

AN EXAMINATION OF STATE-LEVEL PROFESSIONAL
DEVELOPMENT POLICY:
A POLICY ANALYSIS

by

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ABSTRACT

Professional Development is one of the most common methods for school systems to provide additional training and disseminate new information to faculty members. As such, the professional development process carries a large burden in terms of time, money, and other valuable school resources. Declining state test scores and public pressure to raise student achievement levels places even more importance on the professional development process. Many public and private education research groups have identified features that improve the effectiveness of professional development. State Departments of Education also routinely provide professional development guidance to schools and school systems through professional development policies.

This study will examine professional development policies provided by the Alabama State Department of Education, as well as the professional development policies of a purposeful sample of other States from across the United States. By employing qualitative research methods, this study will seek to determine if the professional development policies of academically successful states contain commonalities that could be included in a list of recommendations for state-level professional development policymakers in the State of Alabama.

DEDICATION

This dissertation is dedicated to everyone who supported and encouraged me while I was on this amazing journey. Thank you for your words of encouragement, your proof-reading, your advice, and your prayers. I especially want to thank my husband who has always been my rock to lean on when I needed strength, my shoulder to cry on when times were hard, and my biggest supporter. I also want to acknowledge the family members who began this journey with me but were not able to be here for the end. I miss you Momma and I hope you are proud.

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CHAPTER ONE

Introduction, Format, Major Components and Organization

Millions of children attend school daily to gain the knowledge, skills, and experiences that will be required to function, and thrive, in modern society. Teachers are at the heart of the learning process, and as such, they have an enormous impact on the quality of the education that students receive (Cavalluzzo, 2004). Teachers are typically trained through a four-year college or university program. This initial course of instruction provides teachers with a rudimentary set of instructional techniques and classroom procedures, but advanced training in specific subject-area content, teaching techniques, new technology, differentiated instruction, meeting the needs of special populations of students, or new curriculum standards often requires additional training. These trainings are typically delivered through a process called professional development. The influx of non-traditional teachers entering the profession have made the professional development process more vital than ever before (Ingersoll, 1998). Individuals are entering the teaching profession as second careers, or from non-education related fields like accounting, business, or history. These newly minted teachers often lack any educational classroom experience and did not take courses in teaching methods or procedures while in college. The little they know about the teaching and learning process comes from their own personal experiences with school, or in the best cases a short, crash course in classroom management. Professional development is one of the few opportunities that these new teachers must learn more about their chosen profession (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009).

Typically, professional development sessions are provided for teachers by their school, school system, or the state department of education, but there are also a variety of private groups and organizations that provide professional development for teachers and administrators. When schools and school systems purchase new programs or instructional resources, additional training and on-going support are frequently included in the purchase price. There are also professional development opportunities provided by local and state teacher unions, non-profit organizations, and for-profit businesses (Kennedy, 2016). The costs of these professional development opportunities range from free of charge to thousands of dollars, and may or may not include travel, meals, or hotel costs if provided in a location away from the school campus (Mizzell, 2010). It is safe to say that professional development sessions are delivered in a variety of formats, to diverse groups, in an assortment of settings - with decidedly mixed levels of success.

The goal of most educational, professional development is a corresponding level of growth in teaching and learning once the professional development is complete (Generation Ready, 2013). There are specialized professional development sessions for school nurses, counselors, and registrars, but it is possible to argue that even sessions in medication procedures, testing policies, and entering student information into school databases ultimately impacts teaching and learning in small ways. For the purposes of this analysis, however, only the types of professional development sessions that are delivered to teachers and administrators were considered. This statement was not meant to diminish the value or impact of other types of professional development. Instead, this parameter was used to constrain the study to manageable proportions.

There are a variety of challenges faced by teachers, principals, central office personnel, and state education leaders. Funding cuts, crumbling buildings, and student apathy plague many

of our schools, and teachers strive to find ways to help their students succeed despite these challenges (Givens, 2018). Many schools and school systems struggle with low test scores and high dropout rates. These schools are often labeled as “failing” schools or “low-performing” schools and can face government sanctions, further loss of funding, and public embarrassment. Current legislation and state policy often allow parents to remove their children from these failing schools and enroll them in higher-performing schools located outside of their school zone (EdChoice, 2018). When there are no other high-performing schools in the immediate area, concerned parents can be left with few options.

Subsequently, the next step for many school systems involves initiating plans to improve the existing schools. Professional development is often the means by which school systems attempt to improve the teaching and learning process, but professional development is not a panacea for all that needs to be corrected in our schools. Educators often spend hundreds of hours engaging in professional development over the course of a school year without a corresponding increase in teaching and learning (Kaplan, Chan, Farbman & Novoryta, 2015). Concerned teachers and school leaders then often feel compelled to spend additional time and resources trying to determine why their efforts have failed.

Many states have provided schools and school systems with written professional development policies that are designed to provide guidance during the planning and implementation of professional development. These policies vary greatly in their complexity, length, content, and structure (Aragon, 2018). Some of these policies are minimal one-page documents containing basic guidelines while other state policies are hundreds of pages long and provide detailed explanations of what types of activities can be considered professional development, how and when professional development can be delivered, how much professional

development should be required yearly for teachers and administrators, and who should be delivering professional development (Alabama State Department of Education, 2019; Georgia State Department of Education, 2005). Some state policies are unique and have been developed by diverse committees composed of educators, business leaders, and other stakeholders. Other state professional development guidelines have been adapted verbatim from policies created by educational organizations like Learning Forward and the American Federation of Teachers (American Federation of Teachers, 2008; Learning Forward, 2011).

Not only are there vast differences in the professional development policies of various states, an examination of National student testing data suggests that there are also vast differences in the levels of effectiveness of the professional development that is provided to educators (Darling-Hammond, Hyler, & Gardner, 2017). If the ultimate goal of professional development is a corresponding increase in teaching and learning, then it follows that effective professional development should positively impact student learning. An examination of available national student testing data casts doubts on the ability of some professional development to positively impact the teaching and learning process. Student test scores on examinations like the National Assessment of Educational Progress (NAEP) and ACT reveal widely different levels of student achievement across the states (ACT, 2017; The Nation's Report Card, 2015).

An examination of professional development policies from educational programs and States across the country reveals the differences and similarities that exist in the current state-level policies. These findings can then be used to identify common characteristics that appear to promote effective professional development. If the professional development policies of academically high-performing states share commonalities that do not exist in the professional development policies of academically low-performing states, then state-level professional

development policymakers may wish to incorporate those characteristics into future state-level professional development policy. By comparing the characteristics of effective professional development, as defined by the literature, with the content of current state-level professional development policies, it was possible to identify areas of strengths and weaknesses in current state-level professional development policies. These characteristics could provide state-level professional development policymakers with additional information to consider when developing future professional development policies.

Purpose of Study and Guiding Questions

There are dozens of state-level professional development policies, created by a variety of educational groups, and containing a wide variety of guidelines, standards, and topics. However, the body of professional literature seems to lack a definitive list of what makes professional development effective. Without a concrete definition or concept of effective professional development, state departments of education have created a variety of professional development policies to regulate, standardize, and facilitate the professional development that is offered to teachers in each State. These policies vary widely in terms of their length, complexity, and content. Some state professional development policies are succinct one-page documents providing a set of minimal guidelines that have been adopted from other sources, while other state professional development policies are complex, individualized documents that provide explicit, detailed instructions regarding many facets of the professional development process. This policy analysis examined the existing professional development policies of several states and compared the content that was found in each policy. The goal of this study was to provide recommendations to policy makers in the state of Alabama regarding defining features, factors or

components that should be included in a professional development policy for teachers developed at the state level. This policy analysis examined a total of five research questions:

1. *What are the characteristics of effective professional development for teachers as identified in the literature?*
2. *Does/do policies regarding professional development for teachers exist in Alabama at the legislative or the state department of education levels? If so, of what do these policies consist? What do they require? What are their foci?*
3. *Do state policies regarding professional development for teachers exist in other states? If so, of what do these policies consist? What do they require? What are their foci? Are their common themes/ideas found across them?*
4. *How does the teacher professional development policy found in Alabama compare with that found in other states?*
5. *Based on questions 1, 2, 3, and 4 above, what recommendations can be offered to policy makers in Alabama regarding the development of a viable teacher professional development policy at the state level?*

The first of these questions was *What are the characteristics of effective professional development for teachers as identified in the literature?* This question was a crucial topic to explore because of the scope and breadth of what can be, and has been, considered to be professional development for teachers. Book studies, seminars, workshops, videos, district-wide motivational speakers, coaching, and side-by-side modeling have all been considered to be professional development activities by states, school systems, and individual schools (Mizell, 2010). These dissimilar activities contain very different components and characteristics and exhibit very different levels of effectiveness (Kennedy, 2016). As a result, it is imperative to establish a set of common characteristics that have been shown to increase the effectiveness of professional development. These common characteristics should then be used to contribute to and guide the development of recommendations for state professional development policies.

The next research question that was examined in this research was *Do policies regarding professional development for teachers exist in Alabama at the legislative or the state department of education levels? If so, of what do these policies consist? What do they require? What are their foci?* Professional development is a well-established facet of the modern teaching and learning process. Alabama teachers spend hundreds, if not thousands, of hours engaged in professional development over their careers (Alabama State Department of Education, 2016). Therefore, it was important to establish whether a statewide professional development policy exists in Alabama, and if it does, what guidelines it contains.

This issue was closely related to the third research question *Do state policies regarding professional development for teachers exist in other states? If so, of what do these policies consist? What do they require? What are their foci? Are there common themes/ideas to be found across them?* Just as Alabama teachers spend hundreds of hours each year engaged in professional development, teachers across the nation devote hundreds of hours of instructional and personal time to attending professional development (The New Teacher Project, 2015). It was important to establish which states have existing professional development policies and what those policies contain. It can be argued that the end goal of almost every session of educational professional development is a corresponding increase in teaching and learning (Generation Ready, 2013). An examination of national testing data revealed vast differences in the levels of student academic achievement across the states. The states' existing professional development policies were examined to determine if there are commonalities contained within these policies that could potentially contribute to more effective professional development and by extension increased student achievement.

This leads to the fourth research question, *how does the teacher professional development policy found in Alabama compare with the professional development policies found in other states?* State professional development policies vary widely in length, complexity, and content. This policy analysis examined the available state professional development policies and compared those policies to the content found in the Alabama State professional development policy. This comparison of the Alabama teacher professional development policy and the professional development policies of other states could possibly yield insights into recommendations for professional development policy at the state level. This was an important concept to consider and was directly related to the final research question that was examined by this study.

