacy can depend on two distinct factors, outcome expectations and
efficacy expectations. Outcome expectations are expectations that one’s actions will
produce a certain outcome, and efficacy expectations are the convictions that one can
successfully produce the behavior needed to reach that desired outcome (Bandura, 1977).
Hence, individuals can believe that their actions will produce an outcome, but they must
also believe that they have the capability to produce those actions. In addition,
effects of efficacy can determine whether coping behavior will be accessed, how
much effort will be initiated, and how long that effort will prevail in the context of
obstacles and difficulty. Self-efficacy can therefore affect choice of activities and
settings, initiation of coping efforts, sustainability in times of difficulty, and willingness
to engage in threatening situations.

Efficacy expectations precede and help form outcome expectations. As these
expectations form, individuals ask themselves, “Do I have the capability to organize and
execute my actions to be successful at a certain task at a certain level?” The outcome
expectation question then becomes, “If I accomplish the task at the desired level, what are
expectations vary on several dimensions that impact performance and behaviors. These
include magnitude of difficulty, generality of efficacy beliefs, and strength of one’s
expectations (Bandura, 1977). These definitions contribute an understanding and context
as to why efficacy is important and beneficial for teachers. Hoy and Miskel (2013)
summarize efficacy as “an important motivational factor that influences a number of
behavioral and performance outcomes. Self-efficacy is learned through a variety of
experiences and is dynamic; it can change over time as new information and experiences are acquired” (p. 162).

**The influence of school and classroom context on teacher self-efficacy.** Context also impacts one’s sense of efficacy (Bandura, 1977; Hoy & Miskel, 2013; Tschannen-Moran & Johnson, 2011; Wheatley, 2002; Yoo, 2016). It is important to consider when evaluating efficacy, and in considering the four sources of efficacy teachers can experience. Teachers will judge their personal competence based on their perceptions of their abilities and based on the teaching task (Tschannen-Moran & Johnson, 2011). For example, a reading teacher might feel high efficacy teaching comprehension strategies, but lower efficacy teaching fractions. In the context of teaching, self-efficacy can also be influenced by years of experience and availability of resources.

Other contextual issues that impact efficacy include: particular classes and groups of students, subject matter being taught, climate and culture of schools, school levels, behavior and leadership of administrators, strong academic press, teacher input on decisions, teacher experience, school discipline efforts, and collective efficacy of schools (Hoy & Miskel, 2013; Tschannen-Moran et al., 1998). Since context impacts teacher efficacy, teachers do not feel an equal sense of efficacy in all situations. Certain students in specific settings also impact levels of teacher efficacy (Hoy & Miskel, 2013).

**Benefits of efficacy.** A growing body of evidence support’s Bandura’s (1977) theory that teacher self-efficacy impacts behavior in the classroom and efforts to promote instructional change (Hoy & Miskel, 2013; Klassen et al., 2009; Tschannen-Moran et al., 1998; Yoo, 2016). When teachers have a high sense of efficacy, both teacher behaviors and student achievement are affected.
Impact of self-efficacy on teacher behaviors. Self-efficacy has a positive impact on teacher behaviors (Hoy & Miskel, 2013; Puchner & Taylor, 2006; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & Johnson, 2011; Tschannen-Moran & McMaster, 2009; Tschannen-Moran et al., 1998; Wheatley, 2002; Yoo, 2016). It is related to the effort teachers invest in teaching, the goals they set, their persistence when things are difficult, and resilience in times of setbacks. Teachers with high efficacy believe they can control student achievement and motivation, and they are less critical of students (Tschannen-Moran & McMaster, 2009). They work longer with struggling students and refer less students to Special Education (Tschannen-Moran & Woolfolk Hoy, 2001). They also stay in the teaching profession longer, are open to new ideas, are willing to experiment with new methods, and they are better planners and organizers (Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran et al., 1998). These educators have greater enthusiasm and greater commitment to teaching, and they use more hands-on methods for teaching and reform-oriented strategies for teaching (Klassen et al., 2009; Wheatley, 2001). They choose problem-solving strategies to deal with difficult situations, use effective classroom management strategies, have less fear and anxiety, and experience positive emotions (Cabaroglu, 2014; Hoy & Miskel, 2013). Teacher efficacy impacts decision-making, communication of high expectations to students, and the development of trusting relationships with students (Puchner & Taylor, 2016).

Impact of teacher efficacy on student achievement. When teachers have a sense of their own self-efficacy, students also benefit from those teachers’ classroom instruction and behaviors (Goddard, 2001; Kennedy, 2009; Puchner & Taylor, 2006;
Tschannen-Moran & McMaster, 2009; Yoo, 2016). Goddard and colleagues (2000) found that teacher efficacy was positively associated with student achievement in both reading and math. Student outcomes can include an increase in students’ self-efficacy beliefs, and an increase in student engagement, motivation, and achievement (Cabaroglu, 2014; Tschannen-Moran & Woolfolk Hoy, 2001; Tschannen-Moran & McMaster, 2009).

Students also demonstrate more engagement in their activities and benefit from extra attention provided by teachers (Yoo, 2016). Their teachers set higher goals for them and view struggling students positively (Puchner & Taylor, 2006). Students who develop self-efficacy set their own goals and purposes for learning, persist in challenging tasks, and are confident (Kennedy, 2009).

**Four sources of efficacy.** There are four major sources that can impact expectations of personal efficacy, which include mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977).

**Mastery experiences.** Mastery experiences, also known as performance accomplishments, are the most influential factors in influencing efficacy (Bandura 1977; Hoy & Miskel, 2013; Tschannen-Moran & McMaster, 2009; Tschannen-Moran et al., 1998). This is because when one experiences success in performing a task, he or she is more likely to repeat that experience and, in the process, believe the task can be performed successfully to achieve desired effects. As a result, the impact of possible failure decreases, and effort will strengthen motivation and willingness to try new things. This is especially true when success is experienced early in learning with few setbacks (Tschannen-Moran & McMaster, 2009). Recurring success also means that gradual
accomplishments build skills, increase coping abilities, and provide exposure needed for improving task performance (Hoy & Miskel, 2013).

Mastery experiences include actual teaching accomplishments with students, in which teachers witness improvement in student performance as a result of their teaching (Tschannen-Moran & Johnson, 2011). They provide authentic evidence if one can do what it takes to succeed in particular situations and give teachers opportunities to apply new knowledge learned in their training and professional development in their classroom settings (Tschannen-Moran & McMaster, 2009). As teachers engage in mastery experience, their previous successes lead them to believe that future experiences will yield similar outcomes, resulting in an increase in their self-efficacy and belief in their capabilities.

Vicarious experiences. Bandura (1977) states that mastery experiences are not the sole source of information that impacts efficacy. Seeing others perform successfully also generates expectations in observers that they, too, can perform the same tasks (Bandura, 1977; Hoy & Miskel, 2013; Tschannen-Moran & McMaster, 2009). This includes watching others perform threatening activities without failure, and then persisting and improving efforts of their own behaviors and performance. Observers are able to convince themselves that they can achieve improvement as well.

Vicarious experiences are most successful in promoting efficacy when they include modeled behavior with clear outcomes. This includes providing a standard that helps the observer set goals. For example, lesson study, videos and observations are effective formats of vicarious experiences that result in teachers desiring to try new things in their own classrooms after observing successful experiences (Tschannen-Moran
& McMaster, 2009). Vicarious experiences through modeling also result in providing knowledge to observers by watching an expert complete tasks and realizing they can manage similar tasks in different situations, and observers judge their own capabilities by comparing themselves to others. If others watch someone do something, they can convince themselves that they can do it too. Observing others is also beneficial and makes a stronger impact on efficacy when one has limited experiences, and when the observer identifies with the model (Hoy & Miskel, 2013; Tschannen-Moran et al., 1998). It is important that teachers seek models that are competent so knowledge can be gained by observers and observers can learn new skills and strategies (Tschannen-Moran & McMaster, 2009).

**Verbal persuasion.** Verbal persuasion is the act of leading people to believe, through suggestion, that they can overcome successfully what has overwhelmed them in the past (Bandura, 1977). It is widely used due to its simplicity, ease, and availability. Verbal persuasion serves to strengthen individuals’ beliefs that they have the capability to achieve a desired level of performance. It can boost confidence and the willingness to develop skills and create change. This occurs when others express faith in one’s abilities rather than doubts (Reeves, 2018; Tschannen-Moran & McMaster, 2009).

This is a less effective source of efficacy because it does not include teacher input or an authentic experience that can be transferred to any context and has little long-term effect unless it is included with other sources of efficacy (Bandura, 1977; Hoy & Miskel, 2013; Tschannen-Moran & McMaster, 2009; Tschannen-Moran et al., 1998). However, persuading teachers they can do something can contribute to increased efforts in performance and belief in their capabilities, and when coupled with other sources of
efficacy, can provide teachers with the encouragement they need to improve their teaching skills (Bandura, 1977; Tschannen-Moran & McMaster, 2009).

Teachers are engaged in verbal persuasion activities through the presentation of new skills and persuasion that these skills are useful. It can also include interactive and specific feedback from supervisors which contributes to teachers improving their skills (Reeves, 2018; Tschannen-Moran & McMaster, 2009). When this feedback is specific and matches the skills and strategies teachers are working on, teachers can use this information to improve their teaching skills (Tschannen-Moran et al., 1998). Verbal persuasion may be as simple as a pep talk, teacher talk in a workroom, or social media messages about the abilities of teachers to influence students (Tschannen-Moran et al., 1998).

**Emotional arousal.** Bandura (1977) defines emotional arousal as the reliance on people’s state of physiological arousal to judge their anxiety and level of stress, and therefore, impact personal competency. It is a source of information that impacts efficacy because emotions affect behavior and actions. For example, individuals are more likely to experience success when their emotional arousal is positive rather than tense or irritated. Also, fear and anxiety about pending situations are likely to cause more fear-provoking thoughts during these situations (Bandura, 1977).

Levels of arousal also impact performance and behaviors. If an individual experiences moderate levels of arousal when facing a challenge, performance can improve by focusing one’s attention on the task at hand. However, high levels of arousal that are perceived as threats might interfere with one’s performance and abilities in the given situation (Tschannen-Moran & McMaster, 2009). In the area of professional
development, being exposed to new teaching knowledge can evoke arousal when teachers are interested in this new information. Emotional arousal can also be increased through activities such as supportive workshops and assistance from others (Tschannen-Moran & McMaster, 2009). Hoy and Miskel (2013) also state that excitement and enthusiasm can impact efficacy. Therefore, reducing stress and enhancing one’s well-being also increases self-efficacy.

Table 3 summarizes study findings on the benefits on self-efficacy. Although these findings are not directly related to teacher professional development, they are intended to provide a foundational overview for understanding self-efficacy in that the construct is important to the study.
### Summary of Study Findings of the Impact of Teacher Self-Efficacy

<table>
<thead>
<tr>
<th>Study</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| Goddard (2000)                             | • Teacher efficacy is positively associated with student achievement in both reading and math  
                                            | • Students benefit from teachers’ classroom instruction  |
| Klassen et al. (2009)                      | • Use of Teacher Sense of Self-efficacy Scale (TSES) to study the importance of efficacy  
                                            | • Self-efficacy is a valid construct across culturally diverse settings  
                                            | • Teacher self-efficacy contributes to job satisfaction in many varied settings  |
| Kleinsasser (2014)                         | • Review of 12 articles including quantitative, qualitative, and mixed methods studies  
                                            | • Teacher efficacy is multidimensional and complex  
                                            | • Efficacy is affected by context  |
| Tschannen-Moran, Woolfolk Hoy, & Hoy (1998)| • Study to bring coherence to the construct of efficacy  
                                            | • Explores measures that study efficacy  
                                            | • Research is needed so efficacy can be utilized by teachers to implement change  |
| Tschannen-Moran & Woolfolk Hoy (2001)      | • Study of self-efficacy measures  
                                            | • Research is needed to demonstrate evidence that self-efficacy is powerful and can impact preservice teachers  |
| Wheatley (2002)                            | • Exploration of the possible benefits of teacher efficacy doubts in order to evoke reform  
                                            | • Teachers need to learn to cope with their doubts to make them productive  |

### Effective Features and Concerns for PD

**Importance of PD.** Educational reform movements in the United States set high goals for student learning and these changes require professional learning for teachers. Currently, the *Every Student Succeeds Act* (ESSA) allows states and districts to incorporate professional development into school initiatives intended to improve teacher learning and PD. This can include learning about new standards for curriculum, using student data to inform instruction, improving student literacy, and creating a positive learning environment (Darling-Hammond et al., 2017). Teacher professional learning is
of increasing interest as students are expected to learn and master 21st century skills in order to be prepared for their futures (Darling-Hammond et al., 2017). Typically, reform results in more PD (Borko, 2004; Desimone, 2009). Local, state, and federal levels of education spend substantial amounts of funding on training, and state legislation and local school districts see PD as a method to improve schools, so effective professional development is important (Borko, 2004). Research has demonstrated that PD plays an important part in addressing gaps between teacher preparation and student learning (Bayar, 2014; Birman et al., 2000; Borko, 2004; Darling-Hammond et al. 2017; Desimone, 2009; King, 2017). Research also shows that effective PD positively impacts teachers, and it is necessary for both new and veteran teachers. In conclusion, because student learning and achievement are impacted by high teacher quality, PD is important and necessary to develop high-quality teachers (Bayar, 2014; Bezzina, 2006; Birman et al., 2000; Darling-Hammond et al., 2017; Garet et al., 2001; Guskey & Yoon, 2009; King, 2017; Rock & Wilson, 2005). Professional development has become a central concern in educational studies.

**Teacher impact on student learning and achievement.** Of the many factors within the control of schools, teachers have the most direct and powerful influence on student learning and achievement (Hattie, 2009; Marzano, 2003; Stronge, 2010; Stronge et al., 2008; Stronge et al., 2011). Therefore, in order to increase student achievement and improve education, teacher quality must be continuously addressed. In 2003, Marzano summarized studies in which two teachers working with similar students can achieve different results on the same assessment, demonstrating that teacher quality matters. Hattie’s (2009) meta-analysis of over 50,000 studies investigated what is currently
working in schools to improve learning. He found that the quality of teachers and their pedagogy makes the most difference on student achievement. Finally, Stronge et al. (2008) conducted a study in which effective teachers scored higher across four domains of instruction, student assessment, classroom management, and personal qualities. Additionally, effective teachers asked a greater number of higher-level questions and had fewer incidences of off-task behavior than ineffective teachers. This study identified instructional behaviors and practices of teachers that result in higher student learning gains. The impact that teachers have on students is reason to address current teacher training and its effectiveness to increase teacher quality and student learning.

Teacher perceptions of professional development experiences. Teacher perceptions of PD are often negative. One researcher examined teacher perceptions of PD after one of his own presentations was clearly ineffective (Knight, 2000). Five themes were identified which negatively impacted PD effectiveness. These included teacher conflict, impracticality of the provided information, overwhelming materials, top-down requirements to attend the training, and anxiety about change. It was found that teachers react negatively to trying new things and when encountering changes within education. As a result, there is little buy-in from teachers, they receive overwhelming amounts of information, and they do not understand the goals and purpose of most PD. Too often, presenters launch into PD with little understanding of the context and the beliefs and perceptions of teachers involved. They typically do not have time to gain an understanding of the teachers they are working with and make assumptions which are inaccurate (Knight, 2000). Better preparation and goal-setting of presenters can help to alleviate these problems which occur before training has even begun.
**Traditional PD.** Research suggests that traditional forms of PD have little impact on instruction (Bayar, 2014; Darling-Hammond et al., 2017; Grimm et al., 2014; Rock & Wilson, 2005). Teachers do not benefit from single, isolated sessions. Particularly, workshops of short duration are considered by educators as a waste of time and money, especially when they are conducted with no genuine follow-up or sustained support (Bayar, 2014; Guskey & Yoon, 2009). Typical PD experiences are passive, in which teachers are given large amounts of information but cannot apply this knowledge or share their understanding of it (Rock & Wilson, 2005). Grimm et al. (2014) stated that traditional PD fails because teachers have little say in what they learn, transferring learning to the classroom is difficult, and there is little time to practice and refine skills. Additionally, teacher experiences in previous training shapes their expectations of future experiences. They often feel their PD will be impractical with little to no follow-up, and that their time can be better spent doing other activities. Teachers do not change their practice in line with research findings due to communication gaps between presenters and educators, so PD must improve and address specific areas and skills (Bezzina, 2006).

Problems with teacher training can be improved when presenters plan intentionally, keeping the audience in mind and ensuring the effectiveness of information presented (Bezzina, 2006; Guskey, 2014; Knight, 2000).

**Features of effective PD.** Despite the many problems associated with PD and negative perceptions of teachers, there are features of training which yield positive results. The key to generating good experiences is for leaders and presenters to utilize research and gain knowledge about how teachers learn and what they need when planning PD. Research provides countless components which are effective when
Researchers agree that the most prominent effective components of PD include: a focus on content, active learning of participants, expert support, sustained duration, and expert support (Birman et al., 2000; Garet et al., 2001; Darling-Hammond et al., 2017; Desimone, 2009; Guskey & Yoon, 2009, 2014; Schipper et al., 2018. Embedding these features in PD results in changes in teacher practices and improvements in student achievement (Darling-Hammond et al., 2017). In fact, one study of a national probability sample of teachers showed that the features of PD are what mattered for changing knowledge, skills, and classroom practices. Therefore, focusing on the features of PD rather than the structure of the activities results in more effective teacher outcomes (Desimone, 2009). Becoming informed about these features can lead to improvement in professional development practices.

*Content-based learning.* Desimone (2009) opined that the content focus of teacher learning may be the most influential feature of effective PD, citing a decade of research that links content-related activities to improvements of practice, increases in teacher knowledge and skills, and increases in student achievement. Focusing on content allows teachers to learn about relevant subject matter and to study how students learn (Garet et al., 2001; Birman et al., 2000; Desimone & Pak, 2017). It aligns teaching strategies with specific curriculum content and supports teachers learning within the context of teacher classrooms (Darling-Hammond et al., 2017; Desimone & Pak, 2017). Without a focus on content, teachers do not find PD to be effective when it generalizes teaching techniques, such as lesson planning or grouping strategies (Birman et al., 2000).
An elementary school in Washington focused on a 10-year effort to reform science education. As teachers became experts on their content knowledge, they were better able to understand content standards and how students could learn those standards (Birman et al., 2000).

Another review of nine studies noted that all engaged in effective PD that included specific subject-related content along with teacher practices (Guskey & Yoon, 2009). These activities help teachers learn about both specific content and how to teach that content. Learning with a content focus helps teachers base instructional decisions on student diagnostics and learning about content with more depth increases teacher knowledge and understanding (Desimone & Pak, 2017). Therefore, it also is directly related to teachers’ reported increases in knowledge and skills (Birman et al., 2000).

Activities with a content focus can include job embedded tasks such as testing out new curriculum, studying student work, and study student learning in particular content areas. A review of 35 studies found that 31 of them featured specific content as part of the PD model (Darling-Hammond et al., 2017).

Content of PD can vary in several ways. First, content can vary according to the amount of emphasis that is placed on subject matter that teachers are expected to teach and the methods they are expected to utilize. Teaching pedagogy that can be applied to many subject areas, for example, lesson planning, is different from specific content knowledge, such as learning about how to teach a mathematical concept such as fractions. Second, PD content might be focused on changing teaching practices through the use of particular curriculum resources or strategies, such as student questioning techniques. This also is not content specific. Third, content of PD can vary in what is
expected for student learning. This can include improving student performance on math facts, or the ability to problem-solve. Finally, content can emphasize how students learn content, considering student misconceptions and teaching models. While engaging in these four types of content focus, teachers find these variations more effective when they are connected to specific content areas and how students learn (Garet et al., 2001; Guskey & Yoon, 2009). This kind of PD results in increased knowledge, improvement in practice, and increased student achievement.