The final research question that was addressed by this policy analysis was, *On the basis of questions 1, 2, 3, and 4 above, what recommendations can be offered to policy makers in Alabama regarding the development of a viable teacher professional development policy at the state level?* Ultimately, factors like the length of a professional development policy, the source of the content, or the content itself are less important than the effectiveness of the policy. Schools, school systems, State Departments of Education, educational organizations, and outside vendors will continue to provide professional development to Alabama teachers. Teachers will continue to devote thousands of hours of classroom and personal time to attending these professional development sessions. Policy makers in Alabama must do everything possible to make sure that the professional development that is being offered to Alabama teachers is effective by providing a professional development policy that will guide the development, delivery, and implementation of effective professional development across the state. Through the analysis of current literature on effective professional development and by examining the professional development policies

of other States, this study provides state-level professional development policy makers in Alabama with recommendations for the development of a more effective professional development policy.

Rationale and Justification for the Study

Professional development is a large part of the American educational landscape, but there is little consensus as to which activities constitute professional development, what makes professional development effective, what professional development ultimately costs, or how the effectiveness of professional development can be measured. Despite these limitations, professional development is a widespread component of the teaching and learning process (Sabol, 2013). Many states require documentation of hours spent engaged in professional development as a part of the teaching certificate renewal process (Alabama State Department of Education, 2016). There are also mandatory professional development sessions that teachers, administrators, and other educational personnel are required to attend, often yearly, as a requirement of their role in the school or a school system. Teachers in many states are obligated to attend sessions on anti-bullying, suicide prevention, disproportionality awareness, and teaching children with disabilities during the yearly scheduled in-service meetings or on random days scattered throughout the school year (The Jason Foundation, 2016).

Additionally, when schools or school systems purchase new technology, the teachers often require specialized training regarding the use of the new equipment (US Department of Education, 2017). The adoption of a new Course of Study or curriculum frequently requires the retraining of entire grade levels or subject-area departments within a school, school system, or state. Recently hired employees may be required to attend “new teacher” training where district policies and procedures are reviewed, employment paperwork is filled out, passwords are issued,

and mentor/mentee relationships are established. Throughout the first few years of their employment, new teachers are usually provided with additional training in classroom management and instructional strategies (Mizell, 2010).

Administrators often identify teacher weaknesses during observations and classroom walk-throughs, and then suggest or even mandate, additional training for specific teachers. If a teacher works in a school or school system that has been labeled as “low-performing”, “under-performing”, or simply “failing”, there are often additional professional development requirements put in place by the school system, the State Department of Education, or the United States Department of Education. Teachers in these schools and school systems are routinely provided with substantial additional training in a variety of topics including instructional strategies, parental involvement, assessment creation, curriculum development, and data analysis (Straus & Miller, 2016).

These, and other, professional development requirements carry a cost, not only in financial terms, but also in terms of lost classroom time and the allocation of limited resources. Schools and school systems must frequently prioritize their needs and select the professional development sessions that will address their most pressing weaknesses. These expenditures can leave large segments of school personnel, or entire academic departments, without the needed funds or resources to pursue professional development activities for extended periods of time, even years.

Even when professional development is adequately funded and provided to teachers by the school or school system, there is an additional cost to the instructional capacity of the school (Jacobowitz & Kayser, 2015). Teachers cannot effectively teach when they are not in their classrooms, and substitute teachers are often underqualified to instruct students in the content

found in many upper-level math and science courses like Calculus or Physics. Teachers and administrators often find themselves weighing the potential benefits of attending, or approving, professional development sessions against the negative consequence of lost instructional time in the classroom.

Along with the costs associated with professional development, another important factor that schools, school systems, and providers of professional development must consider is the ability to accurately measure the effects of professional development. There should be a stated goal or outcome associated with all professional development initiatives, and schools and school systems should be able to determine whether the stated goal has been realized or not (Mizell, 2010). To assist with the process of accurately determining if the goals and outcomes of a professional development session have been met, researchers have begun to develop instruments to determine if the professional development that is being offered is meeting its intended goals.

Some state departments of education and other providers of professional development are developing and implementing ways to measure the effects of professional development (Hammond, 2005). This measurement is important to consider and include in any discussion pertaining to professional development because of the possible link between measuring the outcomes of professional development and determining factors that increase the effectiveness of professional development. Measuring the variables that are associated with professional development can lead to identifying common factors, and then eventually recommendations, that should be included in professional development guidelines and policies in order to maximize the effectiveness of the activities that are being offered to educators and to ensure that the professional development process is doing what it was designed to accomplish.

A discussion of professional development would not be complete without addressing the question of effectiveness. If the professional development that is delivered to teachers is not effective, then the issues of financial costs and lost instructional time become even more concerning (National Staff Development Council, 2001). If professional development is not designed and implemented in ways that maximize the effectiveness of the process, and by extension its likelihood to have a positive impact on teaching and learning, then it does not matter how much the professional development session costs or how much time it takes the teacher out of the classroom. A teacher could attend a no-cost professional development session during non-school hours and still feel as though they wasted their time and energy if the professional development session is non-effective. Non-effective professional development has been shown to have little impact on teaching and learning and is often nothing more than a checkmark that satisfies professional development requirements for a teaching certificate renewal (The New Teacher Project, 2015). Even more alarming, non-effective professional development can lead to teachers being disinterested in attending future professional development sessions (Kennedy, 2016). Once a teacher has suffered through hours or days of ineffective professional development, they are unlikely to willingly return for another round.

Being able to accurately track how much is being spent on professional development, employing appropriate instruments to measure the outcomes of professional development, and developing and delivering professional development in ways that have been shown to increase the effectiveness of the process are important concerns for schools and school systems. As someone who develops and delivers professional development in schools across Alabama, the topic of effective professional development is very important to me in my daily work. My company is contracted to provide professional development activities that have been selected by

central office personnel or school administration. Depending on the grade-level of the audience or the content area that will be addressed, an Achievement Practices coach with the appropriate qualifications is selected to deliver the requested professional development. The coach then contacts the school or school system to confirm the details of the session, content, location, participants, etc., and the specified date for the session.

This distinct style or method of professional development model contains flaws that need to be addressed. As the teachers arrive at the professional development session, it is often clear that many of them have just learned of the session. They do not want to be there, and they have no intention of incorporating the information that will be delivered into their daily practice. The teachers regularly complain that professional development sessions take them out of their classrooms too often, do not meet their individual needs, or are duplications of trainings they have attended before. When these concerns are replicated in thousands of professional development sessions in hundreds of schools across the country, improving the professional development process is a must.

Overview of Research Design and Methods

This study was an in-depth analysis of state-level professional development policies. By examining the current literature on effective professional development and combining that information with the data collected from the analysis of other state-level professional development policies, the objective of this study was to identify areas of weakness in the existing Alabama professional development policy. The end goal of this study is a series of recommendations to state-level policymakers in Alabama as to how they might improve professional development policy at the state level and thus facilitate more effective professional development practices at the district and school levels.

The current professional development literature provides a variety of examples of activities that are commonly considered to be professional development, but there are few general descriptions of professional development. This lack of descriptions means that a conceptual definition of professional development had to be developed for use in this study. Since this policy analysis was structured to ultimately answer the question of how to improve the effectiveness of professional development for Alabama teachers, a definition of effective professional development also had to be established. It was very difficult to discuss ways to make something **more** effective if one had not first established the threshold criteria of effectiveness.

The unit of analysis for this study was existing state-level professional development policies. Using the 2015 8th grade mathematics NAEP data, 53 distinct educational programs were identified. This number included the 50 United States, the District of Columbia, the United States Department of Defense's educational program, and Puerto Rico. It is important to note that the inclusion of NAEP data in this study was done only as a means of sampling the various educational programs in terms of student test scores. A link between NAEP scores and state-level professional development policies has not been established at this time. Additionally, this study did not attempt to link NAEP scores with effective professional development policy or student achievement.

Using the 2015 NAEP scores as a ranking tool, the list of 53 educational programs was ordered from the highest academically performing states/organizations to the lowest academic performing states/organizations, and then the list was divided into four groups. A purposeful sample was drawn from each of the four quartiles as determined by the NAEP scores from the 2015 8th grade mathematics assessment. This sample was limited to states/organizations with

available professional development policies. An internet search was conducted to search for the professional development policy for each educational program tested by the 2015 8th grade mathematics NAEP assessment.

If the state-level professional development policy for a particular state could not be found through an internet search, the researcher attempted to contact and request via email and/or phone call, the State Department of Education of each state whose policy could not be located. If the state-level professional development policy could be located, then the state or program was included in the sample. Care was used to ensure that at least 5 professional development policies from each of the four quartiles was included. An attempt was made to over-sample the highest and lowest groupings, but this was not possible due to the availability and accessibility of professional development policies.

The literature review was vital in establishing a definition of effectiveness in terms of teacher professional development. By examining the current literature from educational researchers as well as findings from educational task forces and commissions, a picture of effective professional development practices began to emerge. These findings were used to develop a rubric that was used to critically analyze the state-level professional development policies from each state. By using this rubric, it was possible to identify which state-level professional development policies contain the specific elements or characteristics that have been shown to facilitate effective professional development. If the high-achieving, academically successful states' professional development policies contained features or elements that were not found in the professional development policies of the lowest academically performing states, these elements were included in a list of recommendations for state-level professional development policy makers.

Definitions of Key Study Terms

There were several key study terms that needed to be defined for the purposes of this study. The first of these terms was professional development. The literature provides a great deal of information regarding the types of activities that are commonly considered to be professional development. However, these lists of activities are not a definition of professional development. For the purposes of this study, professional development was termed as any activity that develops an individual's skills, knowledge, expertise, or other characteristics that are essential to their role in the educational process.

In addition, professional development is provided for school faculty and staff in many non-instructional areas of a school during the course of a school year. Janitorial staff, Child Nutrition Program (CNP) employees, registrars, school counselors, bus drivers, and maintenance workers are just a few of the groups of support staff within a school or school system that receive professional development throughout the year. While the importance of the roles that these individuals play within the educational process should never be minimized, the focus of this study was primarily centered around the types of professional development that center on teachers and, by extension, administrators. Therefore, it was also important to define teacher professional development. For the purposes of this study, teacher professional development was considered to be any activity that develops an individual's skills, knowledge, expertise, or other characteristics that are essential to their role in the teaching and learning process.

Since this study was an analysis of policy, it was also imperative to define policy. A policy is a rule, intention, or course of action chosen by an authoritative, decision-making body (ADMB) that is developed to address or solve a public problem or to pursue an opportunity. As such, it represents a decision (Johnson, 2001). Policy functions to define, with varying degrees of

specificity, what is to be done, what can and cannot be done, what are the responsibilities of the individuals involved, what are the responsibilities of the institutions or organizations that are involved, what are the available resources that will be utilized, and what is the nature of relationships between individuals and groups that are involved.

As a tool of social science, policy analysis exists to address the complex and often perplexing problems of society. Dye (2017) defined policy analysis as the study, description, and recommendations for public policy at the national, state, or local level. Policy analysis is characteristically centered around the following set of issues: the cause of the policy, the content of the policy, and the consequences of the policy. A policy analysis typically seeks to answer the following questions: Why did a given policy come into existence? What are the causes or determinants of the policy? What societal problem prompted the need for a policy? What is or should be the content of a policy? What policy will be developed to solve a problem or take advantage of an opportunity? What alternatives are there to choose from? How will the chosen alternative be implemented? What are the anticipated or actual consequences of a policy? What were the positive and negative effects of the policy?

In the context of education, policy analysis provides a means of addressing, but not necessarily resolving, the myriad of problems facing public and higher education. Education policy analysis is concerned with using the methods and fruits of the scientific method, i.e., knowledge and research, to examine the causes, content and consequences of education policy for the purposes of: 1) solving the problems of education; and 2) improving the effectiveness/efficiency of education practice (Johnson, 2001).

Limitations of Study

This policy analysis examined the professional development policies of a sample of educational programs and states, both academically high-performing and low-performing, to identify commonalities or features that they share as well as the differences among them. The state professional development policies that were included in this policy analysis were acquired through an internet search of publicly available public documents as well as through email and phone requests. From the outset of this study, it was likely that the professional development policy of every state would not be acquired. Unfortunately, it is possible that educational programs and states that were not included in this study may also have professional development policies that could yield usable data. Unless these state-level policies were made available to the general public, it was not possible to include them in this or any other research.

The data source for the selection of the included states' professional development policies came from the 53 states and educational organizations included in the 2015 8th grade mathematics NAEP results. These 53 states and organizations were ranked from highest performing to lowest performing and then divided into 4 quartiles, and at least five state policies from each of these divisions were included in the final policy analysis. However, these sources represented less than 100% of the states or organizations that exist. Therefore, limited availability to data should be considered a limitation of this study.

While it is possible to identify factors that improve the effectiveness of professional development, it is not possible to control many other factors that are associated with professional development. The attitude of the professional development participants, their willingness to implement what they have learned, demands associated with other initiatives taking place in the

school, and even the time of the year that professional development is delivered can have an impact on the perceived effectiveness of the professional development sessions that teachers attend (Feist, 2003; OECD, 2019). Even if schools, school systems, and other providers of professional development implement the suggestions contained in this dissertation, it would still be possible for the professional development to fail to achieve its intended goal due to circumstances out of the control of the professional development attendees, developers, or facilitators.

Understanding how to accurately track the costs associated with professional development and creating instruments and methods for measuring the outcomes of professional development were important to developing a firm understanding of the professional development process. However, cost and outcomes were not be the focus of this study. Instead this study was limited to recommendations for how to make professional development more effective for Alabama teachers through suggested policy changes. While tracking the costs associated with professional development and measuring the effects of a professional development delivery are important parts of the professional development landscape, this study does not explore new school-based accounting techniques or professional development measurement instruments.

A recent development in the delivery of professional development has been the emergence of web-based or on-line professional development. Many teachers, schools, school systems, and providers of professional development have championed the on-line professional development model for a variety of reasons. Teachers enjoy the expediency of attending professional development when it is convenient for them, and schools and school systems enjoy the lower costs and expanded selections that are often found in web-based professional development (Killeen, Monk & Plecki, 2002). Providers of professional development often

prefer the on-line professional development model because it allows a single presenter to deliver a session to many participants over wide geographical areas. Some on-line professional development sessions do not employ a presenter at all and are pre-recorded or videoed well before they are delivered to customers. Once these sessions are developed, they can be delivered again and again without incurring any additional expenses on the part of the company that is providing the professional development (Bartley & Golek, 2004).

The analysis of the existing state-level professional development policies contained information related to technology and professional development activities. While it is possible that the professional development policy recommendations that result from this professional development policy analysis could be applicable to on-line professional development, that was not a focus of this study, and thus, it is a possible limitation.

Organization of Study

While the intent at the proposal stage was to organize this policy analysis around the research questions noted above, the final structure of the study remained emergent in anticipation of the collection and analysis of study data that might suggest otherwise. In the end, the final structure of this policy analysis did not conform to a traditional five-chapter dissertation format. Nevertheless, it will contain all the elements associated with each of these chapters.

Situating Oneself as the Researcher

As a former Alabama teacher and an educational consultant who now delivers professional development for teachers and administrators, professional development is a topic that is vital to my daily work. As I visit schools across the state, the academic struggles being experienced by many schools in Alabama is apparent. Low test scores, high numbers of dropouts, student apathy, and a rapidly shrinking teaching force are compounding many of these issues.

The State of Alabama releases a list of failing schools on a yearly basis. In 2018, there were 75 schools across Alabama on the failing school list with most of these being secondary schools (Crain, 2019). According to a definition provided by Alabama legislation, a failing school is a school that scores in the bottom 6% for the previous academic school year on the state standardized assessment in reading and math. This description was amended in 2015 to exclude any schools that serves special populations of students. Of the 75 failing schools on the list in 2018, 24 of the schools had been added to the list that year, which means that 51 schools had been on the failing school list for more than one year. Eleven of the newly added 24 schools had been on the failing list before but were not on the failing list last year, and thirteen of these schools had never been on the failing list until 2018 (Beahm, 2018, January 25). In January of 2019, the 2018 list of Alabama failing schools was released with a total of 76 failing schools. Twenty-five of the schools on the 2017 failing schools list were not on the 2018 list, and 26 new schools were added. Six of these schools had never been on the failing schools list before, but eight of the schools have been on the list every year since its inception (Crain, 2019).

At some point during my career as an educational consultant, I have personally worked in 25 of the 75 schools on the 2017 failing schools list. These schools, or in many cases the central office supervisors, have contracted with my company for instructional coaches to deliver professional development sessions for the teachers and administrators. The topics of the sessions I have delivered include instructional strategies, test preparation, increasing instructional rigor, analyzing data, classroom management, and constructed response questions. The content, format, and delivery of these and other sessions delivered by coaches who work for my company are usually left to the discretion of the individual presenters. The schools and school systems typically give the Achievement Practices coach the autonomy to deliver a session as they see fit.

In other words, the systems may choose the topic, but the “how” of the day is frequently left to the individual facilitating the session. When professional development sessions are chosen at the system-level, I am often the person who informs the individual schools and their administrators that the sessions are taking place and topic(s) that I will be presenting. Despite frequent, repeated, and determined attempts to communicate with the schools, school leadership, and/or the teachers attending the sessions, I am often a complete surprise when I arrive on the morning of the professional development session. When teachers have assessments, special projects, presentations, or other classroom activities planned for their students, the last thing they want to do is hand their classes off to a substitute and spend the day in a professional development session. Depending on the culture and climate of the school, on the attitude of the teachers, and on how much power and influence the administrator holds with the staff, a compilation of these factors can be enough to derail the professional development before it even takes place.

Many of the teachers I work with feel underpaid, underappreciated, and overworked, and they have few outlets to express their frustration. One way that they often let the administrators and school leaders know that they are not happy with their current circumstances is through non-compliance. In other words, teachers may have to attend professional development sessions, but once they return to their classrooms, they have no intention of implementing anything they were told or learned during the session. Ultimately, this attitude frequently results in the professional development session being a waste of time, money, and resources...all of which are in short supply in many Alabama schools.

This realization was a pivotal moment in the development of the purpose of this study. If professional development is an inescapable component of the teaching and learning process, should schools, school systems, and professional development facilitators not do everything in

their power to make the professional development meaningful and effective? The answer to this question seems to be an apparent and resounding “yes”, but if this is the case, then why are there so many instances where ineffective, and ultimately meaningless, professional development continues to be delivered to educators? There is an adage in education, “Work smarter, not harder”. An examination of national student assessment data reveals that there are many states that academically out-perform Alabama. Rather than continuously reinventing the wheel, Alabama educators and policy makers should look to these more academically successful states and determine if there are things that can be learned from how professional development, teaching, and learning is managed in those states.

The professional development conversation flows through a multi-step process. First, professional development happens in schools. Whether it is mandated or voluntary, educators at a school might attend hundreds, even thousands, of professional development hours every year (The New Teacher Project, 2015). Second, professional development is one of the few ways that are readily available to improve schools, and as a result, teaching and learning (Mizell, 2010). When schools struggle academically, professional development is often the first place that school leaders turn to correct identified issues. Third, many states provide written guidelines and policies to direct the development and implementation of professional development. Schools and school systems rely on these policies when planning professional development activities for educators. Fourth, there are academic differences between the states. Many of the challenges that face students can be found in all states and issues that impact student achievement like lack of parental involvement, socioeconomic challenges, cognitive impairments, and lack of employment opportunities after graduation, exist in all areas of the country. National student

achievement test data seem to reveal that other states have been more successful in overcoming these challenges. If these pieces are pulled together, an interesting picture emerges.

The realities of professional development are as follows: professional development happens in schools, schools use professional development to facilitate improvement, and states develop policies to guide professional development. Some states are academically successful, and other states struggle to meet academic expectations. The possible link between professional development policies that guide and direct effective professional development and academic success must be explored. If this link could be established, then academically struggling states could implement the components of professional development policies that promote effective teaching and learning and ultimately improve student achievement.

As part of my course work for my Ed.D., I have taken a variety of research courses. These courses include BER 540 (Statistical Methods in Education), BER 600 (Quantitative Research Methods), BER 603 (Survey Research in Education), BER 640 (Quantitative II), and BER 631 (Qualitative Research I). As an undergraduate mathematics major and a secondary mathematics teacher, I also have wide-ranging experience with basic statistical measures and probability like measures of central tendency, z-scores, t-tests, and regression. I believe that the graduate courses that I have taken, along with my classroom experience with teaching statistics, have more than adequately prepared me to complete this policy analysis.