Active learning. Active learning among educators gives them opportunities to interact and discuss what is being learned and practiced. It engages teachers in direct opportunities to design and try out teaching strategies and allows teachers to try the same style of learning they are trying with students (Garet et al., 2001; Darling-Hammond et al., 2017; Desimone, 2009). Teachers want to learn by doing, and they complain when having to sit down and listen to directions and lectures (Bayar, 2014). One study indicated that when teachers have appropriate time to practice educational strategies, activities become much more effective than traditional types of PD (Bayar, 2014). Active learning moves away from traditional methods of PD such as lecture and attempts to make clear connections between learning and actual practice (Darling-Hammond et al., 2017). This type of PD uses authentic resources, interactive activities, and other strategies to conduct highly contextualized PD. It can include activities such as analyzing student work, teachers observing each other, leading discussions, receiving feedback about teaching, and presenting to others (Birman et al., 2000; Desimone, 2009; Desimone & Pak, 2017; Garet et al., 2001). An example of active learning was studied in Texas, in which teachers participated in a 6-week summer course. It included activities such as
keeping journals, learning in model classrooms, videotaping lessons, providing feedback, and creating a support network throughout the school year (Birman et al., 2000). These activities support active learning within professional development.

Active learning also allows teachers to engage in sense-making. This includes activities that involve modeling innovative practices, and constructing opportunities for teachers to analyze, try new things, and reflect on new strategies. Sense-making also promotes teachers to transform their teaching by applying new strategies in their classrooms (Darling-Hammond et al., 2017).

**Sustained duration.** Duration of PD primarily means that sufficient time is given to learn, practice, implement, and reflect on new content learned from training, and this can be considered in the number of contact hours of PD and the span of time the PD is conducted (Birman et al., 2000; Darling-Hammond et al., 2017; Desimone, 2009; Garet et al., 2001). Two reasons why this is important include that longer activities are more likely to provide time for in-depth discussions, and extended activities are more likely to allow teachers to try new things and receive feedback about their teaching (Garet et al., 2001; Guskey & Yoon, 2009). Teachers consistently report that they do not have time to follow through on PD expectations and implementation of new practices (Guskey & Yoon, 2009).

Activities which are spread over longer periods of time generally are implemented more successfully and allow space for educator to try new ideas and discuss their experiences. These activities can include follow-up classroom visits, one-on-one meetings, grade-level discussions, faculty PD presentations and sharing, and analyzing student work (Desimone & Pak, 2017). For these activities to be effective, time must be
well organized, carefully structured, purposefully directed, and focused on content or pedagogy or both. Otherwise, time spent doing something ineffective longer does not yield positive results (Guskey & Yoon, 2009). Research does not provide a range of specific duration, but some studies support activities spread over at least one semester and including at least 20 contact hours (Desimone, 2009). Activities of longer duration also allow for content-specific focus, more opportunities for active learning, and developing coherence with teachers’ other experiences (Bayar, 2014; Birman et al., 2000).

Reflection. Effective PD should include time for educators to think about, receive feedback on, and make changes to their practice by reflecting on their experiences. This assists teachers in moving forward as they practice new skills and learn new strategies (Darling-Hammond et al., 2017). In a recent research review, 34 of 35 studies found that PD included time for teachers to reflect on their practice. A reflection process can increase teacher confidence, give teachers time to make meaning of their learning, and support teaching practices.

Expert support. Expert support helps teachers to learn about evidence-based practices that focus on individual teacher needs. Experts also support other PD features as teachers engage in activities that require ongoing assistance and training (Darling-Hammond et al., 2017). Activities for expert support can include modeling strong instructional practices, supporting group discussion and collaboration, and sharing expertise about content and research-based practices. In a review of 35 studies, 30 of them included the practice of coaching or providing expert support (Darling-Hammond et al., 2017).
Various structures for providing expert support are evident in current research. One model involves one-on-one coaching in teachers’ classrooms. Other structures can include facilitating group workshops and acting as remote mentors using technology to communicate with educators. Experts might include individuals with varying roles, such as specially trained master teachers, instructional leaders, researchers, and university faculty (Darling-Hammond et al., 2017). Recent literature shows that coaching support and other expert scaffolding helps teachers to implement new curriculum, provides feedback to teachers after observation, and assists teachers during collaboration and discussions. This expert support plays a critical role in creating effective professional development.

Many of these features are already present in teacher professional development. It is the combination of these features and how they are used in training that determines if they make an impact on teacher learning. Table 4 summarizes these features and studies conducted to obtain and support these features.
Table 4

*Summary of Findings of Effective Professional Development Features*

<table>
<thead>
<tr>
<th>Study</th>
<th>Content-Based Learning</th>
<th>Active Learning</th>
<th>Sustained Duration</th>
<th>Reflection</th>
<th>Expert Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayar (2014)</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Birman et al. (2001)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darling-Hammond et al. (2017)</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Desimone (2009)</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Garet et al. (2000)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guskey &amp; Yoon (2009)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schipper et al. (2018)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Formats of effective PD.** There are PD experiences and activities that include the above effective components. Three of these are lesson study, book study, and peer observation. These experiences also increase teacher self-efficacy, improve teacher performance, and increase student achievement (Schipper et al., 2018). Although there are many methods and formats of PD, these three are the focus of this study and they will be described in the following section.

**Lesson study.** Lesson study is a systematic inquiry model of teacher professional development used extensively in Japan and has captured interest in the American educational community to enhance teacher learning (Fernandez, 2002; Puchner & Taylor, 2006; Rock & Wilson, 2005; Tolle, 2010). However, it is underused in American education and lacks a research base as an effective method (Rock & Wilson, 2005; Tolle, 2010). It involves a process of teachers meeting over a period to design, implement, and improve a lesson chosen and designated by teachers and promotes teaching for
understanding as well as reflection (Fernandez, 2002; Puchner & Taylor, 2006; Rock & Wilson, 2005; Tolle, 2010). Throughout lesson study, teachers study their own effectiveness through the context of lessons taught in their own classrooms. Most lesson study models follow similar steps. These can include defining and researching a problem, planning a lesson, teaching and observing the lesson, evaluation of the lesson, and sharing results (Fernandez, 2002; Puchner & Taylor, 2006; Rock & Wilson, 2005; Tolle, 2010). Tolle (2010) states that the evaluation and post reflection of the lesson provides an opportunity for rich discussion, yet it is the most neglected and least written about in America.

Lesson study contains a theoretical framework of constructivism which supports its use in teacher learning (Rock & Wilson, 2005). This theory asserts that knowledge is constructed through social interaction. This means that teachers should be engaged in activities that provoke verbal interaction and communication with other educators in their fields of study. During lesson study, teachers discuss their practice by collaborating. Second, constructivism states that knowledge is also obtained when adapting one’s experiences. During lesson study, teachers must confront problems that motivate them to seek solutions within their environments. Finally, constructivism also relates knowledge to mental processing in a specific environment. For teachers, this means that during lesson study they will reflect on their experience to create meaning and evaluate their understanding.

Three effective features of PD are prevalent within lesson study: content focus, active learning, and reflection. (Desimone, 2009; Rock & Wilson, 2005). Lesson study also implies a period of sustained duration since a lesson is planned, taught, evaluated,
and information can be used to improve further instruction and lessons. One study in North Carolina resulted in teacher stimulation and growth, an increase in professional confidence, recognized value in collaboration, a relation between professional literature and practice, and a belief in improving their own teaching abilities (Rock & Wilson, 2005). Another study in the Netherlands demonstrated an increase in teacher self-efficacy when implementing lesson study as a form of PD, as well as an improvement in effective teaching behaviors. Lesson study was also found to contribute to teacher feelings of competence to teach all students (Schipper et al., 2018). Other benefits of lesson study include professional development that is set in the context of schools, teachers focus on improving just one lesson, improvement happens gradually over longer periods of time as teachers think and collaborate, and teachers learn through inquiry (Puchner & Taylor, 2006).

Lesson study is described as powerful in Japan because it is a sanctioned and supported activity, it is prevalent in all schools to learn through inquiry, it is enriched through outside expert support, and information gained is shared among many educators (Fernandez, 2002). Although there is much potential for professional growth using a lesson study model for teacher learning in America, Fernandez (2002) also states the following challenges that must be overcome: scheduling limitations, lack of curriculum and content knowledge, overcoming fears of public teaching and being observed, finding ways to find common ground for joint lesson planning, posing researchable questions and problems, and overcoming gaps in curricular knowledge and skills in order to plan effective lessons. More research is needed in the area of lesson study as it applies to the
context of American education for it to be a successful and effective activity for teachers to improve their classroom instruction.

**Book study.** As more books are published that interest educators, leaders and administrators should consider how to assist teachers in using these books to improve their skills and knowledge. Many schools read books as a form of PD, and books can be a positive source of learning when book studies include effective features of PD. Book study is receiving increased attention to engage teachers in meaningful PD (Burbank et al., 2010). They provide teachers with opportunities to examine their beliefs and knowledge through reading about other viewpoints and perspectives. Finally, book study can be used to introduce new ideas into schools while encouraging teachers to claim ownership of their ideas and discuss these ideas with others (Burbank et al., 2010; Donohue, VanTassel, & Patterson, 1996; Hoerr, 2009).

Reader response theory is the basis for a successful approach to reading and studying books (Burbank et al., 2010). In this theory, the interactions between reader and text create experiences that focus on the reader’s personal and authentic understanding of the text. Therefore, book studies should emphasize and embrace teachers’ personal responses to books, allow for choice in readings so a personal response can be elicited, and focus on the content of the book. The goal then also becomes to acquire new skills and knowledge based on specific content.

Similar structures of book study include: Identifying a topic and choosing a book, providing an overview of the book, engaging in formal and informal discussions of the text read using guiding questions, presenting and sharing information and ideas, and finding meaning of the book and applying it to instruction in classrooms (Burbank et al.,
As schools design and promote book study, the following components should also be in place: book studies should be voluntary, teachers need to have input when choosing books, and teachers should facilitate discussions and dialogue (Hoerr, 2009).

Book study can include several features of effective PD. Book studies must occur for a prolonged period, ensuring sustained duration in which teachers have time to learn about new ideas. Book study is content specific, focusing on content areas of interest to teachers. It also allows for time for reflection. One study found that when teachers engaged in book study at their school, they experienced benefits of engaging in meaningful dialogue, time for authentic reflection, choice of text to read, differentiation of experiences among learners, and opportunities to problem solve (Burbank et al., 2010).

**Peer observation.** Peer observation is the process of engaging teachers in a process of observing peers and gathering data related to the context of a classroom (Flom, 2014; Grimm et al., 2014; Israel, 2018). Peer observation serves to benefit both the observer and the teacher being observed. However, Flom (2014) stated that simply having teachers visit other classrooms does not fully utilize the benefits of peer observation. Both observer and teacher should learn from the data collected and the questions posed before the lesson is observed. Benefits of peer observation include opportunities to engage in reflective dialogue about teacher practice, focused classroom support, improvement of classroom practices, and support from colleagues (Israel, 2018).

Various structures can be followed to implement peer observation. One protocol involves a process of overview, observation, discussion, reflection, and application (Israel, 2018). This process works best when the observation expectations are clear, and
participants understand the process that will be followed. Questions created should provoke inquiry and problem-solving, and promote deeper understanding of classroom issues (Flom, 2014). While being observed, teachers may want to improve instruction on a specific content topic or collect data on student engagement. Data collection can include processes of counting, tracking, or scripting (Grimm et al., 2014).

Peer observation embeds several features of effective PD. Since teachers are observing and teaching, they are involved in active learning while they learn. Also, because teachers choose focus questions and data to be collected, they are involved in content-based learning. Finally, as teachers discuss and analyze data, they reflect on their experiences and use information to inform their future practice and improve instruction.

**Shortcomings Associated with PD**

**Reasons why teacher training falls short.** Even with an abundance of research addressing PD and a clear connection between teacher improvement and student achievement, educator training is less than effective and traditional PD practices are currently criticized as lacking efficiency in addressing specific teaching skills, wasting resources, using up valuable time, and lacking relevance to teacher needs and skills (Bayar, 2014; Borko, 2004; Guskey, 2014; Knight, 2000; Schipper et al., 2018).

Educators also state that PD lacks continuity and the ability to impact change in teacher practice and student learning, resulting in decreased teacher confidence and a feeling of unpreparedness (Rock & Wilson, 2005; Schipper et al., 2018). Guskey (2017) stated that the primary purpose of professional learning is to help students learn, and that if our own professional learning does not help us in helping students learn better, then it should not be considered effective.
Lack of planning for teacher training. Implementation of PD by presenters and leaders is often planned without clear goals and purpose, and schools conduct PD while not knowing exactly what they want to accomplish (Guskey, 2014). Without specific goals to drive teacher learning, planners and leaders rely on consultants and publishers who often are more concerned with selling a product rather than what is effective in improving student learning. When these companies provide dynamic presentations and attractive materials, school leaders will often choose this type of PD, which uses up valuable resources and funds on activities that do not come with solid evidence or research supporting their products’ effectiveness (Guskey, 2014).

Training that lacks planning, cohesiveness, and direction is destined to be ineffective, and is a factor which contributes to the problems of PD. Once implemented, training is fragmented and superficial. It does not get into issues or skills deeply and does not consider teacher expertise (Borko, 2004; Guskey, 2014). Additionally, leaders often plan for the process of PD, and not the desired results. They focus on the activities and not the purpose of the activities (Guskey, 2014).

Research also acknowledges the importance of planning when presenters are preparing for PD. Part of this planning includes asking essential questions before conducting PD, which helps leaders reflect on their own assumptions (Abilock, Harada, & Fontichiaro, 2013). Other suggestions to consider when planning presentations include allowing teacher choice and direction in PD, conducting pre-workshop interviews with teachers to improve the culture of training, and addressing teacher goals, barriers, concerns, and interests to authentically respond to teacher issues (Knight, 2000). These steps are frequently minimized or disregarded when planning for PD.
Lack of research that supports the construct and structure of training. Some school leaders claim that research fails to provide useful guidelines for effective PD practices and that studies have failed to provide enough evidence about research-based practices (Guskey, 2014). Literature regarding effective professional learning indicates that there are many factors at play when planning, conducting, and evaluating the effectiveness of PD. The fact that there is substantial research on the subject, yet teachers continue to view PD with negative perceptions and feelings implies that there is still much to learn. Education appears to lack evidence that PD creates improved instruction that improves student learning. Mixed study results imply that research has failed to offer guidelines of best practices for PD, and studies yield disappointing results (Guskey, 2014).

Researchers agree more studies are needed that apply effective components of PD to various contexts, while addressing various school needs and teacher skills. Using a framework when conducting research can ensure that studies produce results which are useful for practitioners and leaders. One reason to use such a framework is to agree on common elements utilized in PD. These elements can then be used to move research forward and to generate a foundation for answering research questions. Measuring these features is a way to address the multiple forms and ways PD is presented to teachers in various forms and contexts. A framework can also suggest a sequence of events to follow as PD is studied and evaluated. Finally, frameworks can evaluate the effectiveness of PD and make connection between theories and study results (Desimone, 2009). A common conceptual framework can evaluate PD research and understanding of how to develop teacher learning opportunities. It assists in recognizing a critical set of
features to study and establishes an operational theory of how PD affects teacher outcomes. Educators often hesitate to evaluate professional learning because they believe they do not have the skills or knowledge to evaluate a PD process (Guskey, 2017). For decades, studies of professional development have consisted mainly of recording teacher satisfaction, attitude changes in teachers, or commitment to PD rather than just results or impact of training on teachers. One possible framework for studying PD utilizes the following concepts: teachers experience effective training, PD increases teacher knowledge in a specific content area, teachers use this knowledge to improve instruction, and instructional changes increase student learning (Desimone, 2009).

Research plays an important role in implementing effective professional development. Current literature suggests that valuable knowledge has been gained by studying PD. However, there is much to learn, and it is critical for those planning, implementing, and evaluating PD to understand its importance and impact on high-quality teaching. Reading and learning about why teacher training is important, current problems associated with PD, components of effective PD, and why research is needed which studies and evaluates current methods of teacher training will support and assist those who are trying to improve their own professional development practice.

**PD and Its Potential Impact on Teacher Self-efficacy**

One extensive research study states “if we are serious about using professional development as a mechanism to improve teaching, we need to invest in activities that have the characteristics that research shows foster improvements in teaching” (Garet et al., 2001, p. 937). These characteristics include active participation and learning, sustained duration of PD activities, content-based learning, expert support, and reflection.
(Darling-Hammond et al., 2017). In addition, these characteristics align with the types of activities that build self-efficacy in teachers. Effective teacher training and professional development can improve teacher self-efficacy, which has been shown to result in better classroom instruction, motivation, and student achievement (Cabaroglu, 2014; Cantrell & Hughes, 2008; Kennedy, 2009; Puchner & Taylor, 2006; Tschannen-Moran & McMaster, 2009; Yoo, 2016).

Several studies explored professional development formats and their impact on self-efficacy. Tschannen-Moran and McMaster (2009) implemented four types of PD for teacher participants. These formats included: a lecture workshop (verbal persuasion), a workshop plus modeling (verbal persuasion and vicarious experience), a workshop plus modeling plus practice (verbal persuasion, vicarious experience, and master experience), and a workshop plus modeling plus practice plus coaching (verbal persuasion, vicarious experience, master experience, and follow-up coaching). The quasi-experimental study found that a mastery experience with follow-up coaching had the strongest effect on teacher efficacy. This study also supports findings of effective characteristics of PD. Mastery experiences allow teachers to actively participate and learn, and in this study, teachers learned about reading strategies, so it was content-based, and follow-up coaching allowed for sustained duration and expert support after the PD occurred. This study demonstrated that effective features of PD when embedded in activities that include the four sources of efficacy, impact teacher efficacy.

Another study embedded the four sources of efficacy within an online learning module PD (Yoo, 2016). The online module included: mastery experience (teachers practicing strategies in their classrooms), vicarious experience (observation of
colleagues), verbal persuasion (feedback provided during practicing), and emotional arousal (management of stress and anxiety during the PD process). The authors found that teacher efficacy increased after the online PD module. As in the first study, this PD included effective features of PD, including active learning, sustained duration, and reflection.

Other researchers focused on a particular format of PD and its impact on teacher efficacy. Puchner and Taylor (2004) and Schipper et al. (2018) explored lesson study. After following specific steps of the lesson study process, both studies found that the benefits of lesson study included PD set in the relevant context of teacher classrooms, teachers focusing on improving classroom instruction, and teachers having the opportunity to collaborate and reflect on their teaching practices. One group of teachers found that through their planning and work during the lesson study process can have an impact on student engagement in the classroom (Puchner & Taylor, 2004). Another group of teachers demonstrated an increase in efficacy in the areas of student engagement, classroom management, and instructional behavior (Schipper et al., 2018). The process of lesson study deliberately includes PD features of active learning, content-based learning, reflection, and sustained duration. Both studies resulted in increases in teacher efficacy.