My experience as a professional development presenter has also given me a unique perspective in addressing the over-arching question of this policy analysis, *what can be done to make professional development more effective for Alabama teachers?* As a classroom teacher, graduation coach, and instructional coach, I have attended and delivered dozens of professional development sessions. In my current role as an educational consultant, I have delivered over 100

professional development sessions per year for the past seven years. I believe that this gives me a unique lens to examine professional development policy and effectiveness. As a presenter, I know what teachers like and dislike about professional development, and as a professional development attendee, I know what I found to be effective and what I found to be ineffective. By refining the factors of effective professional development from the body of research and examining the components of various professional development policies from educational programs and States across the United States, I believe that I will be able to create a list of recommendations for Alabama policy makers to adopt when revising existing or creating new professional development policy.

CHAPTER TWO

Professional development is an integral part of education and is often an enormous investment on the part of schools and school systems in terms of time, resources, and funding. It is important for school leaders to ensure that the professional development that is being provided to members of the education community is effective and accomplishes its intended purpose. Many state departments of education have policies in place that govern the professional development process in each state. There is a great deal of disparity among these policies, with states adopting different professional development standards, guidelines, and expectations. It is important that these policies are promoting effective professional development in order to maximize the return on the investment being made by schools and school systems. As a provider of professional development for teachers and administrators, I also have a vested interest in determining and identifying what makes professional development effective.

This literature review will examine current research pertaining to factors that increase the effectiveness of professional development, various methods for measuring the effectiveness of professional development, research regarding the costs of professional development, and suggestions for improving professional development. Each of these major themes will help to inform our knowledge base regarding professional development. The ultimate goal of this dissertation is to make recommendations to the State of Alabama regarding current professional development guidelines and policy. It is vital to have a good understanding of all aspects of

professional development before making suggestions intended to help facilitate effective professional development for Alabama teachers.

The first major topic to be explored in this chapter is *What are the characteristics of effective professional development?* Once a clear picture emerges of what effective professional development looks like, the current Alabama professional development policy can be examined to ensure that it contains these characteristics. If current policy does not contain these characteristics, then specific suggestions for professional development policy changes can be made.

The next topic that will be examined in this literature review is *How professional development effectiveness can be measured?* Professional development requires a substantial commitment of time, resources, and funds, and schools and school systems should measure the effectiveness of the professional development that they offer. Without such a measure, schools and school systems have no way to know if the professional development that was provided was worth the cost or accomplished its intended goal.

Exploring the costs of professional development is another area of focus for this literature review because the availability of professional development activities is often determined by costs and available funds. When limited resources are available, schools and school systems must make difficult decisions regarding which professional development activities will be funded and which activities will be postponed to a later date or abandoned entirely. The professional development policy of the State of Alabama should provide educators with guidelines to help them make the difficult decisions that often emerge when all the professional development needs of a school or school system cannot be funded.

Finally, this literature review will examine suggestions for improving professional development. Professional development is firmly entrenched into the modern educational landscape. As an almost unavoidable component of teaching and learning for most educators, professional development should be continuously improved by rethinking and reimagining what we consider to be professional development in order to meet the changing needs of teachers, administrators, and other school personnel. The professional development policy of the State of Alabama should facilitate and promote alternative forms of professional development that have been shown to be effective means of improving teaching and learning, in addition to providing guidelines for improving the professional development that is already taking place in schools and systems across the state.

What is Professional Development?

A definitive, wide-spread definition of professional development does not currently exist in the literature. Different educational organizations, state departments of education, and researchers have defined professional development in a variety of ways. For example, the *Glossary of Educational Reform* assigns the title of professional development to a wide variety of specialized training, formal education, or advanced professional learning activities intended to help administrators, teachers, and other educators improve their professional knowledge, competence, skills, and effectiveness (Great Schools Partnership, 2014). The creation of a concrete definition of professional development is further complicated by the many variables inherent in the delivery of professional development. Professional development can be funded through public or private sources; it can vary in duration from a single-day workshop to a multi-year advanced degree program. It can be delivered in-person or online, during the school day or after school hours, or it can be facilitated by teachers, central office personnel, or outside

consultants. This list is by no means inclusive and includes just a few of the many variations that can occur in just the design and implementation of professional development.

Considering the variety of topics, formats, and delivery methods, being able to create a specific definition of professional development becomes even more difficult. Professional development topics can include the following topics: acquiring additional content knowledge, classroom management techniques, instructional strategies, earning a certification to qualify to teach specific programs like Advanced Placement or career technology, analyzing and using student data to drive instruction, acquiring new technology skills like white boards or student data management systems, participating in professional learning communities, facilitating collaboration and co-teaching, supporting students with special needs, mentoring new teachers, engaging in action research, pursuing National Board for Professional Teaching Standards certification, and obtaining advanced university degrees. This list only scratches the surface of what can be, and has been, considered professional development, but there have been some attempts by groups and organizations to formally define professional development.

The United States Department of Education used the No Child Left Behind (NCLB) legislation of 2001 to formally define professional development as “a comprehensive, sustained, and intensive approach to improving teachers’ and principals’ effectiveness in raising student achievement.” This definition, however, still leaves one without a specific description of professional development. The Organization for Economic Co-operation and Development developed a broad definition of professional development for use in the Teaching and Learning International Survey that was conducted in 2009. This group defined professional development as “activities that develop an individual’s skills, knowledge, expertise and other characteristics as a teacher” (OECD, 2009). While more precise than the definition offered by NCLB, this

definition remained broad enough to recognize that professional development happens in a variety of ways, ranging from formal to informal, and can encompass experiences like coursework, workshops, formal qualification programs, collaboration between teachers and schools or within schools through observational visits and teacher networks, coaching/mentoring, collaborative planning, and the simple sharing of good practices among teachers.

The Elementary and Secondary Education Act of 1965 (ESEA) was reauthorized as Every Student Succeeds Act in 2015 (ESSA) and included an updated definition of professional development. This lengthy definition was developed in collaboration with the organization Learning Forward and states that professional development is

“an integral part of school and local educational agency strategies for providing educators (including teachers, principals, other school leaders, specialized instructional support personnel, paraprofessionals, and, as applicable, early childhood educators) with the knowledge and skills necessary to enable students to succeed in a well-rounded education and to meet the challenging State academic standards; and are sustained (not stand-alone, 1-day, or short term workshops), intensive, collaborative, job-embedded, data-driven, and classroom-focused”

The Learning Forward definition of professional development was further supported by the inclusion of eighteen examples of specific activities that could be professional development (Learning Forward, undated).

Various states have also provided professional development definitions as part of their state-wide professional development policies. For example, the New Jersey Department of Education took the Learning Forward definition of professional development and adapted it as the official state definition of professional development. The New Jersey definition of professional development is a six-part definition that includes the stipulations that professional development should be comprised of professional learning opportunities aligned with student learning and educator development needs and school, school district, and/or state improvement

goals, and should have as its primary focus the improvement of teachers' and school leaders' effectiveness in assisting all students to meet the Common Core Curriculum Standards (New Jersey, 2014). The New Mexico Department of Education also provides a definition of professional development which states that professional development is "a systemic process by which educators increase knowledge, skills, and abilities to meet professional and organizational goals that build capacity within the individual, organization, and education system for the purpose of ensuring success for all students." (New Mexico, 2004). Darling-Hammond, Hyler, and Gardner (2017) offered a much more streamlined definition of professional development when they stated that effective professional development is structured professional learning that results in changes in teacher practices and improvements in student learning outcomes. Quint (2011) provided an even more succinct definition of professional development; formal in-service training to upgrade the content knowledge and pedagogical skills of teachers.

For the purposes of this paper, professional development will be considered to be any activity that develops an individual's skills, knowledge, expertise, or other characteristics that are essential to their role in education. This definition is broad enough to allow for activities of various duration, conducted in a variety of formats, and delivered by anyone with expertise in an area applicable to education.

Why is Professional Development Important?

Reform efforts have become commonplace in education. Low test scores, large numbers of failing schools, and high numbers of dropouts have caused schools and school systems to reevaluate their current practices. One popular reform strategy focuses on creating polices that allow students to leave schools with poor performance histories and enroll in higher performing schools. However, unless there is a higher performing school nearby, there are few available

options for students and their dissatisfied parents. For many school systems, the next step becomes finding a way to increase the number of high performing schools by improving the existing schools (Miles, Odden, Fermanich, & Archibald, 2004).

There is an established link between teacher professional development and increased student achievement in mathematics, science, and English-Language arts (Miles, Odden, Fermanich, & Archibald, 2004). In an analysis of nine research studies, Yoon, Duncan, Leem Scarloss and Shapley (2007), found that students in the control group could have improved their achievement results by an average of 21 percentile points if their teachers had received effective professional development. Additional research by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) supports these findings. These researchers conducted an analysis of well-designed research studies and found that professional development that offers substantial contact hours, ranging from 30 to 100 hours, spread over 6 to 12 months, showed a significant positive effect on student achievement.

Schools, school systems, and State Departments of Education are actively seeking ways to increase student achievement, and as a result, new policies, programs, initiatives, and dramatically increased academic expectations are put into place every school year. To meet these new expectations, teachers often need to deepen their content knowledge and acquire new methods of teaching. They also need time to collaborate with their colleagues to develop, master, and reflect on new teaching methods.

Bredson and Johansson (2000) identified three types of professional development. First, there is individual professional development where the topic, skills, and learning are determined by the teachers' individual interests. These professional development sessions are typically selected by the teacher and are often attended by a very small number of school personnel. The

second type of professional development is skills training where the selection of the professional development session is driven by the introduction of new technology or a need for increased competency in a specific area. When schools or school systems apply for grants or other sources of outside funding for new computers, computer programs, or classroom technology, the grant typically includes some level of professional development support. Additionally, the adoption of a new curriculum will often be supported by substantial professional development opportunities. The third type of professional development is what Bredson and Johansson called the “information shower” where the focus of the session is the dissemination of a great deal of information, often with little or no expectation that there will be an impact on teachers or their work. The information shower is a very common type of professional development. According to research done by The New Teacher Project, teachers spend an average of 24 hours per year participating in one-time professional development sessions, even though only 36 percent of those teachers said that the sessions were a good use of their time (The New Teacher Project, 2015).

Professional development represents an enormous investment on the part of schools and school systems in terms of time, money, and resources. However, research has shown that schools have little or no grasp of what is being spent to fund professional development. Existing professional development efforts are often overseen by a variety of departments with little to no coordination of offerings. Various departments may schedule duplicate professional development sessions, or in some cases conflicting professional development sessions. Unfortunately, in many cases the available professional development offerings simply fail to ever address the specific school and/or teacher needs.