Additional studies found positive results in their research. Tschannen-Moran and Johnson (2011) measured efficacy of literacy teachers when engaging in book study, a vicarious experience. The researchers state that “the studies that have been done provide promising evidence that self-efficacy beliefs matter in the realm of literacy instruction” (p. 752). This study found that ongoing professional development is important to effectiveness of teacher instruction (sustained duration), and that participation in book
clubs (verbal persuasion and vicarious experience) can contribute to increased efficacy. In these book studies, participants met on a regular basis to read and discuss books. This format of PD included the PD features of reflection, content-based learning, and sustained duration. Another study found that action research as a process for PD increases self-efficacy because it promotes reflection and problem-solving and engages teachers in active learning that results in change (Cabaroglu, 2014). Hagevik, Aydeniz, and Rowell (2012), also found that action research engaged teachers in reflective, active learning that increased their teaching knowledge and skills. Action research engages teachers in the four sources of efficacy while they participate in effective PD of their own choosing. An additional study of a yearlong professional development format with coaching in middle schools found that teacher efficacy increased when expert support was provided to teachers over a sustained period (Cantrell & Hughes, 2008). Finally, Kennedy (2009) found that effective PD increased student motivation, engagement, and self-efficacy. Professional development that increases teacher efficacy can also result in an increase in student efficacy and achievement.

As noted in this section of the review of literature, research studies provide evidence that professional development can effectively include sources of efficacy and characteristics of effective PD. The focus of Table 5 is intended to provide a succinct overview of key findings that describe the relationship between teacher self-efficacy and professional development.
Table 5

Summary of Findings of Effective Professional Development that Impact Self-Efficacy

<table>
<thead>
<tr>
<th>Study</th>
<th>Key Findings</th>
</tr>
</thead>
</table>
| Cabaroglu (2014)             | • Mixed methods research design to explore the impact of action research on efficacy beliefs  
                                  • Participants experience growth in efficacy, including increases in self-awareness, improved problem-solving skills, and autonomous learning                                                                        |
| Cantrell & Hughes (2008)    | • Studied the effects of year-long PD on efficacy for teaching literacy  
                                  • Results indicated significant improvement in efficacy for literacy teaching                                                                                                                                     |
| Kennedy (2009)               | • Two-year mixed methods study in junior high school based on impact of PD on efficacy  
                                  • Efficacy increased in students due to instructional methods and practices and PD provided to teachers                                                                                                 |
| Puchner & Taylor (2006)      | • Case study about impact of lesson study with two groups of teachers on efficacy  
                                  • Results indicated positive outcomes of increased efficacy when teachers engaged in lesson study with minimal external support                                                                                       |
| Schipper et al. (2018)       | • Quasi-experimental mixed methods study about the impact of lesson study on self-efficacy  
                                  • Results found that lesson study as a PD format contributed to efficacy and feelings of competency to teach all students.                                                                                      |
| Tschannen-Moran & Johnson (2011) | • Study exploring efficacy beliefs and impact on instruction  
                                   • PD contributes to the development of efficacy                                                                                                                                                    |
| Tschannen-Moran & McMaster (2009) | • The professional format of mastery experiences with follow-up coaching had a strong impact on efficacy  
                                   • Verbal persuasion, vicarious experiences, and mastery experiences alone had modest gains in self-efficacy  
                                   • Indications that providing teachers with support in one content area may transfer to an increase in general efficacy  
                                   • The process of influencing efficacy through PD is not straightforward                                                                                                                                 |
| Yoo (2016)                   | Study examining the effect of online learning on teacher self-efficacy  
                                  Teacher efficacy increased as a result of the online PD experience                                                                                                                                       |

Note. PD = professional development

Summary

Recent research and that of past decades supports the construct that effective professional development has the potential to impact teacher self-efficacy, which then
results in high teacher quality, improved instruction, and an increase in student efficacy and achievement. In order to make that impact, studies provide evidence that specific features of PD are effective and teacher training must consider and include them. These features include active learning, sustained duration, content-based learning, expert support, and reflection. In order to increase teacher efficacy, these features can be embedded in PD formats that support the four sources of efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. Three professional development models that support both effective PD features and sources of efficacy are lesson study (mastery experience), book study (vicarious experience and verbal persuasion), and peer observation (vicarious experience). As the effectiveness of training becomes a necessity in order to prepare teachers for the kind of education that students need for their futures, training also increases efficacy in which both teachers and students benefit, resulting in higher teacher quality and an increase in student learning and achievement.
CHAPTER 3

METHODS

This study sought to explore teachers’ perceptions of the impact of PD on teacher efficacy while engaging in participatory and reflective professional development approaches such as lesson study, book study, and peer observation. It used an action research approach with a qualitative design to determine if these approaches assisted teachers in developing their instructional skills while influencing their self-efficacy. This chapter explains the research design for this study, the role of the researcher, a description of the participants, the data sources and collection process, and how the data were analyzed. A rationale for choosing action research is provided, as well as additional information about the intervention. The study addressed the following research questions:

1. Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD?

2. What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?

Rationale for Choosing Action Research

The action research model followed for this study was Mertler’s (2017) model of four stages: planning, acting, developing, and reflecting. This is a process which can improve education by incorporating change, it involves educators collaborating to
improve practice, and it includes stakeholders as active participants. Its practicality and relevance to classroom teachers makes it a valuable and critical way to analyze and test specific constructs within a real-world environment. Action research embeds the following design structures which align with this study (Mertler, 2017):

- Alignment with reflective teaching and practice
- Connection of theory to practice
- Improvement of educational practice
- Empowerment of teachers
- Professional growth

Throughout this study, teachers aligned research-based practices with what actually takes place in the classroom. They connected theory to practice by experimenting with instructional strategies and choosing interventions that would benefit and improve their experiences. This was a two-way process. As teachers learned about theories, they also used data to make decisions which guided their instruction and ideas about the learned theories. Additionally, teachers improved their educational practice through reflections of their experiences, and they gained new knowledge and made meaning of this knowledge when they implemented interventions in their classrooms. This study and the research design allowed educators to take risks, to include their own expertise and knowledge in the interventions they implement, and to lead their own learning in a practical manner. Furthermore, when these design structures took place through the action research model, teachers engaged in professional development that improved teacher problem-solving skills, and attitudes towards professional development and change (Mertler, 2017).
Precursors to Action Research Intervention

Professional development occurs throughout the year in this school district. PD for the school year included discussions about instruction, content, and areas for improvement. PD took place among individual teachers, grade levels, whole schools, and within departments. Many of the teachers in this intervention were reading professional books. In recent years, experts have written numerous professional books that interest teachers. These books offer teachers practical information that is research-based, and in formats that are easy to use and understand. To accompany these books, publishers provide access to podcasts, study guides, Webinars, and live feeds in social media. The combination of books with resources such as these help teachers understand what they read so they can apply the knowledge in their instruction and make meaning of what they learn. Additionally, universities are starting to invite these authors to conferences so teachers can experience their expertise firsthand while reading their books and implementing strategies in the classroom. Therefore, planners and implementers of professional development need to be aware of these offerings and how they support educators.

For example, some elementary teachers were studying two books by Jennifer Serravallo (2015, 2018). These include *The Reading Strategies Book* and *Understanding Texts and Readers*. These two books address reading comprehension and explore strategies for teaching students specific reading strategies, choosing appropriate books for students, and understanding developmental reading skills of various reading levels. While studying both books, teachers watched three webinars conducted by the publisher for *The Reading Strategies Book*. The books were studied and discussed within a Google Team.
Drive, giving teachers opportunities to share ideas and thoughts. While teachers were reading the books and engaging in online discussions, they could potentially identify a problem they wanted to address in their classrooms using data they had collected. For example: My students do not understand character traits as demonstrated in their low test scores on our last comprehension test and in my observations of student responses during small group reading. I would like to watch another teacher implementing a strategy from our books on character traits. This teacher could choose to engage in a peer observation of a colleague.

Teachers in this study were reading other books as well and used the books to implement a strategy, based on problems they defined. While reading the book is a format of PD when following the book study protocol, they also had to apply something they learned in their classroom instruction if the professional book was used for the action research intervention.

**Description of the Action Research Intervention**

Teachers volunteered to take part in this PD intervention. Each PD option (lesson study, book study, and peer observation) offered a targeted experience, and teachers engaged in individual learning as they determined their problems and interventions. After teachers chose their problem and PD activity, they received a timeline and list of activities. Teachers received training to learn specific information about their tasks and the activities of their interventions. The following is a description of the action research intervention. The design and purpose of it was to take advantage of professional resources while engaging in ongoing PD practices so that teachers could actively
participate, reflect, study content specific topics, and benefit from sustained duration of the PD with support and follow up.

Teachers were invited to volunteer to engage in the process of action research with the researcher in order to learn and improve their instructional practices. They chose a problem they believed exists in the classroom. They collected data as evidence that the problems existed, then chose either lesson study, book study, or peer observation to learn more about solving their problems and improving instruction in their classrooms. They followed a timeline and were provided with guidelines and options for their PD choices.

**PD options.** Inherent in the three PD activities were the elements of research-based practices. They all included the opportunity for active engagement with strategies that can be used in the classroom. They were based on content specific knowledge that teachers wanted to learn about, and therefore, teacher choice was also an important part of their PD. Although many teachers were reading books about reading comprehension, language arts instructional time, and other topics, and these were critical topics of educational research and discussion, they were not the focus of this study; student performance in these areas was not measured. Rather, the effectiveness of a specific learning experience, consisting of one of three research-based formats of PD was analyzed and measured. All teachers in this study engaged in one of the following three PD experiences.

**Lesson study.** Lesson study is a professional development process that brings teachers together to study the teaching of a concept (Tolle, 2010). Teachers who chose this experience followed the same protocol to assure consistency in its execution and so that accurate interpretations could be made about the effectiveness of the experience.
They followed a process of lesson preparation, lesson presentation, and post lesson discussion. After collecting data to determine a problem, teachers worked individually or with other teachers to plan a lesson that addressed an instructional objective and concept. They chose lesson plan templates they were familiar with and which followed the guidelines and components their schools required. The lessons were observed, and data collected and analyzed to see whether students learned. If a teacher was working on a lesson study individually, the lesson was recorded, and the researcher also observed the lesson and collected data. After the lesson presentation, the lesson was discussed with the presenting teacher to explore what went well and what did not go well during the lesson. Teachers discussed a set of predetermined questions to guide these discussions. These questions and the lesson study protocol are listed in Appendix A. Teachers used this information to improve and adjust future instruction.

**Book study.** Teachers engaging in book study collected data or evidence to determine a problem they wanted to address through studying a book. All teachers reading books were expected to implement something from their books in their classroom instruction. The book study experience contained the following components: Teachers voluntarily engaged in book study, they facilitated the discussion through Google Team Drives and/or discussions at schools, and they used the information to find meaning (Hoerr, 2009). Guiding questions for book study depended on the content of the books being read. However, a protocol and guiding questions for book study are provided in Appendix B.

**Peer observation.** Peer observation is an approach to PD that empowers teachers in gathering and analyzing classroom data (Grimm et al., 2014). Teachers who chose this
PD experience observed other teachers during classroom instruction. They collected data to determine a problem they wanted to solve in their classrooms. Then they will choose a teacher to observe, to gain information about classroom instruction. Teachers engaged in peer observation followed a protocol which included: overview of the observation with a focus for the observation, a short observation sequence, discussion after the observation, reflection, and application. This protocol is provided in Appendix C.

Teachers were offered these three PD choices. In order to ensure that each choice had at least four teacher participants, they listed their choices by preference. These experiences took place when it was appropriate for each teacher in their schools. Table 6 summarizes the three PD options.

Table 6

Professional Development Choices for Educators

<table>
<thead>
<tr>
<th>Format of PD</th>
<th>Teacher Tasks</th>
<th>Researcher Tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson Study</td>
<td>Lesson preparation, lesson presentation, discussion, and reflection</td>
<td>Inform teachers, support planning, observe lesson and provide reflection questions</td>
</tr>
<tr>
<td>Book Study</td>
<td>Read materials, discuss insights, ties to professional experience, implications for teaching, reflection; Webinars as applicable</td>
<td>Set up Team Drive, Provide questions to provoke thoughtful reflection, Provide access to Webinars</td>
</tr>
<tr>
<td>Peer Observation</td>
<td>Identify a question, observation, discussion, reflection, application</td>
<td>Support and inform teachers, participate in observation, provide guidelines for discussion</td>
</tr>
</tbody>
</table>

*Note. PD = professional development*
Participants

This study took place among three schools within the same school district. It included two elementary schools and one middle school. These schools were selected based on an interest of teachers desiring to increase their instructional knowledge and improve teaching performance. Administrators of these schools were contacted so that permission could be obtained before conducting the study. The researcher explained the phases of the study, teacher tasks, and researcher tasks to the general population of teachers at each school. After this initial invitation, a pool of teachers who volunteered to take part in the PD opportunity were included as participants in the study. This participation was voluntary.

These educators worked at three different schools. Table 7 describes their grade levels, content experience, and years of experience as educators. Participants’ choice of PD took place as they engaged in the phases of the study, chose a problem to learn about, and selected either lesson study, book study, or peer observation as their PD choice. Novice teachers are considered as teaching for 0-5 years, experienced teachers have taught for 6-10 years, and veteran teachers have taught for over 10 years.
Table 7

*Teacher Participants*

<table>
<thead>
<tr>
<th>Teacher</th>
<th>School</th>
<th>PD Choice&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Grade/Content</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>1/all content areas</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>1/all content areas</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>3/Language Arts</td>
<td></td>
<td>Experienced</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>3/Language Arts</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
<td>2/all content areas</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>F</td>
<td>2</td>
<td>2/all content areas</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>G</td>
<td>2</td>
<td>2/all content areas</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>H</td>
<td>2</td>
<td>3/Language Arts</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>I</td>
<td>2</td>
<td>4/Language Arts</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>J</td>
<td>2</td>
<td>5/Language Arts</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>K</td>
<td>3</td>
<td>6/Math Special Education</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>L</td>
<td>3</td>
<td>6/Language Arts</td>
<td></td>
<td>Novice</td>
</tr>
<tr>
<td>M</td>
<td>3</td>
<td>6/Special Education</td>
<td></td>
<td>Veteran</td>
</tr>
<tr>
<td>N</td>
<td>3</td>
<td>8/Language Arts</td>
<td></td>
<td>Novice</td>
</tr>
</tbody>
</table>

*Note.* PD = professional development
<sup>a</sup>Participants chose from lesson study, book study, or peer observation.

**Data Sources and Data Collection**

Qualitative measures were used to collect data to answer the research questions. This included teacher journals, field notes, individual interviews, and a focus group. These data allowed the researcher to analyze teacher perceptions of the professional development intervention and self-efficacy following the intervention. Triangulation of multiple sources of data are critical in an action research study and enhances the validity of the findings (Mertler, 2017). Several sources of data were used in this study so data interpretations could be integrated, and independent measures could be compared for agreement or contradiction between the data sources.

**Teacher journals.** All participating teachers were asked to keep a personal journal. A teacher journal is defined as a journal kept by practitioners that provides them
with the ongoing opportunity to maintain narrative accounts of their experiences and reflections (Mertler, 2017). They were provided with guidelines for their reflections, thoughts, and ideas throughout this PD and action research process. The teacher journal also allowed teachers to have a private place to record feelings and interpretations related to the experiences and the research process.

**Field notes journal.** As a researcher and participant in this study, I kept a field notes journal during the research process. Mertler (2017) defines field notes as written observations of what the researcher sees during meetings and other activities. This included my notes, reflections, and changes that occur during the study. It also contained notes about conversations, emails, and discussions with teachers about what we did and why we did it. The field journal also captured modifications due to unexpected circumstances such as schedule changes due to weather or teacher availability. It was used to compare interview and focus group findings with journal notes to recognize if teacher perceptions matched what the researcher observed and recorded during phases of the study, and to account for unexpected issues that arose which could be explained in the findings and implications. Due to my role in this district, within the field notes journal I also kept an account for any bias I encountered as an invested stakeholder in this action research study. This process of memoing allowed me to express thoughts and reflections that needed to be included in the limitations of the study regarding my positionality of my role as researcher.

**Interviews.** Semi-structured individual interviews were conducted at the conclusion of the professional development to gather information about teacher perceptions of their PD and the influence of this PD on their self-efficacy. The semi-
structured design of the interview questions provided consistency and alignment of the questions with the focus group questions, so the data could be compared and analyzed. This also allowed for flexibility in follow-up questions if needed. Each individual interview was recorded and transcribed for analysis. Questions were designed to reveal teacher perceptions regarding the impact of their PD experiences and the influence of this PD on their self-efficacy. Prior to the study, the questions were reviewed by a group of four instructional specialists for feedback in clarity and validity. Revisions were made to the questions following this feedback. Sample questions included: Do you feel your PD experience was effective? and How do you feel about your participation in your PD this year? The interview questions can be found in Appendix D.

Focus group. At the end of the teacher PD experiences and following the individual interviews, a focus group meeting was conducted so all 12 teachers could discuss their ideas and reflections regarding their PD. A focus group is a simultaneous interview of people making up a small group (Mertler, 2017). This was a semi-structured meeting with guiding questions, and norms were discussed beforehand so all participants could share their thoughts. The semi-structured design of the focus group questions provided consistency and alignment of the questions with the interview questions, so the data could be compared and analyzed. This also allowed for flexibility in follow-up questions if needed. The focus group meeting was recorded and transcribed for analysis. These questions were designed to reveal teacher perceptions regarding the impact of their PD experiences and the influence of this PD on their self-efficacy. Prior to the study, the questions were reviewed by a group of four instructional specialists for feedback in clarity and validity. Revisions were made to the questions following this feedback.
Sample questions included: How do you feel about the process of PD you experienced? and What was challenging about this process of PD? The focus group questions can be found in Appendix E, and a table of specifications for both the interview questions and focus group questions can be found in Appendix F.

The findings of both the individual interviews and the focus group meeting were compared to identify similar themes and categories using a coding process. Participant answers from both the interviews and the focus group meeting should match and align. Data were also used to look for conflicting ideas. While the individual interviews focused on teacher perceptions of effective professional development, the focus group meeting emphasized the process of the PD cycle, and they were both used to answer both research questions. Both data sources could potentially produce similar findings by asking varied questions within two different formats.

**Data Analysis**

The data sources used in this study were analyzed through inductive analysis and used to make interpretations about the effectiveness of the action research intervention. The inductive process included Creswell’s (2014) six steps of data analysis. Step 3 involved an 8-step procedure for coding data. These six steps are listed in Figure 3 and included several tasks to validate the accuracy of the information. Step 1 was to organize and prepare the data for analysis. It was necessary to go through the text by hand using a coding scheme. Step 2 included an initial reading of all data. This provided a sense of the information and an opportunity to reflect on the initial meaning. I looked for general ideas and began to take notes in the margins of transcripts. In Step 3, I began coding all the data. I used eight specific steps for this process which will be described in the next
section. Codes fell into three categories: codes on topics one would expect to find, surprising and unanticipated codes, and unusual yet interesting codes (Creswell, 2014). Codes were developed based on the emerging information collected from participants.

Step 4 was to use the coding process to describe the setting and categories for analysis. I generated codes and themes that appeared as major findings of the study. This included multiple perspectives of participants, quotations, and specific and diverse evidence. Step 5 addressed how the themes and descriptions interconnected and evolved into narrative text that conveyed the findings of the study. In Step 6, I made interpretations of the findings and results. This included lessons learned, meaning derived from the data, implications of the action research findings for future practice, and recommendations for actions of reform and change. The six steps were interactive and interrelated and were revisited as needed.
Figure 3. Qualitative Data Analysis: Creswell’s (2014) six steps of data analysis begin with organizing data after the raw data are gathered. Steps are interactive and interrelated. They will allow the researcher to make sense of data to make accurate interpretations.

Coding was an important process within the inductive analysis of data. Coding is the process of organizing data in chunks and writing words that represent specific categories in the margins (Creswell, 2014). I intended to use NVivo to code interviews and the focus group meeting discussion for insights, trends, and patterns specific to the themes of teacher perceptions of their professional development experiences and self-efficacy. Coding the data included eight typical steps (Creswell, 2014).

- Step 1: Read all transcripts to get a feel of the information and make a few initial notes.
• Step 2: Pick one document, asking the question, “What is this about?” Write thoughts in the margins and look for underlying meaning.

• Step 3: Repeat Step 2 for several documents. Then make a list of all topics, while clustering them into similar topics. Form the topics into columns as major, unique, and leftover.

• Step 4: Take the list and go back to the data. Abbreviate the topics as codes and write the codes next to appropriate places in the text. Look for any new codes and categories that emerge.

• Step 5: Find descriptive wording for the topics and turn them into categories. Then group the topics that relate to each other and find connections and interrelations.

• Step 6: Make final decisions on the abbreviation for each category and alphabetize the codes.

• Step 7: Assemble all the data belonging to each category in place and begin to analyze the data.

• Step 8: If needed, recode the data.

Use of data analysis steps and a coding process were part of the inductive reasoning that were used to answer the action research questions. Table 8 summarizes the research study questions, data sources, and how data will be analyzed.

**Action research question 1.** Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD? As I analyzed data from both the interviews and the focus group meeting using computer software and a coding scheme, I looked for similar themes and patterns that demonstrated features that teachers
found valuable and effective to their personal learning. I compared these to the teacher journals and my own field notes to explore alignment of these sources of data and their common categories. In order to conduct this comparison, I looked for similar and varying words based on the coding themes and categories. I analyzed if interview and focus group meeting responses matched what was recorded in teacher journals and my own field notes journal. I noted inconsistencies and variations in the emerging themes. Ultimately, to answer research question one, I interpreted the data sources to see if lesson study, book study, and peer observation were effective PD formats and why or why not, and to determine if effective features of PD were included in these formats, such as active learning, content-based learning, sustained duration, expert support, and reflection. Evidence of teacher perceptions included direct quotes and excerpts from all sources of data to support my interpretations. I wanted to know which of these features teachers found valuable and effective in improving their knowledge in classroom instruction practices.

**Action research question 2.** What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured? As I analyzed data from both the interviews and the focus group meeting, I looked for similar themes and patterns that indicated teachers had a belief in their capabilities as effective educators in their classrooms. I compared these to the teacher journals and my own field notes to explore alignment of these sources of data and their common categories. In order to conduct this comparison, I looked for similar and varying words based on the coding themes and categories. I analyzed if interview and focus group meeting responses matched what was recorded in teacher journals and my
own field notes journal. I noted inconsistencies and variations in the emerging themes. Since this study did not measure a change in self-efficacy due to PD, it focused on teacher perceptions of their self-efficacy in one point in time. I looked for indicators of the four sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal, being present as both effective PD activities and sources of self-efficacy.

Table 8

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Data Sources</th>
<th>Data Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD?</td>
<td>Individual interviews with 12 teachers</td>
<td>Inductive analysis of individual interviews using a coding scheme to find insights, patterns, themes, and trends of teacher perceptions of their PD.</td>
</tr>
<tr>
<td></td>
<td>Focus group meeting to include 12 teachers</td>
<td>Inductive analysis of focus group meeting using the coding process to find patterns, themes, insights, and trends of the process of the action research as PD.</td>
</tr>
<tr>
<td></td>
<td>Teacher journals</td>
<td>Teacher analysis of journals</td>
</tr>
<tr>
<td></td>
<td>Field Notes</td>
<td>Inductive analysis of field notes</td>
</tr>
<tr>
<td>2. What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?</td>
<td>Individual interviews with 12 teachers</td>
<td>Inductive analysis of individual interviews using a coding scheme to find insights, patterns, themes, and trends of teacher perceptions of their own self-efficacy.</td>
</tr>
<tr>
<td></td>
<td>Focus group meeting to include 12 teachers</td>
<td>Inductive analysis of focus group meeting using the coding process of the process leading to self-efficacy.</td>
</tr>
<tr>
<td></td>
<td>Teacher journals</td>
<td>Teacher analysis of journals</td>
</tr>
<tr>
<td></td>
<td>Field Notes</td>
<td>Inductive analysis of field notes</td>
</tr>
</tbody>
</table>

*Note. PD = professional development*
Role of the Researcher

As an instructional specialist in the district, my role was unique in that I worked with teachers on a regular basis. This included the areas of professional development and learning, so it was not unusual for educators to view me in the role of facilitator and participant of teacher learning. I had established relationships with many of these teachers and maintained professional relations with all of them, and I visited their schools and classrooms regularly. I often observed instruction and held meetings and discussions with teachers about how to improve instruction.

Since I acted as a participant in this study, I played the role of a participant as observer. I observed and took notes on what was observed while interacting with teachers as a trusted colleague. This allowed me to learn about the actions of teachers within each group, notice patterns of behavior, and to observe first-hand the impacts of the intervention. I maintained objectivity and limited my biases by keeping journal documents. My journal included all field notes and meeting minutes, in which I recorded my factual observations of what occurred in meetings and during my interactions with participants. Within this journal I also included my memoing notes, in which I could record any biased thoughts and reactions towards participants and their activities during this study. I included the potential for bias as a researcher and participant in the limitations portion of my findings section.

Timeline

Professional development groups were provided specific timelines of activities which applied to their study or focus. Table 9 explains the time period in which similar activities took place for all groups, and the timeline for each phase of this study.
Table 9

Study Timeline

<table>
<thead>
<tr>
<th>Dates</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 2019</td>
<td>Teachers provided with timelines for activities and introduced the purpose, goal, and focus of the action research cycle and teacher tasks</td>
</tr>
<tr>
<td>February 2019</td>
<td>All teachers consider a problem and gather data and evidence that a problem exists</td>
</tr>
<tr>
<td>March 2019</td>
<td>Training with researcher to learn about the three choices of learning experiences, Teachers compare their problems with their choices and choose a PD experience with researcher support</td>
</tr>
<tr>
<td>March-April 2019</td>
<td>Teachers implement PD activity and reflect on results</td>
</tr>
<tr>
<td>March-April 2019</td>
<td>Individual interviews with all teachers with completion and implementation of PD experience</td>
</tr>
<tr>
<td>May 2019</td>
<td>Focus group meeting with all teachers</td>
</tr>
<tr>
<td>June-July 2019</td>
<td>Data analysis, findings, and conclusions</td>
</tr>
</tbody>
</table>

*Note.* PD = professional development

Delimitations, Limitations, Assumptions

**Delimitations.** In this study, teachers were given choices and allowed to pick their own experiences within the scope of the action research study. While this approach may have limited the scope of information that can be obtained, choice is cited in research as a way for teachers to engage in content-based learning that meets teacher needs. For example, if all of the participants chose to do a book study, then it could not be compared with lesson study or peer observation. Therefore, teachers listed their preferred first, second, and third choices to ensure that each PD format had four teachers so data could be obtained. Teachers did not all get their first choice. Also, teachers chose various problems to address and study, so these components were not be compared. More
importantly, the similar processes and experiences of PD were the focus of this study, as well as exploring the common features of PD that teachers find most valuable. Portions of the study were designed to be determined by teachers and could have impacted the timeline, PD experiences, and data collected during the study. Finally, while teachers chose their PD experience, they could only choose from the three selected choices of lesson study, book study, or peer observations. Other options were not acceptable due to the focus of the study research questions.

**Limitations.** The data sources used in this study could have lended themselves to participant and researcher bias. Interviews and focus group interviews provided indirect information that was filtered and possibly biased through the view of the participant. The researcher’s role and presence also may have provoked bias responses, and not all participants were equally articulate and perceptive. Triangulation of the data sources and comparison of participant responses addressed potential bias of these qualitative data sources. Additionally, due to the nature of action research, the findings obtained in this study were not designed to be generalized in all contexts and educational settings. This is not the goal of the study and readers should take caution in attempting to apply the findings in other settings.

**Assumptions.** The data sources used in this study assumed that participants were honest and fair in their journals, interviews, and focus group responses. Action research methodology tends to control for this bias in that the results impacted all teachers, so honesty would benefit both participants and the researcher in informing future decisions and ultimately, future district PD experiences.
Ethical Considerations

Positionality. Due to my role in the school district of the study, positionality had to be addressed. Much of my professional role with teachers included conducting professional development, and I have engaged in various types of experiences in the past few years with teachers, administrators, and other district faculty. Since these experiences were both positive and negative as I learned how to be an effective facilitator, I had to be sure to acknowledge my own perceptions of past teacher training and engage in this study with a blank slate. Furthermore, my personal values impacted my view of PD and teacher training. While it was my desire for all of the PD experiences to be successful and valuable to teachers, I needed to be certain to interpret all data accurately so the implications and recommendations of this study could inform and improve future practices of PD in the school district. I used memoing to mitigate bias and check myself for this reason.

Accuracy, credibility, dependability. Additionally, when collecting qualitative data, it is important for the researcher to ensure the quality of the data (Mertler, 2017). Particularly, researchers must be concerned with the trustworthiness of their data so it will be considered valid and reliable. I addressed this issue using several validity strategies (Creswell, 2014). These included triangulation of data, member checking, purposeful time in the field, and consistent methods for notetaking (Creswell, 2014; Mertler, 2017).

Triangulation. Using four data sources enhanced the validity of the study findings and allowed for triangulation of data. Interviews, the focus group meeting, and teacher journals compared teacher data to see if teacher perceptions agreed with each
other or contradictions existed. The researcher journal was also used to confirm or contradict what teachers reported when compared to what was observed during PD meetings and activities. Within all four data sources, themes were compared, and the researcher sought coherence and similarity among the data sources.

**Member checking.** To convey accurate data, individual participants were given the opportunity to review the accuracy of transcripts, recorded meeting notes, and drafts of the data report. Descriptions of common themes were shared with participants to see if they felt these descriptions were accurate and parts of the completed product gave participants the opportunity to review findings.

**Time in the field.** The researcher ensured that abundant time was spent in the field during all phases of the study. This time was important to the study when I provided expert support as teachers engaged in the steps of their PD process, answering questions along the way and providing research about the problems being studied, and strategies being practiced in classrooms. My observations during time spent with teachers also contributed to the collection of data and findings. I could also further build trust with all participants, which contributed to their honest and fair responses during the interviews and focus group meeting at the conclusion of the study.

**Notetaking methods.** While recording information in the field notes document, I made my notes as accurate as possible by noting factual events as they occurred and using my memoing journal to account for my own bias so that did not impact data findings and interpretations. It was also important for me to record initial interpretations and assumptions that may have been critical later in the study. I was also able to integrate my preliminary thoughts and address positionality with my actual journal notes, known
as reflexivity (Mertler, 207). Finally, consistent and accurate notetaking methods allowed me to provide rich and detailed descriptions to convey the findings of the study, the setting and context of the study, and themes discovered in the data analysis. These procedures added to the validity of the study.

Institutional Review Board. Following the approval of the study proposal, this study was submitted and approved by the College of William & Mary’s Institutional Review Board (IRB). The researcher previously completed the IRB training course and obtained a certificate for the Collaborative Institutional Training Initiative (CITI Program). This approval included an informed consent form for participants in the interviews and focus group meeting. It protected human subjects and their responses in all data sources. Consent and approval were also obtained from the school district. Once both the IRB and school district approve the study, it moved forward.
CHAPTER 4

FINDINGS

The purpose of this qualitative study was to combine research-based professional development practices with sources of self-efficacy and examine teacher perceptions of this learning. Additionally, the impact of this professional development on teacher perceptions of self-efficacy were analyzed. The formats of PD presented included lesson study, peer observation, and book study. These PD options embedded the features of active learning, content focus, expert support, sustained duration, and opportunities for reflection. Other features of professional learning that teachers perceived to be effective arose from the data analysis, as well as practices that are ineffective by educators. The PD activities also provided teachers with the opportunity to engage in the four sources of self-efficacy through mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. Chapter 3 described the methodology of this study, in which interviews, focus group meetings, teacher journals, and a researcher journal were coded and used as data to answer the research questions.

Findings in this chapter will include data regarding the participants’ cycle of action research, teacher perceptions of PD formats and features, and teacher perceptions of the impact of the PD on teacher self-efficacy. The study addressed two guiding research questions.
1. Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD?

2. What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?

Data sources used to answer the research questions included semi-structured interviews, focus group meetings, teacher journals, and a researcher field journal. The analysis of these qualitative data included six steps of inductive data analysis and an 8-step procedure for coding data (Creswell, 2014). This process involved organizing the data, an initial reading of the data, coding data using an 8-step process, using codes to describe categories for analysis, evolving data into narrative text, and making interpretations based on findings and results.

My first task was to transcribe the data that were recorded at all individual interviews and two focus group meetings. Transcribing allowed me to listen to teacher comments again and reflect on their thoughts, as well as ensure that accurate comments were recorded for analysis.

The coding process began when I read all the transcripts for an initial reading. I took notes in margins and looked for underlying meaning. Then I made a list of topics, clustering them into smaller topics as appropriate and forming them into major, unique, and leftover. I took the list and went back to the transcripts to abbreviate the topics as codes and note these codes within the text. After noting codes in all the text, I found descriptive wording for topics, grouped topics together, assembled data and began to analyze data.
In the first cycle of coding, I paid attention to words and phrases used by the participants and I noted what I believed to be the meaning of these expressions. This led to patterns that fit into categories and emerging themes. I repeated this process several times to make sure all categories were recognized and to see if others emerged. What I noticed in the first cycle of coding was the “what” of how teachers perceived their activities. In the second cycle of coding I noticed the “why” behind many of the codes and was able to conceptualize themes regarding how teachers feel about what they learn, what they find effective and why, and how their learning can impact beliefs about their abilities to teach.

**Adjustments to the Study**

Due to limitations of the study timeline, some adjustments were made to the pool of teacher participants by both the researcher and participants. Four of the teachers previously signed up for the study were engaged in other activities and did not have time to participate, and the researcher felt it was more feasible to work within three schools to ensure consistent involvement at each site. This adjusted sample provided for participants from a variety of grade levels, content areas, and ranges of teacher experience. Eight of the 12 teachers were the same volunteers who were listed in the study proposal. I do not believe that this adjustment impacted study results, as it was important to have appropriate participants in place within the timeframe of the study who were available and willing to take part in the action research process and PD activities.

Twelve teachers from three schools—one middle school and two elementary schools—were engaged in the professional learning and data were collected from all 12 educators. These participants volunteered to be part of the study and consent was
obtained to record and transcribe the individual interviews and focus group meetings.

They met consistently with the researcher individually and within small groups. Table 10 summarizes the revised participant list of teachers involved in this study.

Table 10

<table>
<thead>
<tr>
<th>Revised Teacher Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
</tr>
<tr>
<td>A</td>
</tr>
<tr>
<td>B</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>D</td>
</tr>
<tr>
<td>E</td>
</tr>
<tr>
<td>F</td>
</tr>
<tr>
<td>G</td>
</tr>
<tr>
<td>H-</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>J</td>
</tr>
<tr>
<td>K</td>
</tr>
<tr>
<td>L</td>
</tr>
</tbody>
</table>

*Note.* PD = professional development

*Participants chose from lesson study, book study, or peer observation.*

**Action Research Question #1**

*Do teachers perceive lesson study, peer observations, and/or book study as effective forms of PD?*

Findings indicated that teachers did perceive lesson study, peer observations, and book study as effective forms of PD. Evidence coded from the interviews, focus group meetings, teacher journals, and the researcher field notes journal suggests that there are several factors that contributed to these results. The analysis will be discussed in the findings for research question one and include the process of action research as part of the professional development process, teacher perceptions of PD features, and teacher
perceptions of the PD activities. A combination of these components was discussed by teachers as resulting in professional learning they found valuable, useful, and effective.

**Semi-structured interview questions.** Semi-structured interview questions, which were based on features and formats of PD, sought to describe teacher feelings about their PD experiences, similarities between the study PD and previous experiences, what contributes to effective PD, ways to learn about new initiatives, participation in this PD, addressing needs for classroom instruction, and features of PD. They were based on research-based practices of professional development (Birman et al., 2000; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Fernandez, 2002; Garet et al., 2001; Guskey & Yoon, 2009).

**Semi-structured interview responses regarding the PD experience.** Questions one, two, and three addressed PD regarding feelings about the experience, differences from other PD, and what makes PD effective. Themes emerged within these questions regarding ongoing, sustained duration of PD that is not a one-time experience, and 10 of 12 teachers reported that they enjoyed the experience and felt that the PD was positive. All 12 teachers stated the experience was helpful and useful, and that they gained knowledge relevant to their classrooms.

- “I actually found it to be one of the most useful PDs I’ve had. One of my biggest comments with all of this has been its utility and usefulness.”
- “I’ve enjoyed it and I feel like it has been helpful for me. I feel like it has encompassed everything.”
**Impact of ongoing PD.** Ten out of 12 teachers liked that it was not just a one-time event but that the PD experience was ongoing. A theme emerged regarding the time teachers need and desire in order to learn new things.

- “It was not just a one-day thing...We got to try things out and then later talk about it.”
- “I like PD that is not a one and done thing, but that you followed up with me personally.”
- “I liked being able to do things at my own pace and I could try things in small chunks.”
- “I liked that we met a few times during the year instead of just teaching it and then you’re done.”
- “It was a continual process throughout the school year, and I like that format better.”
- “I really appreciated that I could think about this throughout the year.”
- “Usually we never come back to being able to reflect on how it worked.”

**Semi-structured interview responses regarding learning about new content and PD features.** Questions 4 and 7 addressed perceptions regarding the best ways to learn about new content and features of PD that were present in the PD activities. Teachers varied in their responses to these questions and mentioned features of PD as well as the formats they engaged in during their PD experiences. The features include active learning, content focus, expert support, sustained duration, and an opportunity for reflection. PD features were also coded and analyzed in the focus group questions and teacher journals.
Using combinations of research-based practices in PD activities engages teachers in their learning. All 12 teachers acknowledged that they recognized one or more research-based practices in their PD but provided more details about their perceptions of these features in their teacher journals and reflections. They all felt like their chosen PD was a good way to learn about new content. Some of their comments about PD features in the interview included:

- “I believe I was actively learning because I was held accountable and having to go into Google to answer questions helped me stay active in this PD.”
- “We had expert support because we had you for asking questions.”
- “I felt like we were always able to have conversations and reflect on things we had done or things we wanted to try, and we were going to go about doing that.”
- “There was opportunity for reflection because we got to talk after…about what we saw when we watched each other.”
- “It was content focused because we learned about reading comprehension.”
- “I liked that we were able to keep working on it, so that it was not a one-time thing.”

Collaboration with peers and expert support. Five out of 12 teachers commented that having meetings to talk about content and having expert support to provide feedback and guidance are good ways to learn about new things. A theme of collaboration in order to learn new things emerged as a result of coding this interview question, particularly the opportunity to talk about the work with others.
• “The best way for me to learn about something new is to have a conversation about it.”
• “We came together to talk about what we were doing, what people were learning, and what people were doing in their classrooms.
• “As a beginning teacher, I appreciate you bringing thing to us so we could talk about it and learn from it.”
• “Until we had a meeting and talked about all of this, I didn’t know how to make it work, so having a mentor to talk to was very beneficial.”
• “I was actively learning…because my favorite thing was getting to talk to people when we had those meetings. That was important for my participation.”
• “I liked that we ended up meeting more than you said we were going to…kept us participating and actively learning while we got to talk to each other.”