There is even less data regarding the effectiveness of most professional learning. Teachers often attend professional development with no follow-up, no evaluation, and no expectations or plan for implementation from school leaders. Even when teachers are receptive to the new information gained during professional development, many of them can struggle to incorporate the new learning or practices into their classroom routines. The effectiveness of professional development can be impacted by a variety of factors which may be out of the control of the school or school system. State-level professional development policy should provide schools and school systems with guidance for ways to make the professional development that is taking place as effective as it can be for teachers.

In the quest to maximize student and teacher outcomes, schools and school systems should ensure that the professional development that is being offered is effective for a variety of reasons. First, many states typically require some type of professional development or continuing education as part of ongoing certification or licensure procedures (Barrett, Cowen, Toma, and Troske, 2015). In Alabama, teachers and administrators must earn a minimum of 50 professional development hours per year to renew their teaching certificates or administrative certification (Alabama Department of Education, 2016). There are also yearly professional development sessions that are mandatory for Alabama teachers, i.e. anti-bullying initiatives and suicide prevention programs (The Jason Foundation, 2016). Since professional development is unavoidable for most teachers, it is important for the professional development to be effective.

Second, professional development is expensive in terms of time, money, and resources. Instructional time that is lost when a teacher is absent from his or her classroom should be weighed against the anticipated benefit of attending training during the school day. If a school system chooses to devote resources to a professional development implementation, this

expenditure often comes at a cost to other programs and initiatives in the system. Professional development should be effective in order for the costs to be justified. Finally, teaching is a field that is ever-changing. New techniques, instructional strategies, and methods are developed on a regular basis. Fluctuating accountability requirements and new academic standards often lead to what some teachers have described as “a moving target” of success. Momanyi (2012) found that for teachers to be effective in their classrooms, they need an understanding of the content that they teach, they need to understand how students learn, and they need a tool-box of strategies and practices that promote student learning.

Education is frequently described as a fluid field with rapid changes and as such, no initial course of teacher education could be expected to prepare a teacher for an entire career. States frequently implement new accountability testing models and develop new academic expectations for students and teachers. What constitutes academic success is often a moving target and what was sufficient this year may be considered substandard in subsequent years. The current accountability policy may change dramatically before the next school year starts. Professional development sessions are one of the most popular ways to disseminate new information to school staff. Therefore, schools and school systems should do everything possible to ensure that the professional development that is being offered is effective, and that the benefits of professional development outweigh the costs, and that there is some way to measure the effectiveness of professional development, and that the current state-level professional development policy facilitates this process.

Effective Professional Development

There is a great deal of literature concerning what makes professional development effective. Bayar (2014) identified two types of professional development: traditional and non-

traditional. Traditional professional development consists of activities like short workshops and conferences, while non-traditional professional development activities are more closely aligned with mentoring, coaching, and peer observation. The researcher also found that the teachers in the study defined any professional development as effective if it was organized around an identified need and was provided for a long time. The study participants identified six characteristics that they felt made professional development effective; 1) it should be a match to existing teacher needs, 2) it should be a match to existing school needs, 3) there should be teacher involvement in the designing and/or planning of the professional development, 4) the professional learning should include opportunities for participants to be actively engaged, 5) the professional development should incorporate long-term engagement, and 6) the professional development should be conducted by high-quality instructors.

Garet, Porter, Desimone, Birman, and Yoon (2001) conducted a study examining over 1000 mathematics and science teachers' perceptions of different characteristics of professional development on teacher learning. These researchers found that there were three core features of a professional development session that had a significant, positive effect on teachers' changes in classroom practice and/or self-reported increases in teacher knowledge and skills: focus on content knowledge, opportunities for active learning, and coherence with other learning activities. These researchers also found that there were structural features that significantly affected teacher learning: the form of the activity, collective participation by school, grade level, or subject, and the duration of the professional development activity.

Darling-Hammond et al. (2009) conducted a research study by examining data from the 2003-2004 National Center for Educational Statistics' Schools and Staffing Survey (SASS). This survey examined the status of opportunities and available supports for professional development

for teachers across the states and nationally. Their analysis resulted in a set of recommendations for effective professional development. First, professional development should be intensive, ongoing, and connected to the teachers' practice. These researchers found that the majority of professional development that is offered to teachers was in the one-day workshop format and focused on a single concept or topic. How the new knowledge gained in these sessions was incorporated into the teachers' daily practice was left to the discretion of the individual teachers. These short-term workshops were often disconnected from teacher practice and had little impact on student achievement.

Second, professional development should focus on student learning and should address the teaching of specific curriculum content. Research suggests that professional development is most effective when it addresses the everyday challenges that teachers face in the classroom. When professional development is designed around abstract educational theories and teaching methods that are taken out of context, teachers often struggle to incorporate the new skills into their everyday practice.

Third, professional development should align with school improvement goals and priorities. Research suggests that professional development is more effective when it is a part of a larger school-wide plan, rather than being isolated and unrelated to other initiatives in place at the school. Conflicting professional development activities can leave teachers struggling to understand which initiatives to implement. Similarly, too many different professional development initiatives can leave teachers without the time or resources to implement any of the components to fidelity.

Finally, professional development should build strong working relationships among the teachers. Historically, teachers in the United States often work under conditions that promote

isolation due to the organizational structure of many schools, especially secondary schools. Teachers often work alone and are rarely given time to collaboratively plan lessons, share instructional practices, assess students, design new curriculum, or help make managerial or administrative decisions. Research shows that, when teachers formed active professional learning communities, student absenteeism and dropout rates were reduced, and achievement increased in the areas of math, science, history, and reading (Darling-Hammond, et al. 2009).

Other organizations and government entities have also provided guidance regarding effective professional development through legislative acts. The No Child Left Behind Act of 2001 set five criteria for high-quality professional development. First, professional development should be sustained, intensive, and content focused. Second, professional development should be aligned with state academic content standards, student achievement standards, and/or assessments. Third, professional development should improve and increase the teachers' knowledge of the subjects they teach. Fourth, professional development should advance teachers' understanding of effective instructional strategies. Finally, professional development should be evaluated for its effects on teacher effectiveness and student achievement (Regional Educational Laboratory, 2007).

The United States Department of Education provided a series of similar guidelines for high-quality professional development under Title IX, Section 9101 (34) of the Elementary and Secondary Education Act (U.S. Department of Education, 2006). According to these guidelines, high-quality professional development should meet the following criteria; 1) Professional development should improve teachers' knowledge of their academic subject and allow teachers to become highly-qualified, 2) Professional development should be an integral part of school-wide and district-wide educational improvement plans, 3) Professional development should give

teachers knowledge and skills that help students meet the challenging state academic standards, 4) Professional development should improve classroom management skills, 5) Professional development should be sustained, intensive, and classroom focused, and should not be in the form of a short-term workshop, 6) Professional development should increase teacher knowledge of scientifically-based, effective instructional strategies, and 7) Professional development should be developed with the participation of teachers, administrators, and parents.

The Learning Forward organization also provided a set of seven standards that outline the characteristics of effective professional development. The standards are intended to guide the learning, facilitation, implementation, and evaluation of professional development and were created with the input of representatives from 40 educational associations and organizations. These standards were designed to increase educator effectiveness and increase student achievement results and include the following concepts: learning communities, leadership, resources, data, learning designs, implementation, and outcomes (Learning Forward, 2011).

First, professional learning should take place in learning communities that are committed to continuous improvement, shared responsibility, and goal alignment. Next, effective professional learning requires educational leaders who develop capacity among their staff, advocate for the teachers, and create support systems for professional development. Effective professional learning requires prioritizing, monitoring, and coordinating the resources that are available for professional development. Effective professional development should be planned, assessed, and evaluated by using a variety of student, educator, and system-wide data sources. Professional learning should integrate theories, research, and models pertaining to how students and adults learn. Research on change and support for the implementation of professional development is necessary for long-term change. Finally, the outcomes of professional

development should be aligned with educator performance and student curriculum standards (Learning Forward, 2011).

While there are significant differences in the guidelines offered by the various educational entities, there are enough commonalities to begin to build a list of recommendations for high-quality, effective professional development. Among these recommendations are teacher participation in the development of professional development, subject-area or content focus, and a sustained and intensive duration. In many cases, these recommendations are not followed when systems plan, develop, and implement professional development. Research reveals that most of the professional development that takes place in education is in the form of one-and-done workshops.

In a study by Darling-Hammond et al. (2009), 90% of teachers surveyed reported that they had participated in some type of professional development during the previous school year. Among the professional development participants surveyed, 91.5% had attended short, workshop-style offerings of limited duration. However, most “sit-and-get” workshops do little to change teacher practice or student achievement. According to Yoon et al. (2007) the only types of professional development programs that impacted student achievement were those that were lengthy and intensive. Programs with a duration of less than 14 hours were found to have no impact on teacher knowledge or practice. The workshop model is frequently ineffective because it operates under the assumption that the only challenge that a teacher faces is a lack of knowledge about a specific teaching practice. The workshop model presumes that once that knowledge gap is filled the teacher will be able to change their practice, but this is often not the case. Research by Joyce and Showers (2002) found that the greatest challenge for the teachers lies in implementing newly learned techniques or methods into their classroom practice. These

researchers found that teacher mastery of a new skill takes an average of 20 separate instances of practice before mastery takes place. If the new skill is especially complex, this number can rise.

The Center for Public Education (2013), which is an initiative of the National School Boards Association, developed five principles of effective professional development. First, the professional development must be lengthy enough and must be ongoing to allow the teachers time to learn a new strategy and work through the difficulties of implementation. French (1997) found that teachers need as much as 50 hours of instruction, practice, and coaching before a new strategy is mastered and successfully implemented in the classroom. With a traditional one-day workshop offering, at best, six hours of instruction, it becomes easy to see why the workshop model is typically ineffective.

Second, there must be teacher support during the implementation stage that addresses the specific challenges of changing classroom practice. Simply sending teachers to more and more professional development is not enough. Teachers need support during the implementation phase of the new skills and techniques learned during professional development. A study by Trusdale (2003) examined the differences between teachers who simply attended a workshop and teachers who attended a workshop and then were coached through the implementation stage. Trusdale found that teachers who were coached successfully incorporated the new practices into their classroom routines, but the teachers who did not receive coaching quickly lost interest and did not continue to use the new skills.