Semi-structured interview responses regarding participation in the PD and classroom needs. Questions 5 and 6 addressed teacher perceptions about their levels of participation in the PD activities and its usefulness in meeting classroom instruction needs. These two questions resulted in similar responses which described how participation in the chosen PD increased due to the responses teachers observed with their students. All 12 teachers stated that they fully participated in their lesson studies, book studies, and peer observations. Six teachers referred to the way they used what they learned in their instruction and considered that to be a level of participation in the PD. These questions sought to explore if teachers felt that their use of the learning within their instruction was representative of their participation in their PD activities.
• “I was able to use the information in an applicable way and I could see growth in my kids, so I really did use it.”

• “Once I started to see that the book had great things for me and that you were holding us accountable, I became much more engaged in the book study.”

• “I was very engaged in this because I was really able to use it in the classroom.”

Although the context of teacher classrooms varied, comments were common regarding interactions with students and student responses to the new strategies teachers were practicing in class. These statements match teacher comments about relevance and perceptions of what makes PD effective.

• “It helped me to be more targeted about skills kids needed to know, and then I saw them applying the strategies I was teaching them.”

• “I am now asking really great comprehension questions and I know when to adjust my questions according to how students respond. This is a new way for me to teach effectively.”

• “The PD was directly related to what I needed to be doing with students.”

• “I feel that my students are getting more benefit now that I am using strategies out of the book.”

• “It was a huge eye-opener of how to do guided reading groups.”

**Focus group questions.** Focus group questions were designed to reveal teacher perceptions regarding the impact of the PD experiences and sought to describe teacher feelings about the challenges and benefits of the action research cycle, and features of PD. They were based on research-based practices of professional development (Birman et
al., 2000; Darling-Hammond et al., 2017; Desimone, 2009; Desimone & Pak, 2017; Fernandez, 2002; Garet et al., 2001; Guskey & Yoon, 2009). Two meetings were held to accommodate teacher schedules and availability. Each group followed the same protocol and allowed teachers to have more opportunities to speak. The groups included six teachers in each group.

Focus group responses regarding challenges and suggestions for change. Questions two and three addressed teacher perceptions about what was challenging about this PD process and what changes teachers might suggest. While teachers did respond to this question with comments and thoughts, many of them still conveyed a positive message about the PD process and activities. For example, one teacher stated that she would like to see more teachers taking part in this learning and making PD such as this a school goal. Another teacher said that she wished we had started this at the beginning of the year so we could spend more time practicing strategies that were learned. She and her colleague only got to try their strategy once during the lesson study process and would like to have more opportunities to put their learning into action. She also said that otherwise, nothing was challenging about it. One teacher said that she wanted to keep these activities more separate from other language arts activities so that there would not be too much going on at one time.

Focus group responses regarding the process of this PD experience. Questions one, four, and five addressed teacher perceptions regarding the process of the PD, benefits of the PD, and desires for future PD. As part of this study, teachers engaged in a cycle of action research that included planning, acting, developing, and reflecting. The cycle engaged teachers in their own professional learning by asking them to complete
eight steps. These steps included listing problems of practice, collecting evidence of this problem, learning about professional learning options (lesson study, book study, and peer observation), engaging in an appropriate PD activity, and reflecting. Citing various reason and factors all 12 teachers reported that this process contributed to the effectiveness of their learning.

- “Defining the problem and reviewing my evidence was very important to the process of my PD. This was just as important as my PD activity because my problem was not what I expected it to be. The problem was not a student problem, but a problem in how I was teaching.”
- “I would definitely be involved in any of these three types of PD processes again. I really enjoyed this PD process and felt like I learned a lot from participating in it.”
- “PD is effective when it changes my instruction.”

Teacher choice in professional learning. An emerging theme of choice was consistent among the 11 of the 12 participants and they reported that this is not always present in their professional development. Table 11 summarizes the choices teacher made for their problems of practice and the evidence used to choose these problems, and the PD format appropriate for their learning.

- “Teachers need to have a voice and choice and we had both.”
- “It was nice to be able to focus on what was needed in our classrooms. We got to choose what we needed to learn about.”
- “I really liked being able to choose the direction we wanted to go.”
Table 11

*Areas of Action Research Teachers Chose*

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Problem Selected</th>
<th>Evidence</th>
<th>PD Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Reading comprehension in small group instruction</td>
<td>Student responses</td>
<td>Book Study</td>
</tr>
<tr>
<td>B</td>
<td>Improve reading comprehension in small group instruction</td>
<td>STAR data, PALS</td>
<td>Book Study</td>
</tr>
<tr>
<td>C</td>
<td>Reading comprehension in small group instruction</td>
<td>STAR data, reading tests</td>
<td>Lesson Study</td>
</tr>
<tr>
<td>D</td>
<td>Reading comprehension in small group instruction</td>
<td>STAR data</td>
<td>Lesson Study</td>
</tr>
<tr>
<td>E</td>
<td>Strategies for reading comprehension</td>
<td>Observation of students</td>
<td>Book Study</td>
</tr>
<tr>
<td>F</td>
<td>Use strategy grouping to improve comprehension</td>
<td>Student retelling data</td>
<td>Peer Observation</td>
</tr>
<tr>
<td>G</td>
<td>Use strategy groups to improve reading comprehension</td>
<td>Student retelling data</td>
<td>Peer Observation</td>
</tr>
<tr>
<td>H</td>
<td>Small group instruction</td>
<td>Reading assessments</td>
<td>Peer Observation</td>
</tr>
<tr>
<td>I</td>
<td>Improve reading comprehension</td>
<td>Student observations</td>
<td>Peer Observation</td>
</tr>
<tr>
<td>J</td>
<td>Increase vocabulary development</td>
<td>Student observations</td>
<td>Book Study</td>
</tr>
<tr>
<td>K</td>
<td>Design lessons with manageable tasks</td>
<td>Researcher observation</td>
<td>Lesson Study</td>
</tr>
<tr>
<td>L</td>
<td>Writing strategies for writing complete sentences</td>
<td>Student writing samples</td>
<td>Lesson Study</td>
</tr>
</tbody>
</table>

*Note.* STAR = [Standardized Test for the Assessment of Reading]; PALS = [Phonological Awareness Literacy Screening]

Teachers also generated responses as to what they would like to see in future PD activities. Since these ideas were generated in focus group meetings, teachers agreed with many of the comments made by their peers. These ideas are important to consider when planning and making recommendations for future teacher learning.

- “Many of us believe that more teachers need to do this. We all need to be talking and planning and learning together...not just some of us who volunteer.”
• “Other people in my grade became interested and started to ask me…what are you working on with Jennifer?”
• “PD should be continuous like this was…when you want something to matter you have to make sure it comes up and you have to make sure you keep talking about it.”
• “I would like to try some of the other PD options, like the lesson study.”

**Focus group responses regarding features of PD.** Questions 6, 7, and 8 were about the features of PD that were purposefully embedded in PD activities. These questions aspired to find out if teachers noticed features that contributed to the effectiveness of their PD, which features they perceive to be most important, and features they might like to see in future PD activities. All 12 teachers agreed in both focus group meetings that all the PD features listed were present in their PD activities, whether it was in lesson study, book study, or peer observations. As with the interview questions, teachers acknowledged they were present in their PD and elaborated in teacher journals. I also coded many of my own notes in the researcher journal that contained words and phrases related to PD features and activities. Teachers also contributed responses as to which features are most important.

• “It depends on the teacher and that’s why it is so important to have all of these options.”
• “I think sustained duration is most important because you have to just keep at it.”

**Teacher journals and field notes.** Journals gave teachers the opportunity to record their thoughts throughout the PD process. I also kept a detailed field notes journal...
in which I recorded my observations and parts of conversations with teachers. Both teacher journals and my field notes were coded and analyzed for themes. Some of these were similar to themes generated by the interviews and focus group meetings. I found that teachers like to discuss and talk about their thoughts more than record them in written form.

**Teacher journals.** As I read teacher journals and coded their responses, I noticed that their notes here were less detailed than when they were answering interview and focus group questions. However, using words and phrases that were coded and generated into categories and themes, teachers provided data regarding their perceptions of the PD formats and the features of PD embedded in their experiences. A theme emerged that teachers recognized the impact of engaging in their learning when it included these features. They mostly discussed the impact of their specific PD formats, lesson study, book study, and peer observation.

**Lesson study.** Four teachers had the opportunity to engage in a mastery experience by planning a lesson together and observing the lessons. Teachers recorded it was helpful to plan a lesson with another teacher, see it in action, improve it, and reflect on the lesson’s effectiveness. Two of the lesson study participants were middle school teachers, and two teachers taught third grade. Research indicated that when lesson study is used in America, the last step of reflection is often neglected or eliminated from the process (Tolle, 2010). Because this is such a valuable part of the process, we made sure to include reflection during and after the lesson study was completed and teachers noted the benefits of this reflection. Reflection notes of the two third-grade teachers included implications for future lessons, things they noticed in the planned lesson, and ways to move forward.
The two middle school teachers discussed the usefulness of what was learned being applied to future instruction and how it impacted and changed students’ behaviors and improved instruction. All four teachers felt that lesson study provided them with hands-on opportunities to try something and have time to work in it and perfect it. They also agreed that there was time for follow-up and discussion.

- “The lesson study was super helpful as a new teacher who has not ever watched another teacher do a lesson. I appreciated this opportunity.”
- “I would love to do this exact thing every month for a full year.”
- “Through lesson study, I learned a lot about myself and my teaching style. It was a positive educational experience that will help me in the future.”
- “Student have been using the strategy I taught them in their own writing and my co-teacher said it is helping some of her students with disabilities.”

**Peer observation.** Teachers who engaged in peer observation were part of a vicarious experience in which they learned from watching others. The pair of second grade teachers commented that they enjoyed the process of peer observation and reported that they continued their conversations well after the peer observations took place. They also continued to implement the strategy for reading comprehension groups that they were “trying out” for their peer observation PD. They reported that the PD activity was not just a one-time effort, and that when they saw the benefits in each other’s lessons, they decided to continue meeting and discussing their experiences. They learned from watching each other and planned to continue their work. Interestingly, I noticed from my observations that these are two strong teachers who always want to learn more and know that they can benefit from professional learning.
The other pair of teachers watched each other conduct completely different lessons, with the goal of observing small group reading instruction with third graders. They appreciated seeing what instruction looks like in other classrooms and learned from watching each other.

- “Although I was quite nervous, I found it valuable both as an observer and as the observed. It gave meaningful accountability to the learning process.”
- “I loved watching someone… teach because it made the book come to life. It’s one thing to read a book and another to try it and watch it. I realized I could do the things I was learning about and it was not as hard as it seems.”
- “From watching another teacher, I saw how to implement some new strategies in a real situation and see different ways things can be taught.”

Book study. Four teachers engaged in book study, and it should be noted that they did not solely study the book. They also took the initiative to try strategies and apply what they were learning in their classrooms, turning their PD into book study plus mastery experiences. Additionally, 9 out of the 12 study participants were reading a book that they used in practice in conjunction with their PD choices. All of them spoke about their books and the way that reading a professional book aided their entire professional learning experience.

The book study was set up in a Team Drive in Google and was formatted to include tasks in the book with deadlines and opportunities to respond to questions. The purpose of the online format was to minimize required meetings and to keep teachers accountable. As the book study progressed, all four teachers asked to have meetings in person with their colleagues so ideas from the book could be discussed and shared. They
reported that they liked learning about ideas and trying them out in the classroom. Two teachers struggled with the suggestion to post thoughts online and share their thoughts in public in a space where everyone could see their writing. They stated that they were hesitant to put ideas out there for everyone to see and judge. This could be since the Google Drive was available to 24 teachers from five schools that were also reading the book and contributing to posts online, although only four of these teachers were involved in this study. They preferred meeting in person with colleagues they know and trust. All four teachers appreciated the flexibility of the book study tasks and the ability to move through the book at their pace, while still being held accountable.

- “As a result of studying this book, I feel I am a better teacher because I was able to provide students with comprehension strategies that address individual student needs. I feel like I am a better teacher during small group instruction.”
- “The book study allowed me to learn about different ideas, try them out, and reflect on how I could have made lessons better.”
- “I think the book study taught me reading skills that I want to teach myself and/or show other teachers how to use these strategies in their classrooms.”
- “I had to be accountable to reading the book and that kept me involved in it. I have been able to add what I am learning from the book into teaching.”

Lesson study, peer observations, and book study were all reported to be effective forms of PD. This effectiveness was due, in part, to the PD features that were embedded in the PD.

Active learning. All 12 teachers concluded that their PD entailed active learning and explained why this feature made their learning effective.
“Actively learning is the best way to do professional development because I learn while I am doing, and I can see what ideas look like in practice and in the reality of my classroom.”

“As I progressed through the PD activity and process, I became more of an active learner when I saw how my learning could benefit my students.”

“I engaged in active learning because throughout the process of the book study I was able to continue building my knowledge of connecting text to readers.”

Content focus. Ten out of 12 teachers felt that their PD had a focus on specific content. The coding process revealed that getting to choose a topic assisted teachers in focusing on one topic to improve, which felt less overwhelming than typical PD. Five teachers also used the term “relevant” to describe content-focused PD and reported that because the content was chosen by teachers, it was relevant to their classroom needs. One teacher also stated that being relevant meant that this was about making it your own and figuring out how to make the content work for you. She also recorded that she was able to use the content immediately.

“The content provided…fit in perfectly with my classroom environment and helped to meet the needs of my students.”

“I liked that it focused on one topic for an extended amount of time which allowed me to truly understand and implement the information I learned.”

“I believe that professional development that is focused on a certain skill and ongoing through an extended amount of time is more beneficial than an hour session.”
Expert support. All of the teachers felt that expert support made their PD more effective. In journals, three teachers stated that they took advantage of expert support later in the study, noting that they usually do not have opportunities to ask follow-up questions, or ask someone if they are doing something well. All three mentioned that it was helpful to be able to ask questions, and one teacher acknowledged that peers can be considered as expert support. One teacher discussed that after she took the suggestions of the “expert” she was able to successfully implement something new in her classroom.

- “This was effective because I got to try it and then an expert was there to say-let’s try it this way.”
- “Expert support allowed us to ask questions if we didn’t understand something or seek help and advice when it was needed.”
- “We had a content expert with us all along the way and this acted as coaching support as well…not just someone telling us what to do.”
- “I feel that I did well because I had support not only from Jennifer…but also the other teachers at our school.”

Sustained duration and opportunity to reflect. Coding teacher journals revealed that they conveyed many of the same thoughts that were expressed in the interviews and focus group meetings. They did not use the term “sustained duration” unless I asked about it but commented about ongoing PD and not having PD that involves one-time sessions with no follow up. Nine out of 12 teachers agreed that the sustained duration of the PD made it more effective and useful for them. One teacher who did not choose sustained duration as a feature of her PD stated that she wished it would have been a
longer experience and wish we could have begun sooner. Due to the restraints of the study timeline, teachers did not begin their PD activities until later in the school year.

- “I felt this PD was different from others because it was an ongoing work in progress.”
- “The PD was broken up into chunks that I could handle, and it was not too much at once.
- “PD that is… ongoing through an extended amount of time is more beneficial than an hour session of something that is not talked about again.”

During the coding process, I noticed that although teachers spent much time reflecting, they did not acknowledge or point out that they were reflecting. They were reflecting without realizing it. When teachers discussed reflecting, they referred to their conversations and discussions with others, which overlapped with the theme of collaboration. Eleven out of 12 teachers stated that they had time for useful reflection and that it enhanced their PD activities. Literature and research also connected feedback with reflection, and several teachers discussed feedback that they received as a helpful tool to them become better teachers.

Table 12 provides the number of participants interviewed who positively replied to each feature’s presence in their PD, sorted by their chosen PD activities. Data collected compared each professional learning format with the research-based features prominent in this study, in order to gather data that would accurately answer Research Question 1.
Table 12

Participants’ Acknowledgment of Features Within PD

<table>
<thead>
<tr>
<th>PD Feature</th>
<th>Participant PD Choice</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lesson Study</td>
<td>Book Study</td>
<td>Peer Observation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>active learning</td>
<td>4/4</td>
<td>4/4</td>
<td>4/4</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>content focus</td>
<td>3/4</td>
<td>3/4</td>
<td>4/4</td>
<td></td>
<td>83%</td>
</tr>
<tr>
<td>expert support</td>
<td>4/4</td>
<td>4/4</td>
<td>4/4</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>sustained duration</td>
<td>1/4</td>
<td>4/4</td>
<td>4/4</td>
<td></td>
<td>75%</td>
</tr>
<tr>
<td>reflection</td>
<td>3/4</td>
<td>4/4</td>
<td>4/4</td>
<td></td>
<td>92%</td>
</tr>
</tbody>
</table>

Note. PD = professional development

Researcher field notes. Through the coding of my notes and observations, I noticed that early in the study, I recorded my observations of the action research cycle and found that teachers were not accustomed to using data and evidence to discover a problem of practice. When given this opportunity, teachers were creative in their evidence collection and looked at data that included my observations of students, student performance scores on assessments, and their own observations of student behaviors. I noticed this based on my observations of what teachers said during our meetings.

Teachers had difficulty defining problems and how to learn about these problems. They asked me questions such as, “Is this a good problem?” and “Am I doing this right?”. Some teachers knew what they wanted to learn about, and spent time finding evidence to support their problem of choice, while others truly relied on observations and data to determine their problems and PD choices. In our meetings, we spent time discussing connections between the problems and evidence. All 12 teachers needed help defining
their “classroom problem.” Surprisingly, novice teachers were more apt to catch on to what we were trying to do based on their responses and comments in meetings than experienced and veteran teachers.

As a researcher participant, it was difficult for me not to suggest problems for teachers and to let them spend time discovering these. I came to these conclusions through analysis of my memoing and notetaking. I discovered in my field notes that I had to hold back and not speak up when I wanted to tell teachers what to do. I concluded that truly providing teachers with this choice is difficult for an observer with background knowledge about classrooms yet allowing teachers to discover these problems added to the effectiveness and impact of their learning. They were interested in what they were doing and were willing to engage in the action research cycle.

My field notes also tracked the progress and changes teachers went through as we all learned during this study. At the beginning of the study, teachers attended meetings and approached the PD as they would most meetings. They had volunteered to be there but were not sure what the study would entail. The elementary teachers kept waiting for me to tell them what we were going to learn about, and the middle school teachers jumped right in and wanted to talk about problems they were observing in their classrooms. Once teachers defined their problems, and we discussed the evidence that these were appropriate problems, teachers were able to better articulate and choose what they wanted to learn.

*Teachers in charge of their learning.* Teachers did not need my support as much as they progressed through the study. I spent time at each school, and teachers asked for meetings and time to discuss their thoughts, and these meetings were about what they
wanted to learn and accomplish. When my support was needed, I provided it, but teachers truly were running their own PD. The analysis and coding of my notes revealed that 10 out of 12 teachers were able to go through the action research cycle and manage their PD activities without my complete direction. For example, when I met with a pair of teachers about their lesson study, they were already following the protocol, had set up their lesson study dates and times, had plans to meet in between lessons and after the lessons to debrief and reflect, and had asked their principal for coverage to conduct this activity. They met with me to review the lesson they had planned, and to see if I was available on their proposed dates to watch the lessons and debrief with them. The two teachers who needed my guidance and direction were engaged in their learning. They both acknowledged in our conversations that they needed the accountability and guidance in order to succeed. Two teachers also asked for more follow up and asked if they could continue with their learning even when the study concluded. Three teachers asked if they could try one of the other PD options that were offered in this study. These data support the concept that action research is cyclical and ongoing.

**Summary.** In summary, all 12 teachers reported that they engaged in PD features that were prominent in this study. Data that were coded and analyzed in interviews, focus group meetings, and journals provided evidence that these features contributed to the effectiveness of the PD formats of lesson study, book study, and peer observations.

Teachers were given the opportunity to respond to questions and voice their thoughts through individual interviews, two focus group meetings, and their personal teacher journals. The researcher field notes journal also provided data that were coded
and analyzed. Overlapping themes were discovered through the coding process of these four data sources.

Within the interview and focus group questions, teachers had many opportunities to discuss their perceptions and feelings about PD, how this PD was similar or different from previous experiences, and what they feel makes PD experiences effective. They also responded to questions about PD activities within this study.

Teachers want to spend more time on their learning. All 12 teachers used words and phrases that resulted in this finding. Time spent in PD needs to be addressed, as teachers feel that they learn more when they are given time to learn and practice instructional strategies. They do not find that one-time PD with little or no follow up is effective. Eleven of the 12 teachers perceived that they had teacher choice within this study and that this made their learning meaningful for their classroom needs. Terms such as applicable, relevant, useful, and helpful were used by teachers to express the importance of teacher choice. Within the cycle of this study, teachers were required to develop their problems of practice and while this was difficult for some, they admitted that choosing their PD made it more relevant to their instruction.

One theme that surprised the researcher was positive teacher associations with opportunities to collaborate. Typically, teachers do not want to attend meetings or spend extra time talking about instruction. Analysis of data revealed that this is not the case when teachers are invested in what they are doing. Teachers requested more meetings than were required for this study because they wanted to discuss their thoughts, bounce ideas off each other, and learn from what others were doing. Although teachers were
engaged in various problems of practice and conducting three different PD activities, they
still wanted to get together and hear about what one another were doing.

All 12 teachers acknowledged within the questions that PD features were present
in their PD activities, and that these features added to the effectiveness of what they
learned. It was evident that various combinations of these features were perceived as
effective, depending on the teacher and the PD activity she was conducting. Finally, the
theme that teachers can take charge of their own learning resulted from analysis of the
researcher field notes journal. Data revealed that teachers needed less support from the
researcher as the study progressed and teachers realized their roles. Ten teachers took
over their learning and needed minimal support from the researcher. While the
researcher, as a participant, was available when needed and took part in all the PD
activities, the researcher became an observer and supported teachers when needed.

Table 13 describes the themes emerging from data collected regarding Action
Research Question 1.
Table 13

Themes Emerging and Frequency of Participants for Research Question 1

<table>
<thead>
<tr>
<th>Emerging Theme</th>
<th>Data Sources</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire among teachers to have extended and ongoing time for learning</td>
<td>Interviews 1, 2, 3, Focus Group 4, 6, 7, 8</td>
<td>12, 100%</td>
</tr>
<tr>
<td>Teacher choice of PD makes learning relevant to classroom needs</td>
<td>Interviews 1, 2, 3, Focus Group 1, 4, 5</td>
<td>11, 92%</td>
</tr>
<tr>
<td>Collaboration allows teachers to make meaning of their learning</td>
<td>Interviews 4, 7, Teacher Journals</td>
<td>8, 67%</td>
</tr>
<tr>
<td>Using combinations of research-based practices in PD activities engages teachers in their learning</td>
<td>Interviews 4, 5, 6, 7, Teacher Journals</td>
<td>12, 100%</td>
</tr>
<tr>
<td>Teachers can take charge of their learning.</td>
<td>Interviews 1, 4, 5, 6, Focus Group 1, 4, 5, Researcher Field Notes</td>
<td>10, 83%</td>
</tr>
</tbody>
</table>

Note. PD = professional development
a

Action Research Question #2

What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?

Interview questions, focus group meeting questions, teacher journals, and the researcher field notes journal provided data about teacher perceptions of self-efficacy. Evidence coded from these question responses implied that there are several factors that contributed to perceived teacher self-efficacy. These will be discussed in the findings for Research Question 2 and include the impact of the four sources of efficacy (mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal). A
combination of these sources was discussed by teachers as resulting in professional learning that contributed to their perceived self-efficacy in their instruction.

**Semi-structured interview questions.** Semi-structured interview questions sought to describe teacher beliefs about their ability to improve classroom instruction, being a better teacher following the PD experience, confidence and ability to teach specific skills, features of PD that increased their abilities, and the impact of sources of self-efficacy. They were based on research-based definitions and sources of self-efficacy (Tschannen-Moran & McMaster, 2009; Tschannen-Moran et al., 1998; Yoo, 2016).

**Semi-structured interview responses regarding belief in improving classroom instruction and confidence and ability to teach specific skills.** Interview questions about self-efficacy addressed abilities to improve instruction, and feelings about confidence and ability to teach skills. Coding of words and phrases resulted in data regarding how self-efficacy is perceived by teachers. All 12 teachers believed that they have the ability to improve instruction. They also believe that they are better teachers due to their PD experience in this study.

- “I do believe I am a better teacher and that I have grown from this process.”
- “This study has made me a more effective teacher of small group instruction.
- “I feel like I am a better teacher, but I just scratched the surface.”
- “I believe I am a better teacher because I am able to provide each student with comprehension strategies to address their individual needs.”
- “The ability to change instruction is always there.”
- “We all make each other better. We can all learn from each other and I’m a better teacher just from hearing different perspectives.”
• “This [PD] took the guesswork out of what I am teaching, and I know how to do it now.”

• “I felt successful, especially because we all worked on it.”

Teacher self-efficacy also depends on the skills that are being taught and the context of instruction.

• “Confidence depends on the skills I am teaching… confidence increases with experience and depends on the skills.”

• “I know I am better at some things than others.”

• “[Self-efficacy] changes every year and it depends on the skills and on the kids. I feel like I still have a lot to learn.”

**Semi-structured interview responses regarding PD experience and impact of sources of efficacy.** I intended for teachers to be engaged in the four sources of self-efficacy through their PD activities of lesson study, peer observation, and book study. These sources were present in more than one of the activities, and in some activities, teachers noticed that more than one source was evident. When asked which self-efficacy source they preferred, eight teachers chose emotional arousal along with one other, and reported that this source contributed to their perceptions of confidence and ability to teach skills.

**Mastery experiences.** Seven out of 12 teachers chose mastery experience as being an element of PD that made an impact on their learning. They stated that they learned from practicing in their own classrooms, and then having follow-up discussions that allowed them to reflect on their experiences. This helped them to be able to further improve their instruction and learn from hands-on experiences.
Mastery experiences impact teachers as they practice what they learned. Teachers stated that they learn best from hands-on experiences, and that they prefer being active in their learning and having opportunities to practice.

- “The active learning got me excited… using the information and looking in there and being able to practice it…oh my gosh, thinking I can do this, and I think just using it and then teaching was most useful.”
- “Like I said before, I am the kind of person that I really have to get in there and do it to feel confident about it…being hands-on really impacts you the most.”
- “Actively doing it myself, after we had the chance to talk about it and go back and try it.”
- “I feel like I was actively learning, but watching another teacher, I felt like I was learning from that too.”

Vicarious experiences. Four out of 12 teachers felt that a vicarious experience contributed to their self-efficacy. Three of these teachers engaged in the peer observation PD activity, and one took part in the book study but also observed other teachers during lessons. They stated that while they do not often have opportunities to observe colleagues, they found the process of observation followed by reflection and collaboration to be valuable.

- “I think I am a better teacher because you can learn from other teachers and the peer observation helped me do that.”
- “It is less scary when you watch others do something and that makes you want to do it.”
“Watching another person and going back and reflecting on it and that goes with both actively learning and watching someone do it.”

“Watching another person...okay, I learned a lot just from sitting there and watching but then the next week I planned the strategy the way she taught it and it feel like it worked a lot better.”

Verbal persuasion. Only 1 teacher out of 12 chose verbal persuasion as being most impactful. This teacher engaged in book study and stated that there was value in talking with others and that teachers benefit from hearing from others that they can be successful. Other teachers did address the feedback they received from others as being helpful. Since the definition of verbal persuasion includes the proving of feedback to others, I noted this and concluded that verbal persuasion is perceived as effective by more than one teacher, but not the most impactful when compared with mastery experience and emotional arousal. Feedback also overlaps with the theme of collaboration.

“I thought it would be hard... However, after talking with the teachers I worked with, I realized I could do it next year as well and it isn’t as hard as it seems.”

“We did what we needed to do and then we came together to talk about it. It was helpful for me to hear from other teachers.

“We planned what we could do next time after watching both lessons.”

“In the Google Drive, having the responses of others and seeing what other people were saying across schools gave me good information.”

Emotional arousal. The importance and perceived effectiveness of teacher excitement and its impact on teacher self-efficacy cannot be minimized and was
prominently evident throughout this study. Coding and analysis of words and phrases resulted in an emerging theme that excitement makes an impact on teachers who are trying to learn and implement new things. Although not purposefully embedded in professional development, teachers spent ample time discussing their feelings about what they experienced and their excitement about the future.

*Emotional arousal contributes to the impact of PD experiences.* Responses and data regarding excitement and emotional arousal occurred before, during, and after the action research process and study. Eight out of 12 teachers acknowledged that their excitement about their learning contributed to its effectiveness and their perceived self-efficacy.

- “I was excited about it and it was the actively learning that got me excited… seeing it work with students.”
- “I am excited to be able to continue to talk about it and have PD this summer, and I am starting to feel more comfortable.”
- “I am very much looking forward to getting better at what I learned this year.”
- “It definitely made me so excited to do it that I just keep doing it and I’m so excited about next year and seeing how a whole year of this will look next year in the classroom, so I should see a huge difference in students.”
- “I am excited to see how other students will do if other people use this.”
- “I’m excited about tackling this…and getting other people excited.”
- “I saw two other teachers getting excited about their peer observations so that brought me on board and more excited about it.”
Teachers were asked in their individual interviews which source of efficacy they found to impact them the most: actively learning, watching another person, being persuaded you can do it, or getting excited about learning. Some teachers responded with two sources that were important to them, so the respondent numbers do not add up to 12. Table 14 summarizes these responses.

Table 14

<table>
<thead>
<tr>
<th>Sources of Self-Efficacy</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Self-Efficacy</td>
<td>No.^a</td>
</tr>
<tr>
<td>Mastery Experiences</td>
<td>7</td>
</tr>
<tr>
<td>Vicarious Experiences</td>
<td>4</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td>1</td>
</tr>
<tr>
<td>Emotional Arousal</td>
<td>8</td>
</tr>
</tbody>
</table>

^a n=12

Focus group questions. Focus group questions sought to describe teacher beliefs about their current beliefs about their abilities as teachers, and how they feel about their abilities after a year of PD activities. They were based on research-based definitions and sources of self-efficacy (Tschannen-Moran & McMaster, 2009; Tschannen-Moran et al., 1998; Yoo, 2016). Two meetings were held to accommodate teacher schedules and availability. Each group of six teachers followed the same protocol and allowed teachers to have more opportunities to speak.

Focus group responses regarding current beliefs of teacher abilities. Teacher responses were similar to their comments in individual interviews. All 12 believe that they are good teachers, but that perception varies according to the context. Teachers were more likely to comment during the focus group meeting that sometimes they are not confident.
• “I think I have a lot of content knowledge but sometimes it is hard to put knowledge into practice with real kids.”

• “Some days I feel great like I’m really getting it right and then sometimes I am thinking—why aren’t they getting it?”

• “I always feel like I am trying my absolute hardest but sometimes it’s still not good enough.”

• “Last week when you asked, I felt pretty confident, but now [Standards of Learning] tests are coming up and I’m not sure.”

Focus group responses regarding abilities as a teacher after PD experience.

All 12 teachers also felt that they learned from their PD experience when discussing the content area they studied and practiced. Again, their responses matched interview responses and other comments about self-efficacy as it relates to context. When teachers were speaking during focus groups meetings, they commented about how they were all working together and talking about what they learned.

• “This experience made me focus more and I had never watched anyone before or visited any teacher’s classroom, so it helped me to know that I am doing things right.”

• “I know it made me feel successful because we all worked on all of this… my kids didn’t know how to describe characters very well, and now they do, so I feel successful.”

• “It helped me looked at reading from a different lens.”

Teacher journals and field notes. Journals gave teachers the opportunity to record their thoughts throughout the PD process. I also kept a detailed field notes journal
in which I recorded my observations and parts of conversations with teachers. Both
teacher journals and my field notes were coded and analyzed for themes. Some of these
were similar to themes generated by the interviews and focus group meetings. I found
that teachers like to discuss and talk about their thoughts more than record them in
written form.

**Teacher journals and field notes regarding teacher perceptions of self-
efficacy following a PD experience.** Teachers were asked to keep an ongoing journal in
which they could record their thoughts, ideas, and perceptions throughout the study. The
researcher also kept a journal of observations, conversations, and meetings with teachers.

**Teacher journals.** All 12 teachers included comments about their ability to teach
within their teacher journals. Seven of the 12 teachers began their last reflection with
comments that they “enjoyed the PD process.” Teachers also described their specific PD
activities and what they learned about their content areas that they studied. They included
comments about their confidence increasing as they learned and practiced in their
classrooms, and that feeling successful makes them more eager to try new things in the
future.

- “I felt like I learned a lot from participating in this PD.”
- “I learned about good strategies I want to use in the classroom, and I want to
  show other teachers too.”
- “I do feel like this study has made me a more effective teacher of small group
  instruction.”
- “All in all, I gained a better understanding of this paradigm shift in reading
  and an excitement for the positive impact it will have on my future students.”
• “I do believe I am a better teacher and that I have grown from this process.”

• “Through this professional development, I learned a lot about myself and my teaching style. It was a positive, educational experience that will help me in the future.”

**Researcher field notes.** Throughout the study, observations and recordings in my journal indicated that excitement was important to the effectiveness of the PD and the presence of self-efficacy in teachers. I found through my coding process that emotional arousal can include other terms beside excitement, such as comfort, familiar, positive, and looking forward to the future. I observed that teachers getting excited about what they are doing, whether it is learning, teaching, or feeling confident, goes a long way in developing self-efficacy and wanting to engage in learning to improve instruction. I noticed excitement can occur before, during, and after engaging in any kind of PD that is perceived as effective by teachers. It ensures that the other three sources of self-efficacy can occur and be successful in increasing efficacy. It was evident that teachers were excited about their learning and that this made a difference.

• “I gained an excitement for the positive impact it will have on my future students.”

• “It would be getting excited about learning for me because we have been talking about all of this and I’m excited about getting everyone else excited.”

• “I loved having the opportunity to do this PD.”

• “I loved this PD process and will be using the book in more detail next year.”
My field notes journal also provided insight and data about the changes teachers experienced as they engaged in the action research cycle and their PD activities. I noticed that teachers became more confident as they worked through the process. Their comments about their learning conveyed their confidence and belief that they could do it. The two middle school teachers were confident from the start, but one quickly acknowledged that she did not know as much as she thought after I observed her class and we discussed what she might want to learn about. She was a novice teacher and was eager to learn and receive feedback and support. Both teachers quickly made plans and were eager to act to improve their instruction. They also continued to work on improving their instruction and asking for support even when their lesson studies concluded.

Elementary teachers put more work into their learning than I expected. They worked hard and initiated activities that were not required of this study but assisted them in being successful and truly getting as much as they could out of this experience. I spent a lot of time talking with teachers about why their learning is important to both them and their students, and they responded positively by engaging in their activities and going above and beyond what was expected. Teachers went about the process in various manners, although they all followed protocols and the cycle of action research that the study entailed. I enjoyed watching their lessons and activities and learned so much myself. My notes frequently conveyed hope and pleasant surprise that all 12 teachers were as engaged as they were, and ultimately successful.

**Summary.** In summary, all 12 teachers reported that they are confident of their abilities as teachers and that they believe they can improve instruction. Data that were
coded and analyzed in interviews, focus group meetings, and journals provided evidence of teacher perceptions of their own self-efficacy.

Teachers were given the opportunity to respond to questions and voice their thoughts through individual interviews, two focus group meetings, and their personal teacher journals. The researcher field notes journal also provided data that were coded and analyzed. Overlapping themes were discovered through the coding process of these four data sources.

Within the interview and focus group questions, teachers had many opportunities to discuss their perceptions and feelings about their abilities to improve instruction, their confidence to teach specific skills, their perceptions and confidence after a year of PD, and sources of efficacy that most impacted them.

Teachers do believe that they have the ability to improve instruction, but it is important to note that levels of efficacy often depend on the context of the situation. Teachers can feel confident in some areas and not others. This confidence is also impacted by the feeling of working together with others and feeling successful as a group.

Two themes emerged regarding the four sources of efficacy, mainly mastery experiences and emotional arousal. Seven out of ten teachers reported that mastery experiences, defined as actively learning, contributed to the effectiveness of their PD. These seven teachers were engaged in all three formats of PD (lesson study, book study, and peer observations), so it is important to recognize that mastery experiences can occur in various formats and activities of PD. Eight out of 12 teachers reported that emotional arousal, defined as excitement, made an impact on their self-efficacy. The researcher
field notes confirmed these perceptions through observations of teachers throughout the PD process, by gathering evidence that excitement occurred before, during, and after the PD process, and that teachers are looking forward to the future and what they can do to improve instruction and help students succeed. Table 15 describes the themes emerging from Action Research Question 2.

Table 15

<table>
<thead>
<tr>
<th>Emerging Theme</th>
<th>Data Sources</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers believe that they have the ability to improve instruction and are confident depending on context.</td>
<td>Interviews 8, 9, 10, 11, 12, Focus Group 9, 10</td>
<td>12 100%</td>
</tr>
<tr>
<td>Mastery experiences impact teachers as they practice what they learned.</td>
<td>Interviews 8, 9, 10, 11, 12, Focus Group 9, 10</td>
<td>7 58%</td>
</tr>
<tr>
<td>Emotional arousal contributes to the positive impact of PD experiences</td>
<td>Interviews 8, 9, 10, 11, 12, Focus Group 9, 10, Teacher Journals, Researcher Field Notes</td>
<td>8 67%</td>
</tr>
</tbody>
</table>

\(n=12\)

**Overall Summary of Findings**

Teachers perceive that they grow professionally when they engage in effective PD. Data collected, coded, and analyzed demonstrated that teachers perceived lesson study, peer observation, and book study as effective formats of PD. Teachers found them to be effective due to the presence of research-based practices such as active learning, content focus, expert support, sustained duration, and reflection. Additionally, collaboration contributes to effective PD and was prominent in data collected. These PD
features allowed teachers to practice their learning, choose their content, engage in discussions with peers, and apply their learning to future instructional practices in their classrooms.