The third recommendation of the Center for Public Education was that professional development should be designed so that teachers' initial exposure to a concept is not passive. Teachers need a thorough understanding of a theory or research before it can be applied. Workshops that involve teachers as passive recipients of information are often less effective than

professional development opportunities that provide teachers with opportunities to learn the concepts in a variety of active ways, including role playing, readings, discussion, classroom visits and modeling.

This leads to the fourth recommendation of the Center for Public Education. Modeling has been found to be a highly effective way to help teachers understand a new practice. When teachers are afforded an opportunity to see an expert demonstrate the new practice, the teachers develop a greater understanding of how to apply the concepts and are more open to adopting it into their own practice.

The fifth, and final, recommendation is that the content that is presented to teachers should not be generic, but instead should be specific for a subject or grade-level. Districts often provide teachers with district- or school-wide professional development opportunities during in-service days. The model assumes that all teachers can benefit from generic concepts, but in reality, there are few general principles that apply to all teachers of all subject areas and all grade levels, in the same ways. Teachers need to see and understand how concepts and pedagogical principals apply to their specific discipline and this is often impossible to address during school-wide professional development sessions (The Center for Public Education, 2013).

When considering the types of professional development that will be offered, schools and school systems should also consider the needs of the individual schools. No two schools are the same, and the needs of a large, urban school are often very different from the needs of a small, rural school. Professional development on the same topic or topics can look very different at different school sites.

Wieczorek (2017) investigated public school principals' reported implementation of professional development at their schools during the implementation of No Child Left Behind

(NCLB) from 1997 to 2007. The increased accountability associated with NCLB led to many changes in schools' professional development activities. The principals in the study reported a higher level of alignment of professional development with school goals, standards, student achievement, and resources during the era of NCLB. Elementary and urban school principals reported higher levels of professional development aligned with school goals, district goals, and student achievement than other principals. These schools also showed increased levels of collaboration and teacher engagement in their own professional growth.

In contrast, rural schools reported significantly lower levels of professional development alignment with school goals, district goals, or student outcomes. Rural school principals reported very different managerial processes for the professional development held in their schools, and it is possible that these differences resulted in lower levels of collaboration and cohesion.

Additionally, the study found a decrease in teachers' ability to design and implement their own professional development. This research suggests that school leaders should purposefully include teachers in the planning and implementation of professional development for that professional development to have a meaningful impact on teaching and learning (Wieczorek, 2017).

Ende (2016) offers a series of guidelines for creating meaningful, and long-lasting, professional development. The guideline questions are grouped into three categories: planning, providing, and following-up, and he uses the TAR (Think, Act, Review) method for each phase. The researcher also offers a set of "Do's and "Don'ts for creating effective professional development. During the planning phase, Ende recommends that professional development planners avoid the "flavor of the month" type of professional development and instead focus on making good decisions about what will work best for the teachers. This is the Think stage of professional development planning. Planners of professional development should consider the

audience that will be attending the professional development and then involve those people in the planning of the professional development. This component is the Act stage of professional development planning. A presenter should not be so rigid and scripted that they cannot make changes when they are needed. According to Ende, other than a start time and end time, the delivery of professional development should be fluid enough that it can meet the needs of the individual learners in the group. A period of time for reflection is also important for the school system and the presenter of the professional development to determine what worked and what needs improvement. This element is the Review stage of professional development: planning. Meaningful professional development takes planning, presentation, and follow-up into consideration and takes each stage through the Think, Act, Review process. This maximizes the effectiveness of the professional learning to meet the needs of the learners in attendance.

If one is afforded the opportunity to visit schools and observe classrooms, a conclusion becomes apparent that every teacher possesses different qualifications, skill sets, knowledge levels, and experience. The weakest teachers with the most challenges often work in hard-to-staff schools, with high rates of teacher turn-over and low academic performance on the part of the students. Many reform efforts target the schools where teachers lack ample content knowledge, classroom management procedures, or instructional strategies. A study by Barrett et al. (2015) focused on teacher quality in the Appalachian regions of Kentucky, where schools typically have the lowest student achievement scores on standardized tests. The study found that the Appalachian teachers they examined typically received their teaching degrees from a local institution and obtained their first teaching position within the region where they themselves attended school. They also found that there was little teacher movement between Appalachian and non-Appalachian schools. In other words, prospective teachers graduate from a local school

system, stay close to home to attend college, and then return to the community to teach their entire careers. In some ways, this can create a level of stagnancy where new ideas and teaching techniques are never developed or implemented. Teachers teach in the same ways that they were taught and, in many cases, do not realize that there is anything more, or different, available.

Unfortunately, this reflects current staffing issues in several regions of Alabama. There are many school systems in Alabama struggling with finding, and retaining, qualified teachers. The shortages seem to be especially problematic in the areas of secondary mathematics, science, and special education (U.S. Department of Education, 2017). Many small, rural school systems have difficulty attracting new teachers, due in part to school location, local availability of rental housing, and lack of social or cultural opportunities. These systems must compete with larger school systems conveniently located near shopping, affordable housing, and social and recreational opportunities for recent college graduates. Rural systems often depend on local graduates who go away to college and return home to teach in the local schools. This fact can leave these schools with too few teachers to fill too many open positions, and few incentives to attract teachers from outside of the system. Many classrooms are being staffed with long-term substitutes or teachers who are teaching out of their field. This is despite systems offering signing bonuses of up to \$10,000 to teach in their schools (Cook, 2017; Philips, 2016).

According to data from the U.S. Department of Education (2016), many areas of the United States are experiencing teacher shortages. The lack of qualified teachers to fill classroom positions is a serious concern in Alabama where many school systems struggled to find teachers during the 2016-2017 school year in the areas of Art, Band, and Music (Grades 6–12), Career Technologies (Grades 6–12), English/Language Arts (Grades 6–12), Foreign Languages (Grades 6–12), Mathematics (Grades 6–12), Science (Grades 6–12), and Special Education. According

the data from The Alabama Department of Labor (2017) the need for qualified teachers will not be disappearing any time soon. The Department of Labor projects that there will be 115 average annual openings due to growth and 400 average annual openings due to replacements for elementary school teachers, 55 average annual openings due to growth and 195 average annual openings due to replacements for middle school teachers, and 80 average annual openings due to growth and 305 average annual openings due to replacements for secondary school teachers from 2014 to 2024. Many of these openings will likely be filled with new university graduates, or individuals entering education from outside fields, who will likely require professional development in areas linked to student achievement.

Even experienced teachers recognize the need for professional development in areas critical to student success. In a study by Darling-Hammond, et al, (2009) teachers identified their top priorities for additional professional development. Twenty-three percent of the teachers reported that they would like professional development about the content that they teach, eighteen percent would like classroom management professional development, 15% would like information about teaching students with special needs ,and 14% reported that they would like professional development on using technology in the classroom. Teachers also frequently reported that they are not receiving training in areas where they need additional support to facilitate student achievement. Nationally, more than two-thirds of teachers included in the study had not received a single day of professional development on how to teach students with special needs in the past three years.

In many ways Alabama is struggling academically. The ACT is a standardized test used for college admissions in the United States. The ACT consists of four subject area sub-tests: English, mathematics, reading, and science. These scores are then combined to generate a

composite score that is used for college entrance requirements and state-level accountability. In Alabama the ACT is given to every 11th grade student as the high school level state-mandated accountability assessment, but nationally only 64% of students are tested. In 2017 Alabama's average composite ACT score was 20.3 compared to the National average of 21.1 (ACT, 2017). Examining the ACT sub-test data reveals that the average English score in Alabama was 20.3, compared to the National average score of 20.5. The average Alabama reading score was 20.7, compared to the National average score of 21.3. The average Alabama mathematics score was 19.6, compared to the National average score of 21.1, and the average Alabama science score was 20.3, compared to the National average score of 20.9. Other sources of test data also show academic weaknesses among Alabama students.

The National Assessment of Educational Progress (NAEP) is a nationally normed standardized test, administered in a variety of subject areas, that is given to selected students across the United States. Student scores on the NAEP are reported as Below Basic, Basic, Proficient, or Advanced. In 2015, the mathematics scores of 8th grade students ranked Alabama 52nd out of 53 educational entities (The Nation's Report Card, 2015). These results included all 50 States, the District of Columbia, the United States Department of Defense's educational program and Puerto Rico, with only Puerto Rico scoring lower than Alabama. In all, only 17% of 8th grade students in Alabama scored proficient or advanced on the 2015 mathematics exam. Nationwide, 32% of students scored proficient or advanced, with the highest scoring states being Massachusetts (51%), Minnesota (48%), New Hampshire (46%), and New Jersey (46%).

Fourth grade public education students in Alabama did not perform much higher than their 8th grade counterparts. In 2015, the mathematics scores of 4th grade students again ranked Alabama 52 out of 53 educational entities, again only outperforming Puerto Rico. Overall, 26%

of 4th grade students in Alabama scored proficient or advanced, compared to a national average of 39%. Nationally, the highest performing states on the 4th grade mathematics NAEP exam in 2015 were Massachusetts (54%), Minnesota (53%), New Hampshire (51%), and Indiana (50%).

An examination of Reading scores also shows Alabama students performing below the national average. The 2015 NAEP reading scores show that 26% of Alabama 8th grade students scored proficient or advanced, which ranks Alabama as 49th out of 53 reporting states. This is lower than the 8th grade Reading national average of 33%. In 2015, the highest performing states in 8th grade reading were the Department of Defense's educational program (47%), Massachusetts (46%), New Hampshire (45%), and Vermont (44%). The 2015 Reading scores of 4th grade students in Alabama were slightly higher with 29% of students scoring proficient or advanced, compared to the National average of 35%. This ranks Alabama 4th grade students 47th out of 53 reporting states and educational groups. In 2015, the highest performing states in 4th grade reading were Massachusetts (50%), the Department of Defense (47%), New Hampshire (46%), and Vermont (45%). (National Assessment of Educational Progress, 2015) These less than exemplary scores have left many Alabama schools and school systems struggling to find ways to improve student achievement.

Effective professional development has been shown to have the potential to improve teacher practice, and as a result, improve student achievement. Barrett, et al (2015) found that targeted, intensive training of teachers in the Appalachian schools they studied had a positive impact on student outcomes not only during the year that the teacher received the professional development, but also during the following year. Sun, Penuel, Frank, Gallagher, and Youngs (2013) found that certain types of professional development can promote the diffusion of instructional expertise among colleagues through interactions with their peers. These researchers

found that when teachers participated in professional development of a lengthy nature, with a wide range of writing-related content and with multiple strategies for active learning, the teachers were more likely to provide help to others with teaching writing. Well-designed professional development can turn “go-to” teachers into “experts” who have sufficient levels of knowledge to be able to help other teachers, and it can turn “experts” into “go-to” teachers who have the types of collaborative skills needed to share their expertise. Professional development can also impact the individual and collective efficacy of the teaching staff. Teachers with a strong sense of self-efficacy tend to spend more time planning lessons, designing, and organizing what they teach. They are often more open to new ideas, more willing to try new strategies, more likely to set high goals for themselves and their students, and to persevere through setback and times of challenge and change (Goddard, Hoy & Woolfolk Hoy, 2000).

Research by Zambo and Zambo (2008) showed that 10th grade mathematics teachers who voluntarily participated in two-week summer professional development workshops in mathematics problem-solving significantly increased their levels of personal competence, which is a teacher’s perception of their own ability to operate at a high level of proficiency. The teachers from low-performing districts showed a significant increase in group competence, which is a teacher’s belief that their colleagues can operate at a high level of competence and can achieve goals. In the case of the mathematics teachers in the study, professional development had the potential to increase teachers’ personal competence whether they worked at a school that was categorized as high or low performing. Professional development also had the potential to increase the group competence of a team of teachers from under-performing schools by allowing them to come together and work as a team.

The Organization for Economic Co-operation and Development (OECD) conducted a survey of school principals through the Programme for International Student Assessment (PISA) in 2015. The principals were asked about the variety of professional development activities offered in their schools. The results of the surveys showed that in countries that performed above the OECD average, at least 80% of the students were attending schools where experts were invited to conduct teacher training and/or organize professional development for teachers, or where teachers within a school cooperated with each other (OECD, 2017). The researchers also examined the association between professional development and student performance in Science. They found that only professional collaboration among teachers was positively associated with increased student performance in Science. In those schools where teachers collaborated by exchanging ideas or materials, the students scored an average of nine points higher in science. These researchers theorized that teacher-based peer-learning activities have an advantage over professional development that is led by external experts because the ideas and feedback from experienced teachers in the same school are more directly related to the common challenges that are faced by teachers in that particular learning environment.

Research tells us that effective professional development has been shown to help teachers improve their practice and increase student achievement scores. The Learning Forward Organization offers a four-step process or model for how effective professional learning impacts student performance. First, teachers experience standards-based professional learning. Second, the professional learning leads to changes in teacher knowledge, skills, and attitudes. Third, this evolution leads to changes in educator practices which, ultimately leads to changes in student achievement results, which is the fourth step in the model (Learning Forward, 2011).

The question then becomes how does a school or school system create, design, and implement effective professional development? Guskey (2000) found that planners of effective professional development used “backward planning” where they first determine the goal that they want to achieve and then develop the strategies and activities that will allow them to reach their stated goal. This method can be an overwhelming first step for schools, administrators, and/or teachers. Data must be collected and analyzed, and then the input of a variety of stakeholders, including teachers, students, parents, administrators, and community stakeholders should be solicited. Depending on the amount of data and the availability of access to stakeholders, this process can take weeks, or even months. Once the goal of the professional development is identified, the next question should be “How?”. How will the goal be met? Educators must consider what types of professional development experiences will motivate and empower teachers to gain the knowledge and skills they will need to meet the challenges of the goal that has been set.

Steiner (2004) offers an evaluative framework for designing effective professional development based around six core areas: form, duration, participation, content focus, opportunities for active learning, and coherence. When considering the form that the professional development activity will take, Steiner found that alternative forms of professional development like study groups, teacher networks, mentoring, coaching, and other collaborative activities were preferable to workshops of limited duration. Activities of longer duration allow for the incorporation of other core features of effective professional development like content focus and opportunities for active learning. When traditional professional development activities, like workshops, are longer and incorporate more core features, their effectiveness increases. Therefore, the duration of the professional development opportunity should also be considered.

Professional development activities of a longer duration allow for more opportunities for subject area content focus, more opportunities for active learning, and more coherence with other school or system initiatives. When considering participation, planners of professional development should scrutinize the groups that will be attending the session. Will the participants be from the same school, subject area, or grade level? Will the participants have opportunities to collaborate and reflect? The more effective professional development activities give teachers opportunities to build knowledge together.

Content focus is also a consideration when planning professional development activities. To what degree is the content of the professional learning focused on deepening and improving teachers' content knowledge, or their understanding of how students learn content? Will the content of the professional development activity align with current local and state initiatives? Opportunities for active learning should also be considered when planning professional development. The traditional "sit and get" method of professional development is less effective than providing teachers with opportunities to become actively engaged in their own learning through observing their peers, collaboration, and co-planning. Finally, the coherence of the professional development activity should be considered. One of the criticisms of traditional professional development activities is that the activities are unrelated to current school needs or are not part of an overarching improvement plan. Planners of effective professional development should take care to ensure that the professional development activity that they are planning fits into the larger plan of the school or district.

There are several research studies that examine professional development activities and critique the effectiveness of the delivery or instruction. There are also articles, policy briefs, and other publications that document the desirable characteristics of professional development

activities, but these are often targeted to a specific grade level, subject, or type of school. Therefore, it would be optimal to determine a common set of guidelines that would work when designing and implementing professional development in any grade, subject, or teaching situation. To meet the increased demands of the current educational climate, the American Federation of Teachers (2008) developed a set of eleven professional development guidelines to guide educators through the individual and collective improvement of practice:

1) Professional development should deepen and broaden knowledge of the content. New, more rigorous standards have changed the educational landscape. Teachers must understand how concepts are developed through the grades and how they are interconnected to other subject areas and disciplines.

2) Professional development should provide a strong foundation in the pedagogy of a discipline. Content knowledge is critical, but it is not enough. Teachers must know and understand how to help students understand what is being taught. Professional development should help teachers understand the most useful ways of representing the concepts of a specific discipline, analogies and illustrations for representing a concept, why learning specific things in a content area are easy or difficult, the types of questions that reveal and develop understanding, and the most effective strategies to address common misconceptions that arise in a particular content area at various developmental levels while taking into consideration background experiences and prior knowledge.

3) Professional development should provide knowledge about the teaching and learning process. This includes classroom management, curriculum and assessment, and building a positive classroom culture.

- 4) Effective professional development should be rooted in and reflect the best available research. Changes in teaching practice must be examined and altered based on sound research and not hunches or feelings. Making decisions based on nothing more than tradition should be discouraged and teachers should be encouraged to adopt strategies that have proven to be effective.
- 5) The content of professional development should be aligned with the standards and curriculum teachers use. There is often a disconnect between the academic performance that schools and school systems expect from students and the curriculum and professional development that is provided to teachers. Unless teachers can see how the professional development content is aligned to the standards and curriculum that they use in the classroom, the professional development content is likely to be disregarded as irrelevant.
- 6) Professional development should contribute to measurable improvement in student achievement. Effective professional development should empower teachers to use practices that have been shown to make a significant positive impact on student achievement. However, student effort should complement good teaching to produce increases in student achievement.
- 7) Professional development should be intellectually engaging and address the complexity of teaching. Teaching is an art, not a science. Professional development that is too prescriptive regarding what teachers must say or do is unlikely to prepare teachers to address the unexpected questions that arise during a lesson or adjust to the varied backgrounds of the students.
- 8) Professional development should provide enough time, support, and resources to enable teachers to master new content and pedagogy, and to integrate these into their

practice. Enough time should be allocated to implementation to allow teachers to develop an understanding of theory and application, content knowledge, curriculum, pedagogy, and assessment. Time must be provided for reflection, networking, and observation of models or practices in action. Supportive, non-threatening feedback about the implementation of new knowledge must be provided. Finally, teachers need time to discuss and question as they implement new information, thus spreading professional development over time has been shown to be more important than the number of hours that are allocated to the activity.

9) Professional development should be designed by teachers in cooperation with experts in the field. The individuals who design, lead, and follow-up professional development should have an appropriate level of expertise in the subject matter, pedagogy, and learning theory. However, professional development should be planned in conjunction with the teachers. This promotes teacher “buy-in” toward the professional development process.

10) Professional development should take a variety of forms, including some we have not typically considered. Adults, as well as students, learn in a variety of ways. There should be variety within and among professional development opportunities, and professional development should extend beyond formal coursework. When the components that are addressed in the preceding criteria are met, effective professional development can occur in a variety of formats, including lesson study, inquiry groups, collaborative groups, conducting research, or engaging in the rigorous process of obtaining Nation Board for Professional Teaching Standards certification. Professional development is taking place whenever there are clear standards for student achievement, and there are conversations

taking place about what the standards mean, how to help students reach the standards, and how to know when the students have reached them.

11) Professional development should be job-embedded and site specific. When professional development is important enough that school districts find ways to incorporate it into the normal school day, it is often perceived as valuable and connected to teachers' daily work, rather than being tacked onto the end of an exhausting day in the classroom. The organization of the school day should promote and provide time for continuous reflection on teaching and learning.

Even if the preceding recommendations for effective professional development have been followed, there is still one factor that will have a significant impact on whether the intended goals of the professional development are realized: the attitude of the participants. The *Standards for Professional Learning* (Learning Forward, 2011) identify four prerequisites for effective professional learning. First, educators' commitment to students is the foundation of effective professional learning. If the adults that are responsible for student learning are not continuously seeking, and open to, new skills, knowledge, and practices, they are less able to adapt to change, less self-confident, and less able to make a positive difference for their colleagues or students. Second, each educator involved in the professional development activity should come to the experience ready to learn. Ideally, professional development is a collaborative activity where teachers jointly construct knowledge, skills, and practices. If educators approach the professional development process with a resistant attitude, they will not reap the benefits of the learning opportunity and will likely have a negative impact on their colleagues as well. Third, effective professional development should be a time of collaborative inquiry and learning, but every educator will come to the table with different levels of experience. In order for the professional

development to be effective, teachers must listen to one another, respect each other's experiences and perspectives, keep the students' interests at the forefront, trust that their colleagues share a common vision and goal, and are honest about their abilities, practices, and goals. Finally, like all learners, educators also learn in different ways and at different rates. For some educators, this individuality means acknowledging their own learning needs and possessing the determination and patience to persevere through the learning until the new practices have been mastered.