Several themes emerged regarding the findings related to Action Research Question 1. One theme is teacher desire to have more time to learn about new things and to have opportunities for ongoing PD, with follow up and support so they can successfully practice what they have learned. Another theme proposes that teachers like to choose what they are going to learn about, which adds relevance to their classroom instruction. Collaboration was also reported to contribute to PD effectiveness. This theme conveyed the idea that teachers find value in discussions and sharing of ideas. A fourth theme related to professional development is that combinations of research-based PD practices embedded in the three PD formats of lesson study, book study, and peer observation, resulted in teacher perceptions that their PD was effective. Finally, the last theme regarding PD features and activities was related to the process teachers engaged in to choose and take part on their PD activities and learning. Due to the nature of the action research cycle embedded in this study, teachers directed their own learning, and were able to plan, organize, and carry out their PD tasks and activities individually or with peers, using the researcher as an expert support when needed. These themes will be the basis of recommendations made in the next chapter of this study.

Themes were also generated regarding Action Research Question 2 regarding perceptions of self-efficacy. One theme is that teachers do believe that they can improve instruction and feel confident in their abilities to do so. They believe that self-efficacy depends on the context of the situation in the classroom, and that there are instances in
which self-efficacy varies according to what skills they are teaching. Another theme that emerged regarding efficacy is that teachers believe that mastery experiences make an impact on teacher success because they can practice what they are learning. Emotional arousal was another source of self-efficacy that made an impact on teachers, resulting in excitement and positive feelings about their future instruction.

It is important to note that it was a combination of PD features embedded in three effective PD formats that contributed to perceived abilities to improve instruction and to help teachers to gain confidence in their skills. There was no specific PD format or feature that yielded these results. Teachers read books and then practiced their learning in class, they observed each other and provided valuable feedback to peers, and they had time to engage in meaningful conversations with their colleagues.

The themes that emerged for both action research questions will be used to inform recommendations of Chapter 5. These themes will be used to answer both action research questions and to generate recommendations which can benefit stakeholders about the features, formats, and sources of self-efficacy that benefit teachers and make their learning experiences beneficial and valuable.
CHAPTER 5
RECOMMENDATIONS

Professional development is an important part of teacher learning. Many factors impact the effectiveness of PD, such as teacher choice and required training, leadership and administrative approaches to PD, and the formats of PD that are offered to educators in the course of a school year. In this chapter, I will provide a brief summary of the study findings organized by action research question, and I will discuss conclusions and resulting recommendations. Central to this discussion is the construct that effective professional development combined with increased self-efficacy impacts teacher quality and student achievement. These ideas will be considered in the discussion of this study. This chapter will conclude with implications for future practice and an argument for more action research in the area of teacher PD.

The purpose of this action research study was to explore teacher perceptions of professional learning and its impact on teacher self-efficacy. Research-based professional development features were purposefully embedded in three PD formats: lesson study, book study, and peer observations. These PD formats included active learning, content focus, sustained duration, expert support, and reflection. A portion of this study was also dedicated to involving teachers as part of the action research cycle, in which teachers determined with evidence their own problems of practice and the method in which they learned about their identified topic. Data were collected in the forms of interviews, focus group meetings, teacher journal reflections, and the researcher field notes journal.
Discussion of Findings for Study

Action Research Question 1. *Do teachers perceive lesson study, peer observation, and/or book study as effective forms of PD?*

Researchers agree that there are prominent features of PD that contribute to its effectiveness and these include active learning, focus on content, expert support, opportunities to reflect, and sustained duration of time to practice what is learned (Birman et al., 2000; Darling-Hammond et al., 2017; Guskey & Yoon 2009; Guskey 2014). When teachers engaged in PD that included these features, findings indicated that teachers did perceive lesson study, peer observations, and book study as effective forms of professional development, resulting from several factors such as teacher choices and engagement in the learning experiences. These findings resulted in emerging themes that will inform the recommendations in this chapter.

First, teachers want to have more time to engage in their learning. Sustained duration of teacher learning is valuable to teachers because they are provided with time to learn, practice, implement, and reflect on new content (Garet et al., 2001; Guskey & Yoon, 2009). They reported that they do not benefit from typical, one-time PD sessions in which they are provided with new information that does not include opportunities for practice or discussion. They prefer to have time to process information, discuss it with others, and share ideas. Second, teachers were part of the action research cycle, giving them the opportunity to choose their own learning topics using evidence from their own classrooms. This made their learning relevant and content-focused, both features of research-based PD practices (Darling-Hammond et al., 2017). Teachers reported that they usually do not have a choice about what they are going to learn, but they noticed in this
study that they are more invested and engaged in their learning when they have choices. A third theme resulting from the findings was that teachers want to collaborate with others. Although teachers typically do not want to attend extra meetings or have extra time for discussions, they requested time to meet during the entire process of this study, and teachers reported that they preferred meeting in person because they were interested and invested in their learning. During their times to collaborate, teachers felt like they were successful together, and all working towards a common goal. Collaboration is discussed in research with options such as coaching sessions, mentoring, setting up learning communities, and small group interactions, and these approaches have been found to be effective in promoting school change (Darling-Hammond et al., 2017).

According to Bayer (2014) traditional forms of PD have little impact on instruction. PD is also found to be passive with teachers having little say in what they learn (Rock & Wilson, 2005). In order to present teachers with other forms of PD, PD features in addition to collaboration were prominent in the study learning experiences and made the PD activities effective and valuable to teachers. These included active learning in which teachers practiced skills and strategies in their classrooms, sustained duration in which the PD lasted across time and was not a one-time event, expert support from a content specialist, and opportunities to reflect. It is important to note that these features were present in all three PD activities of lesson study, book study, and peer observations, and that the impact of each activity depended on the level of participation of the teacher, teacher needs, and expectations of the teacher for their own learning. Teachers that experienced lesson study chose this activity because they wanted to plan an effective lesson using a structured protocol with a peer or grade level colleague. They planned a
lesson using this protocol and addressed issues within instruction before the lesson occurs. After watching the first lesson, dialogue allowed teachers to improve and revise the lesson if needed, and then the second lesson provided opportunities to again observe how students engaged in the instruction. Teachers using the lesson study model engaged in reflection through conversation after both lessons were taught. This reflection provided another opportunity to improve the lesson and consider implications for future instruction. Teachers found benefits in watching each other and noticed a feeling of comradery and teamwork as they worked towards the same goals of effective instruction for all students. Teachers were able to engage in lesson study the way it is intended to be, a complete cycle of defining and researching a problem of practice, teaching and observing a lesson, evaluation of the lesson, and sharing the results (Fernandez, 2002; Rock & Wilson, 2005; Tolle, 2010). This theoretical framework of constructivism supports the idea that knowledge is constructed through social interaction (Rock & Wilson, 2005).

Educators who choose book study desired extended time to learn about content-focused topics. Book study allowed them to have opportunities to examine their beliefs and knowledge through reading about other viewpoints and perspectives (Burbank et al., 2010). The book study was set up as an online platform in which teachers could reflect and respond to posts written by peers and colleagues. However, they all asked for live meetings with an expert (me) to discuss what they were learning and how this knowledge could be applied to the classroom. These requests aligned with research literature which claims that book study encourages readers to take ownership of their ideas and discuss these ideas with others (Burbank et al., 2010). Meetings assisted teachers in clearing up
any misconceptions about what they were learning and gave them time to share ideas. Part of the book study protocol was to choose something from the book to apply in practice in classrooms. This was included because often teachers will read professional books, and then complain that they were not given opportunities to practice what they learned in a safe environment. This book study encouraged teachers to try something, and the protocol turned the book study into an active learning experience.

Peer observations were chosen by teachers who wanted to observe and learn from others but did not necessarily need to see the same lesson or plan it together, as was done in the lesson study. Instead, teachers wanted to observe similar topics, such as small group reading comprehension, and find some new ways to teach and apply knowledge in their own classrooms. In this case, teachers not only benefitted from watching each other, they also learned from the data collected and were able to discuss their observations (Flom, 2014). They were also all reading books and applying something they learned from their books, so this PD activity also turned into an active learning experience while applying skills learned from a professional book.

Within each chosen PD activity, teacher choice, collaboration, and other research-based practices contributed to making the experiences valuable for teachers. The process of determining their problems, choosing their activities, and engaging with each other resulting in learning that was meaningful and beneficial to every educator. The impact of this process resulted in the theme that teachers can direct their own learning. It was encouraging to observe 10 out of 12 teachers planning their PD activities and taking charge of their learning. All this data, when considered by leaders of PD, can be used to help teachers learn more about their instruction and thus, improve student learning.
**Action Research Question 2.** What are teacher perceptions of their own self-efficacy following an academic year of PD in which lesson study, peer observations, and book study are prominently featured?

Teachers vary in their perceived levels of efficacy. However, all 12 teachers reported that they believe that they have the ability to improve instruction and are confident depending on context. Teachers stated that they can always continue to learn and improve their skills. Self-efficacy is also dependent on context. Several teachers stated that while they feel confident in one subject area, their confidence may waver in content areas they in which they have less knowledge or skills. These statements coincide with research that states that since context impacts teacher efficacy, teachers do not have an equal sense of efficacy in all situations (Tschannen-Moran & Johnson, 2011). Self-efficacy is an attribute which can be encouraged in teachers of all levels, by providing them with opportunities to engage in sources that increase self-efficacy.

There were overarching themes in the study data that can be used to determine how professional learning can impact efficacy. According to Bandura (1977) there are four major sources that can impact self-efficacy. Teachers answered questions and reflected in their journals regarding these sources. They discussed the ways in which mastery experiences impacted their self-efficacy. They enjoyed the hands-on, active learning experience that mastery experiences allowed. Mastery experiences are reported to be the most impactful source of efficacy (Bandura, 1977; Hoy & Miskel, 2013; Tschannen-Moran & McMaster, 2009). Teacher comments confirmed these research findings. Teachers commented that lesson studies were followed by meaningful discussions while debriefing before, during, and following mastery experiences such as
lesson study. Teachers also found value in watching others through vicarious experiences and then reflecting on the lessons they observed.

Verbal persuasion received the least amount of positive attention from teachers, although they did find expert support to be valuable, and they appreciated feedback and the kind of feedback that was provided from peers and a content expert. For example, the book study alone did not convince teachers that they could be successful in their efforts, but the efficacy source of verbal persuasion combined with other sources of efficacy was beneficial to teachers.

Finally, data from both teachers and researcher observations revealed that emotional arousal, or excitement, goes a long way in motivating teachers and inspiring them to want to learn more and try new things. In the area of professional development, excitement can be provoked when being exposed to new teaching knowledge and when teachers are interested in this new knowledge (Tschannen-Moran & McMaster, 2009). Eight out of 12 teachers reported that getting excited about their learning was one of the most important aspects of their learning. Teachers expressed that they were excited about their PD well before the PD activities took place. They attributed this to being allowed to problem-solve and make choices about their learning, listening to others while collaborating and sharing ideas, and feeling that their PD was relevant and valuable to their classroom needs. Their excitement also motivated them to continue to practice what they learned, and their confidence increased due to their excitement and eagerness to learn and try new things.

**Conclusions.** Important conclusions regarding PD activities and effective PD features were made from the data collected in this study. It must be acknowledged that
there is not a single activity or a single PD feature that makes professional learning
effective. It is the combination of features matched with appropriate PD activities that
make an impact on teachers. Then they believe that they have learned something valuable
that will improve their instruction and ultimately improve student achievement. Finding
this combination and encouraging teachers to determine their own learning based on
problems of practice leads to PD that makes an impact.

Self-efficacy can also impact instruction and teacher engagement in their
instruction and practice. Research has generated many definitions of this construct, which
most often originated from Bandura’s (1977) seminal work describing self-efficacy as
“the conviction that one can successfully execute the behavior required to produce the
outcomes” (p. 193). When teachers feel confident in their ability to teach and in the
knowledge that they can learn and improve their instruction, they are more eager to take
part in professional development because they think it will help their students. Teachers
can increase their confidence and belief in their abilities when the four sources of self-
efficacy are purposefully embedded in their learning experiences, most beneficial being
mastery experiences and emotional arousal.

Implications for Policy and Practice

The focus of this section is to provide recommendations based on the findings of
this study. Central to these recommendations are the themes of teacher choice,
collaboration, time to process information, and opportunities for hands-on learning
through mastery experiences and opportunities to become excited about learning. These
themes will be integrated in the recommendations based on this study. Table 16 is a
summary of the research findings, themes, and related recommendations.
Table 16

**Study Recommendations Based on Findings**

<table>
<thead>
<tr>
<th>Findings</th>
<th>Related Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PD is perceived as effective by teachers when it includes time for learning, teacher choice, collaboration and other research-based practices such as active learning.</td>
<td>Protect teacher time for professional learning and collaboration opportunities.</td>
</tr>
<tr>
<td>Teacher confidence and belief in their abilities can be positively impacted by engaging in a combination of sources of efficacy such as mastery experiences and emotional arousal. Excitement is most effective when motivating teachers and increasing their confidence.</td>
<td>Provide opportunities for teachers to experience the four sources of self-efficacy, specifically mastery experiences and emotional arousal.</td>
</tr>
<tr>
<td>Teachers can direct their own learning and desire ongoing opportunities to learn.</td>
<td>Create a system change that links PD to teacher evaluation through a formative process.</td>
</tr>
<tr>
<td>Teacher choice of PD makes learning relevant to classroom needs.</td>
<td>Include a strategy of teachers involved in action research as PD.</td>
</tr>
</tbody>
</table>

*Note. PD = professional development*

**Recommendation #1. Protect teacher time for professional learning and collaboration opportunities.** Educators genuinely want to learn so they can become better teachers. It was not difficult to find teachers to participate in this study, although they initially had little idea of what it would entail. They worked persistently to follow the PD activity protocols and to make sure what they were doing would be beneficial to their instruction and students. Teachers want to learn, and therefore, there should be time allowed throughout a school year to let teachers engage in collaborative, meaningful professional learning. Educators in this study agreed that PD sessions that only occur
once with little follow up or time to engage in the learning are not effective. Teachers also lack time to engage in the learning they desire, so it must be provided to them during the school year.

When the school year begins, teachers often do not have opportunities or time for extended PD and learning. They struggle to keep up with daily responsibilities such as lesson planning, grading, and tending to student needs. However, in the study, when given guided opportunities to choose professional development topics and PD activities, teachers were willing to meet with others, plan, read and study professional books, practice a strategy or idea in the classroom, and then reflect and collaborate with others about their experience. They even asked for set meetings rather than doing virtual book studies and had no objections to meetings that took place before school, after school, and during teacher planning times. Teachers expressed that they valued the topics they were learning about and wanted time to learn about things that would benefit their practice. I believe that when teachers can go through a process such as action research, they value their learning and are more willing to engage in PD that is effective and worthwhile.

How can time be provided to teachers when they already struggle with the demands of daily teaching responsibilities? My experiences in this study demonstrated that when administrators and leaders value the professional learning activities of teachers, they find a way to provide the time needed. In order to be given time and opportunities to engage in professional learning throughout the year, leaders and administrators must set up ways for teachers to do so. During this study, the principals in three schools set up coverage for teachers to do peer observations and observe planned lesson study lessons and encouraged teachers to be proactive in practicing their activities. Administrators also
provided safe environments in which teachers felt comfortable being able to practice strategies and learn from them. Typically, administrators decide what teachers need to work on, and faculty meetings often cover single topics that might not be relevant to every teacher. It would have been simple for me to tell teachers what they were going to learn about, and which PD activity they would conduct. I found that allowing teachers to go through the process of defining problems, choosing an area of need to focus on, and determining the activity that best suited them contributed to the success of their PD activities, and empowered teachers to take control of improving their instruction.

Providing teachers with choice not only includes letting teachers choose what they want to learn, but also engaging them in a process of correctly identifying their problems of practice with evidence of areas of needed growth.

For example, in Japan, where lesson study is required and valued by leaders and teachers, this PD activity takes place for an extended amount of time, is taken seriously by educators, and provides time for teachers to accurately and deliberately follow a lesson study protocol (Fernandez, 2002). Teachers take time to plan, reflect, collaborate with peers, and make meaning out of their work. This process is so valued in Japan that the completion of the process is celebrated with a presentation and a dinner event. Lessons learned are shared with others so that many benefit from what was learned. It is critical in lesson study, book study, and peer observation to allow time for teachers to reflect and apply what they learned. Tolle (2010) stated that in America, the most important part of lesson study is neglected, the concluding discussion and reflection after the lesson. This occurs because teachers are not provided protected time to engage in this reflection, although it is a critical part of the learning process. Teachers in this study
recognized the importance and benefit of these discussions and self-reflection, and they valued time to collaborate with each other.

**Recommendation #2.** *Provide teachers with experiences that include the four sources of efficacy.* Study findings provided evidence that teachers find PD effective when sources of self-efficacy are embedded purposefully in PD activities such as lesson study, peer observations, and book study. Mastery experiences and emotional arousal were found to make the most impact on perceived teacher self-efficacy. Teachers valued the hands-on experiences that mastery experiences provide, and several teachers stated that getting excited about their learning and work motivated them and boosted their confidence. Vicarious experiences were also viewed as beneficial when colleagues observed each other and then discussed these observations. These types of experiences should be included in professional development activities.

Every PD activity inevitably embedded more than one source of self-efficacy, and it was the combination of these experiences that contributed to effective PD that also impacted teacher self-efficacy. For example, mastery experiences and vicarious experiences included book study (verbal persuasion). The book study that took place before lesson study and peer observations provided teachers with professional strategies and skills to practice. Also, teachers who chose book study as their PD activity insisted on not limiting themselves to just studying and learning from their books. They all wanted to try something new from the books and see how it worked in their classrooms.

Emotional arousal, as described to teachers as excitement about their learning, occurred naturally due to the activities being conducted. It would be difficult, if not impossible, to proclaim that one is “putting excitement” into a PD activity. How exactly
does one do that? At the beginning of this study, I spent time talking to teachers about what they would be doing and explained their roles in the cycles of action research. Their initial excitement resulted from knowing that they would be working with colleagues and choosing their PD content and activities. As the study progressed, I noted what excited and motivated teachers and tried to keep the momentum of our study activities positive and ongoing so that excitement would continue and ultimately impact teachers’ self-efficacy. Based on the results of this study, I believe administrators and other providers of PD need to pay attention to things that excite teachers and use this leverage to motivate and inspire teachers to learn. I cannot minimize the importance and impact of emotional arousal as an important and perhaps neglected source of self-efficacy. It goes a long way in encouraging teachers to want to learn and improve their practice, and the results of this impact are long term.

Recommendation #3. Create a system change that links PD to teacher evaluation through a formative process. Teacher PD should be connected to teacher evaluation. Teachers are evaluated based on several goals created by the educator. These goals are usually aligned with professional teaching standards. Using year-long learning and professional development activities as employee goals should be an option for teachers. In this way, teachers would be investing in their learning and dedicating time towards PD throughout an entire school year. It would encourage teachers to choose activities meaningful to them, while holding them accountable for their professional activities. Teacher evaluation is typically a top down approach that leaves teachers with few options while being told what they should work on for the year. The study findings
match research studies that teachers should be in charge of their own learning and can benefit from a formative growth process throughout the year.

Administrators can create a change in the system by supporting teachers and trusting them to know what they need to learn within the course of a school year. The current overemphasis on high stakes testing hinders this approach and adds pressure to teachers to perform. However, administrators can support teachers’ efforts to learn by:

- Thinking of PD as a formative and individualized plan of growth
- Allowing teachers to use an action research cycle process to engage in their PD activities
- Approaching PD as a bottom-up approach and listen to teachers’ ideas about their learning and classroom needs
- Working with district leaders to align goals and teacher needs

The district as a whole should also evaluate the entire PD system and approaches used in teacher learning. Study findings supported research that states that using practices such as active learning, collaboration, a focus on specific content, time for ongoing learning, time for reflection, and providing expert support results in effective PD that impacts teacher instruction. Therefore, these practices need to be explored and utilized so teachers can benefit from their learning and student achievement can be increased. If we reconceptualize the way we develop teachers and consider a formative approach to learning, teachers will value their PD activities and instruction will change and improve.

**Recommendation #4. Include a strategy of teachers involved in action research as PD.** As a part of this study, teachers were engaged in a cycle of action research. They experienced choosing their own problems of practice, providing evidence for those
problems, and deciding what format of PD would best suit their needs of learning. This process contributed to the effectiveness of their PD experience and learning. The combination of action research, research-based PD practices, and sources of self-efficacy all were part of a valuable experience for teachers.

The purpose of action research is to improve practice, make meaning of what is learned, and to self-reflect. It is a continuous cycle that encourages teachers and other practitioners to understand varied and multiple meanings (Creswell, 2014). Within this cycle, the outcomes of one cycle inform the actions of the next cycle. The teachers in this study benefitted from constructing their own meaning from their learning so it would be useful to their classroom and instructional needs. They will continue to learn and apply their learning as they continue to work on the problems they identified in their cycle of action research.

Action research is PD. As demonstrated in this study, teachers learned how to identify and direct their own learning, and this learning looks different than previous PD. It has given teachers a way to improve their instruction in meaningful, and they look forward to learning more in the future. As they engage in self-reflection, organizational change occurs and makes a difference in classroom instruction.

**Recommendations for Future Research**

*Expand research of lesson study as PD for language arts teachers.* Lesson study, when conducted in its entirety, was found to be effective by teachers in this study. They choose lesson study because it gave them opportunities to practice skills in a structured environment. Teachers valued this hands-on practice and the protocol that lesson study provides. Lesson study has a research base that primarily includes the
content area of mathematics. Japan uses this form of PD extensively because it provides a cycle of learning that includes a clear research purpose, investigation of lesson materials, collaborative planning of lessons, teaching a lesson, and discussing and sharing results after lessons are taught (Schipper et al., 2018).

Lesson study has a research base that primarily includes the content area of mathematics (Fernandez, 2002; Puchner & Taylor, 2006; Rock & Wilson, 2005; Tolle, 2010). For it to be used in its fullest potential, research should be conducted for lesson study in which the focus is language arts. Would the protocol of lesson study change if the content area is language arts? Can the components so valued in current lesson study processes be replicated in the areas of reading and writing? Does lesson study in language arts contain the research-based practices of active learning, sustained duration, expert support, reflection, and content focus? These are research questions that are worth exploring in order to make lesson study as valuable for other content areas as it is in Japan for mathematics. Because language arts is such an important content area, it would be beneficial to further determine if lesson study is an effective PD tool for professional learning.

**Repeat a cycle of action research with additional educators.** This study resulted in professional development that teachers found to be effective and worthwhile. However, there should be caution that the results of this study were dependent on the context and situation of each individual teacher, and that results may differ if the cycle is repeated. Repeating this cycle with additional teachers would allow the researcher to continue to explore the impact of action research combined with effective PD practices and sources of self-efficacy. More teachers need to learn how to conduct their own PD
through action research cycles that are continuous and dependent on teachers’ problems of practice.

**Lessons Learned**

My experiences in this study were invaluable. I learned to listen to teachers. I learned to trust their knowledge while supporting their areas of need. I learned how to capitalize on teacher excitement and generate excitement as we learned about new things together. The findings of this study validated and supported research that portrays effective features of PD, effective PD formats and activities, and the impact of self-efficacy sources through PD.

As the study was conducted, I adjusted some of my assumptions and expectations as a researcher and practitioner. For example, teachers became more confident about their roles in the action research cycle as they experienced the steps of the cycle. I did not need to tell them what their problems of practice were, what they needed to learn, or how they were going to learn it. I took steps back and let them grapple with the needs of their classrooms, and this resulted in genuine problems that were relevant and useful to teachers. Several of them commented in their interviews that they valued the fact that they were given choices and allowed to choose what they needed to learn. Another example is that I assumed teachers would not want to attend multiple meetings regarding the study and their participation in it. My timeline included a minimal number of meetings and I had planned to conduct some communication through emails. However, I found that teachers preferred meeting at their schools in person so they could discuss and share their ideas and plans. Teachers listed collaboration as an important part of their PD experiences, and they found this time valuable because it aligned with their learning goals.
and PD activities. This is how my expert support provided guidance during the PD activities and assisted in the effectiveness in their experiences. While teachers were empowered in choosing their PD, they also benefitted from support and guidance. I found that when teachers and leaders are working together towards similar goals, much can be accomplished, and teachers feel successful.

As the study concluded, teachers expressed an interest in continuing their learning into the next school year. They suggested that we conduct PD in the summer on their own time, and they insisted that other teachers engage in similar PD activities and learning. Leaders often assume that teachers feel negatively about PD, but that is not the case if the PD feels meaningful to them. Educators in this study genuinely wanted to keep learning, resulting in sustained duration of their PD and making it more likely that they will apply what they learned in their classroom instruction.

As a result of this study and the process we all completed, I changed my original conceptual framework on which this study was based. As one teacher stated, “PD is effective when it changes my instruction.” As I interviewed teachers and read their reflections in journals, I realized that an additional goal of effective professional development is not only to improve teacher quality and increase student achievement, but to provoke change. It is only when change occurs that instruction improves and makes an impact on student success. Figure 4 illustrates the change in the conceptual framework and the impact that effective PD when combined with sources of self-efficacy can have in provoking change.
Figure 4. Impact of Professional Development: Professional development makes an impact on teacher quality, which then impacts student achievement. This impact can be positive or negative and will vary according to effectiveness of the professional development. Yellow highlighted portions of the model were the primary focus of this study.

**Summary**

The conceptual framework of this study proposed that professional development makes an impact on teacher quality which makes an impact on student achievement. To further develop these ideas, the framework also considers that high quality professional development, when combined with the added component of the four sources of self-efficacy, can result in high teacher quality which results in increased student achievement. Although student achievement and teacher quality were not measured in this study, the comments of teachers convey the perceptions that teachers believe their students benefitted from instruction and demonstrated increased understanding of concepts taught. This also excited teachers and motivated them to do more, potentially creating a cycle of change, improved instruction, and higher student achievement.
Teachers agree that they want their students to succeed. There has never been a more critical time that teachers must be effective, and research states that teachers have the greatest and most direct impact on student achievement (Hattie, 2009; Marzano, 2003; Stronge, 2010). Therefore, administrators and leaders must do what they can to support teachers in their learning and development. Providing educators with high quality professional development opportunities can make a difference in empowering teachers and contributing to their sense of self-efficacy. Therefore, the benefits to student learning are evident when teachers put into practice the knowledge they have gained from high quality, meaningful learning experiences.
APPENDIX A
LESSON STUDY PROTOCOL

LESSON STUDY TEMPLATE:
PLANNING TOOL FOR
TEACHERS

(Revised January 2019)

(Name)County Public Schools

Authors of this Lesson:

School/District:

Strand:

Grade Level:

Title of Lesson:
PLANNING AND PREPARATION

This is the _____ First Teaching   _____ Second Teaching.

Demographics of Mr./Ms. __________________’s class. Record the number of students in each category:

<table>
<thead>
<tr>
<th></th>
<th>TOTAL</th>
<th>Black</th>
<th>White</th>
<th>Hispanic</th>
<th>Asian</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Title I: _______    LEP: _______ Special Needs: _______ Gifted/Talented: _______
Free/Reduced Rate (if available): ______

__________________________________________

LESSON LOGISTICS

Title of Lesson:

Lesson Objectives:

Related Standards of Learning (SOL)
I. What do we want students to know?

<table>
<thead>
<tr>
<th>Prerequisite Content Understanding</th>
<th>Potential Roadblocks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Curriculum Resources:

Supplies/Materials Needed:
II. How will we teach them and how will we know when they get there?

<table>
<thead>
<tr>
<th>Teacher Activity</th>
<th>Student Activity (thoughts, words, actions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adaptations/Enrichments
III. What will we do if they do not get there (differentiation)?

<table>
<thead>
<tr>
<th>Teacher Activity</th>
<th>Student Activity (thoughts, words, actions)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Adaptations/Enrichments:
IV. Observer/Teacher Evaluation of the lesson
Lesson: ___________________________________________

<table>
<thead>
<tr>
<th>Guiding Questions</th>
<th>Teacher Thoughts and Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Did students learn?</td>
<td></td>
</tr>
<tr>
<td>2. How do you know if they learned the objectives?</td>
<td></td>
</tr>
<tr>
<td>3. What went well and what did not go well?</td>
<td></td>
</tr>
<tr>
<td>4. How can the lesson be improved?</td>
<td></td>
</tr>
<tr>
<td>5. What could be done differently to improve student learning?</td>
<td></td>
</tr>
</tbody>
</table>
This book study will be conducted for the purpose of learning about a classroom strategy based on a problem you would like to solve or a strategy you would like to use in a classroom. It will be conducted online in a Google Team Drive with a Reading Response Approach and meetings at your school as needed. The following steps will be followed for this book study.

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher Action</th>
<th>Researcher Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overview</td>
<td>Teachers become familiar with the book and learn about the book study process and online component</td>
<td>Explain expectations for participation, Invite participants to Google Team Drive</td>
</tr>
<tr>
<td>2. Discussion and Feedback</td>
<td>Teachers regularly respond to their readings in the reflection guide and respond to group dialogue</td>
<td>Engage teachers in dialogue about what they are reading, give feedback on responses, and pose questions to provoke discussion</td>
</tr>
</tbody>
</table>
| 3. Application of book knowledge | Choose a problem to address in the classroom which can be addressed through a strategy in your book  
Choose a PD format to practice the strategy | Discuss PD options, provide support to teachers |
| 4. Reflection | Share implications of what was learned | Engage in discussion with teachers |
Book Study During Reading Guide

Name ___________________________

My Activities

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

PEER OBSERVATION PROTOCOL

The peer observation will be conducted for the purpose of observing a classroom strategy based on a problem you would like to solve or a strategy you would like to see demonstrated in a classroom by another teacher. The following steps will be followed for this observation.

<table>
<thead>
<tr>
<th>Step</th>
<th>Teacher Action</th>
<th>Researcher Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overview</td>
<td>Decide what the main point of the observation will be and what data will be collected. Data collection can include <em>scripting, counting, or tracking.</em></td>
<td>Support and assist teachers in data collection</td>
</tr>
<tr>
<td>2. Observation</td>
<td>Observe a short lesson sequence in which a strategy can be observed.</td>
<td>Observe the lesson with teacher</td>
</tr>
<tr>
<td>3. Discussion</td>
<td>Engage in a conversation with the researcher or teacher observed to discuss the data collected.</td>
<td>Engage in discussion with observer and teacher of the lesson</td>
</tr>
<tr>
<td>4. Reflection</td>
<td>Think about how the observation information can be used by the observer to improve instruction.</td>
<td>Discussion with teacher</td>
</tr>
<tr>
<td>5. Application</td>
<td>The observer will apply information obtained in the classroom.</td>
<td>Support teacher and observe application in the classroom if applicable</td>
</tr>
</tbody>
</table>
APPENDIX D

INTERVIEW PROTOCOL

Interview and Focus Group Consent Form

Teacher Perceptions of Professional Development Consent Form

You are being asked to take part in a research study of how teachers perceive and view professional development and self-efficacy. I am asking you to take part because you volunteered to be interviewed. Please read this form carefully and ask any questions you may have before agreeing to take part in this interview.

What the study is about: The purpose of this study is to learn how teachers view and perceive a professional development experience and its impact on their self-efficacy.

What I will ask you to do: If you agree to be in this study, I will conduct an interview with you, and you will take part in a focus group interview. The interview will include questions about your job, how you perceive professional development (PD), how you feel about PD sessions and components, and how you feel PD impacts your growth as a teacher. The interview will take about 30 minutes to complete. With your permission, I would also like to record the interview and focus group meetings.

Risks and benefits: I do not anticipate any risks to you participating in this study other than those encountered in day-to-day life.

There are no direct benefits to you. I hope to use this information to improve my own practice when conducting PD for the district and I intend to share results of the study with district leaders in an effort to improve the structure and framework of PD within the district.

Compensation: You may earn 2 PD recertification points for taking part in these interviews, as a contribution to improving teacher training and my practice as a leader.

Your answers will be confidential. The records of this study will be kept private. In any sort of report I make public I will not include any information that will make it possible to identify you. Research records will be kept in a locked file; only the researcher will have access to the records. If I record the interview, I will destroy the recording after it has been transcribed, which I anticipate will be within one month of its taping.
Taking part is voluntary: Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide not to take part or to skip some of the questions, it will not affect your current or future relationship with your school or district. If you decide to take part, you are free to withdraw at any time.

If you have questions: The researcher conducting this study is Jennifer McSweeney. Please ask any questions you have now. If you have questions later, you may contact Jennifer at jmcsweeney@gc.k12.va.us or at 693-3844, or Dr.Constantino or Tom Ward at The College of William and Mary. You will be given a copy of this form to keep for your records.

Teacher Perceptions of Professional Development Consent Form

Statement of Consent: I have read the above information and have received answers to any questions I asked. I consent to take part in the study.

Your Signature __________________________ Date__________________

Your Name (printed)
____________________________________________________________

In addition to agreeing to participate, I also consent to having the interview recorded.

Your Signature __________________________ Date__________________

Signature of person obtaining consent ______________________ Date _____

Printed name of person obtaining consent ______________________ Date _____

This consent form will be kept by the researcher for at least three years beyond the end of the study.
Semi-Structured Interview Questions

The individual interviews will last between 30 minutes to 1 hour. The interview will be open-ended, allowing for additional and follow-up questions if needed. Questions will be brief, printed for participants, and recorded. Each interview will be transcribed. Confidentiality procedures will be explained, and informed consent will be obtained before the interview begins.

Perceptions of Professional Development

1. How do you feel about your PD experience this school year?

2. Was this experience different from other PD you have attended? Describe how it was different or similar.

3. What do you think makes PD effective?

4. What do you feel is the best way to learn about new content, programs, or initiatives?

5. Describe your level of participation in this PD.

6. What needs did this PD address for your classroom instruction?

7. Which of the following features of PD do you feel were present in your PD this year: active participation, content focus, expert support, sustained duration, and an opportunity for reflection?

Perceptions of Self-Efficacy

8. Do you believe you have the ability to improve instruction in your classroom? Why or why not??

9. Do you think you are a better teacher due to your PD experience this year? Why or why not?

10. How do you feel about your confidence and ability to teach particular skills?

11. What elements of your PD experience increased your abilities and confidence in your instruction?

12. Which element of your PD impacted you the most- actively learning, watching another person, being persuaded you can do it, or getting excited about learning? Why?
APPENDIX E

FOCUS GROUP PROTOCOL

The focus group meeting will last between 1 and 2 hours. It will be recorded and transcribed. The researcher and facilitator will share the following norms to ensure active engagement of all participants.

1. All participants will be given the opportunity to speak and share perspectives.
2. Participants may feed off each other’s comments.
3. The researcher will closely monitor the discussion to ensure all teachers can speak.
4. Expectations of confidentiality will be discussed before the meeting begins.
5. At the conclusion of the meeting, the researcher will ask each participant, one by one, if they have any additional comments.

Focus Group Questions:

1. How do you feel about the process of PD you experienced?
2. What was challenging about this process of PD?
3. What would you change about the PD experience?
4. What were the benefits of this year-long PD?
5. What would you like to see in future PD?
6. Did you notice any of the following features in your PD: active participation, expert support, a content focus, sustained duration, an opportunity to reflect?
7. Which of the above features do you feel is most important in teacher PD?
8. Are there other features or experiences you would like to see in your PD experiences?
9. What are your current beliefs of your abilities as teachers?
10. How do you feel about your abilities as a teacher after this year of PD?
## APPENDIX F

### TABLE OF SPECIFICATIONS

<table>
<thead>
<tr>
<th>Action Research Question</th>
<th>Interview Questions</th>
<th>Focus Group Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do teachers perceive lesson study, peer observations, and/or book study as effective forms of professional development?</td>
<td>1. How do you feel about your PD experience this school year?</td>
<td>1. How do you feel about the process of PD you experienced?</td>
</tr>
<tr>
<td></td>
<td>2. Was this experience different from other PD you have attended? Describe how it was different or similar.</td>
<td>2. What was challenging about this process of PD?</td>
</tr>
<tr>
<td></td>
<td>3. What do you think makes PD effective?</td>
<td>3. What would you change about the PD experience?</td>
</tr>
<tr>
<td></td>
<td>4. What do you feel is the best way to learn about new content, programs, or initiatives?</td>
<td>4. What were the benefits of this year-long PD?</td>
</tr>
<tr>
<td></td>
<td>5. Describe your level of participation in this PD.</td>
<td>5. What would you like to see in future PD?</td>
</tr>
<tr>
<td></td>
<td>6. What needs did this PD address for your classroom instruction?</td>
<td>6. Did you notice any of the following features in your PD: active participation, expert support, a content focus, sustained duration, an opportunity to reflect?</td>
</tr>
<tr>
<td></td>
<td>7. Which of the following features of PD do you feel were present in your PD this year: active participation, content focus, expert support, sustained duration, and an opportunity for reflection?</td>
<td>7. Which of the above features do you feel is most important in teacher PD?</td>
</tr>
<tr>
<td></td>
<td>8. Are there other features or experiences you would like to see in your PD experiences?</td>
<td></td>
</tr>
<tr>
<td>Action Research Question</td>
<td>Interview Questions</td>
<td>Focus Group Questions</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>2. What are teacher perceptions of their own self-efficacy following an academic year of professional development in which lesson study, peer observations, and book study are prominently featured?</td>
<td>8. Do you believe your classroom instruction is effective?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Do you think you are a better teacher due to your PD experience this year? Why or why not?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. What are your perceptions of yourself as a classroom teacher?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. What elements of your PD experience increased your abilities and confidence in your instruction?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. Which element of your PD impacted you the most—actively learning, watching another person, being persuaded you can do it, or getting excited about learning? Why?</td>
<td></td>
</tr>
<tr>
<td>9. What are your current beliefs of your abilities as teachers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. How do you feel about your abilities as a teacher after this year of PD?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research Basis

REFERENCES


Jennifer A. McSweeney Lynch

Educational Background

- **Ed.D., Educational Planning, Policy, and Leadership**, The College of William & Mary, Williamsburg, VA, January 2020
- **Postgraduate Professional License** recertified, June 2018 for the Commonwealth of Virginia Endorsements: Reading Specialist, Elementary Education PreK-6, Specific Learning Disabilities K-12, Emotional Disturbance K-12, Intellectual Disabilities K-12, Administration K-12
- **M.Ed., Curriculum and Instruction – Reading**, University of Virginia, Charlottesville, VA, 2009
- **B.S., Interdisciplinary Studies and Special Education**, Texas A&M University, College Station, TX, 1994

Teaching Experience

**K-12 Literacy Instructional Specialist**, 2015 to Present
**Teacher**, 2004 to 2015
**Instructor**, Regional Governor’s School, 2008 to 2015
**Teacher**, 2003 to 2004

Professional Development and Organizations

- Member of ASCD
- Member, 1st Vice President of Gamma Nu, Chapter of Delta Kappa Gamma, 2011 to present
- Virginia State Committee of Leadership, Delta Kappa Gamma, 2019
- SURN Literacy Group, William & Mary, Field Coordinator, 2019