Measuring the effectiveness of professional development

Once a common set of guidelines for effective professional development have been determined, the next question that must be examined is "How can schools and school systems measure the effectiveness of professional development?" Since there are so many different activities that can be considered professional development, measuring its effectiveness can be a challenge. Professional development is designed for a variety of purposes. Evaluation attempts to determine whether, and in what ways, the professional development sessions have been successful. This determination can be problematic for a variety of reasons. First, schools, school systems, and professional development providers tend to measure what is the easiest data to collect: participant satisfaction. It can be difficult for participants to think more broadly about outcomes and measures. Second, there is often pressure from groups, individuals, and organizations that sponsor and fund professional development to assess the value of the professional development by examining changes in the academic achievement of the students whose teachers have participated in the learning opportunity. The challenge here lies in allowing enough time for the professional development to be fully implemented before an attempt to measure any changes in teacher practice or learning. Another potential application of professional development evaluation that is often overlooked is the valuable data it can provide

the presenter about the session that was just delivered. Reflecting on evaluation results, as they are being gathered as well as after a period of synthesis, can help guide the development and delivery of professional development (Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2003).

At this time, few schools or school systems have an instrument or procedure for judging whether the professional development is doing what it is supposed to do – increase teacher knowledge in ways that translate into increased student achievement (Desimone, 2011). Given the variety of activities that can be, and are, considered professional development, it is desirable to create an evaluation method that measures common features of professional development. Desimone (2011) identified five areas of professional development that have been associated with changes in knowledge, teacher practice, and to some extent increases in student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation. The presence of these five factors should be included in any program of professional development, but their presence alone does not guarantee that the professional development will be effective.

Desimone (2009) offers a conceptual framework for how professional development leads to increases in student learning. First, the teachers experience the program of professional development. The professional development increases the knowledge and skills of the teacher and causes changes in their attitudes and beliefs. The teachers then use their new knowledge, skills, attitudes, and/or beliefs to make improvements to their content or pedagogy. Finally, the instructional changes that the teachers introduce into their classrooms cause increases in the students' learning. In practical terms, a tool for measuring the effectiveness of professional development should seek to answer three questions; Does the professional development cause the teachers to learn? Do the teachers change their practice as a result of the professional

development? Does student achievement increase as a result of the professional development and the changes that the teachers make to their individual practices?

If professional development is a key to meaningful changes and reforms in teaching and learning, it is essential that best practice is used to measure its effects (Desimone, 2009).

Traditionally, evaluating professional development has been a satisfaction survey administered at the end of a workshop. Loucks-Horsley et al. (2003) found that individuals will typically attempt to measure what is easiest to determine: the satisfaction of the participants. Newer evaluation methods have begun to include alternate methods of collecting data on teacher experiences, learning, and instructional practices. Observations, interviews, and surveys are common ways to collect this type of data, but each of these techniques has strengths and weaknesses. Observations and interviews can be tainted with observer or interviewer bias and survey self-reporting can yield invalid data. Schools and school systems should employ well-constructed and well-administered interviews, observations, and surveys to help ensure that the data they collect regarding the effectiveness of the professional development is valid, but these types of data collection techniques can be expensive and time consuming. To maximize the effectiveness of the data collection process, schools and school districts should take steps to identify the type of evaluation instrument that is the most appropriate for the type of information that they want to collect. For example, observations would allow central office personnel and school administrators to determine if teachers are implementing newly learned practices in their classrooms. Interviews can provide details on the successes and challenges that teachers are experiencing incorporating new instructional strategies or content, and what supports they need to facilitate the implementation. Surveys can be a quick and cost-effective way for schools to

collect data on a variety of topics and allow for a comparison between teachers (Desimone, 2011).

Bredson and Johansson (2000) also found that most professional development evaluations were little more than participant satisfaction surveys - if an evaluation was conducted at all. For most Alabama educators, the only wide-spread evaluations of professional development happen on occasions when the professional development is sponsored by one of the eleven regional in-service centers located across the state. Alabama's Regional In-service Centers (ARIC, undated) were created by the state legislature in 1984 to provide professional learning for public school teachers and administrators, in areas essential for improving student achievement. Each Center is housed in an institution of higher education and is governed by a 16-member board. After professional development sessions sponsored by these regional in-service centers, the participants are asked to complete a survey about their experience. The short, Likert scale survey asks participants how likely they are to take what they learned during the session back to their classrooms and implement it, or how engaging they found the session. There is also a section of the survey where the participants can write a short response or comment. The results of these surveys often yield unusable or misleading data. There are typically a significant number of surveys where the teacher has misread the Likert scale. For example, the comment section will say that the session was "wonderful" or "the best thing I have ever attended" but then the Likert scale responses will say, "Highly Unlikely" to incorporate what they have learned, or "Highly Disagree" that the content was appropriate for their school assignment. The ongoing lack of a method to effectively, and accurately, measure professional development is a very serious concern for many schools, school systems, and professional development providers.

Soine and Lumpe (2014) have attempted to create and psychometrically test an instrument that could be used to measure teachers' perceptions of various characteristics of professional development. This research uses the same five indicators of effective professional development as the Desimone (2009) article; duration, active engaged learning, focus on content knowledge, coherence with teachers' needs, and collective participation. The evidence collected during the study indicated that the professional development instrument that was developed by the researchers was a reliable tool for measuring teachers' perceptions about the characteristics of professional development. There were significant limitations to their study, however. The study sample was limited to five public school districts across Washington State, and the overall sample size was 370 teachers. Additionally, the sample was exclusively elementary school teachers. The results of the study may or may not extend to secondary teachers.

Main, Pendergast, and Virtue (2015) also developed an instrument for measuring the effectiveness of professional development based off Desimone's five core features of effective professional development: content focus, active participation, coherence, duration, and collective participation. Guskey (2002) identified five critical levels of information that need to be collected and analyzed to accurately measure professional development; participants' reactions (satisfaction with the experience), participants' learning (the new knowledge and skills gained), organization support and change, participants' use of the new knowledge and skills gained (implementation), and student learning outcomes. The instrument developed by Main et al. (2015), only measures Guskey's levels one and two. In other words, did the participants believe that the professional development was valuable and were they able to take away new skills and knowledge that were applicable to their daily work in the classroom? Initially, the researchers developed 38 specific survey items to provide data regarding the five core features of effective

professional development. This instrument was administered to more than 450 participants following 11 different professional development sessions. The researchers found that an analysis of the data showed that the survey instrument provided valuable feedback on the professional development sessions. These comments could allow professional development providers to be more self-reflective and use participant feedback to guide and improve delivery of professional development sessions. Possible criticisms of this study would be its limited scope of only 11 professional development sessions, and possible concerns with compatibility issues with teachers in Alabama and other states because this was an Australian based study of only middle grades teachers.

Costs of Professional Development

Any discussion concerning the delivery of professional development, should include the costs associated with that professional development. Districts and policy makers must first understand their current professional development activities and investments before they can set target levels for new professional development spending or encouraging more effective forms of professional development (Miles, Odden, Fermanich, & Archibald, 2004). Professional development can be very expensive, but researchers have found that most schools and school systems have little to no idea how much they are spending for professional development. Sawchuk (2010) found that school systems rarely have an accurate estimate of how much they spend each year on professional development, or what that spending bought in terms of increased teacher or student knowledge. For example, the U.S. Department of Education spends nearly \$3 billion dollars per year on professional development through Title II-A, but they have never fully studied the effects of that spending. There is no national data on how much is spent on professional development, in part because there is no national definition of what professional

development is. When calculating professional development costs, some systems simply report the amount spent locally on courses and workshops. Other systems include Title I, Technology, At-risk, English Language Learner programs and other available source of funding. Still other systems report workshops and conference fees along with teachers' salaries on in-service days, the salaries of instructional coaches, the costs of mentoring programs, and the costs of substitutes hired so that teachers can attend professional development activities (Hornbeck, 2003). During the 2007-2008 school year, the Philadelphia school district reportedly spent \$58 million on professional development in the form of instructional coaches and release time for lead teachers to work with other teachers within their schools. An additional \$41 million was added to the total once the salaries of employees attending district-mandated professional development, or in-service, days were included. In all, Philadelphia spent a total of \$162 million on professional development activities in 2007-2008 (Sawchuk, 2010) and that is just one school system in one state. The potential amount of nation-wide professional development spending could be staggering.

An examination of U.S. Census data revealed that school districts spend approximately three percent of their annual operating budget on professional development (Killeen, Monk & Plecki, 2002). Additional research by Miles et al. (2004) estimated that district spending on professional development ranges from 1 percent of the operating budget to more than 8 percent, but each study they examined had defined professional development spending differently which makes comparisons across districts very difficult. Data compiled in 2015 by The New Teacher Project (The New Teacher Project, 2015) estimated that the districts they studied spent an average of \$18,000 per teacher, per year on teacher development efforts. Using that figure, the

50 largest school districts in the United States would spend a combined \$8 billion on professional development every year.

Estimating spending on professional development in and among districts has conceptual and operational difficulties. Professional development programs are not always operated out of local school districts, but existing accounting systems tend to treat the local school district as the unit of analysis (Killeen et al., 2002). Miles et al. (2004) developed a method to 1) create a cost framework for what to include in professional development spending, 2) create a coding scheme to describe the target, purpose, organization, and funding of the professional development, and 3) collect data from the district using an interview and data analysis process.

In an article in *The Journal of Education Finance*, Odden, Archibald, Fermanich, and Gallagher (2002) described the six core elements of professional development spending: teacher time, training and coaching, administration, materials/equipment/facilities, travel and transportation, and tuition/conference fees. This cost framework ensures that the same types of spending are included when conducting spending comparisons across districts. Next, Miles et al (2004), created two categories to describe how districts target their professional development spending. Schools and school districts balance their professional development spending between developing individuals' skills and building school-wide instructional capacity or capacity in a certain content area or program. The final major coding step in the process involves classifying professional development activities into eight delivery strategies: department-based training, school-based coaching, school-based lead teachers, mentors, comprehensive school reform designs, school-based instructional facilitators, training academies, and professional development schools. The researchers then applied the data collection techniques in five districts ranging in size from 47,000 to 85,000 students.

Using these data collection techniques, Odden et al. (2002) made six observations. First, districts invested significantly, but widely diverse resources in professional development and a variety of departments managed these resources. The five districts studied spent an average of 3.6 percent of their total operating budgets on professional development. In the district from the Southwest region, the professional development department managed only one-fifth of the total professional development funds. The remaining expenditures were managed by other departments and were not part of an overall professional development plan for the system. In fact, the system had numerous efforts aimed towards the same goals but were being managed by different departments with no coordination or integration of efforts. This issue seems to increase exponentially as the size of the system increases and the number of professional development offerings increases.

The *Mirage*, a report by the New Teacher Project (The New Teacher Project, 2015) found that in the largest district they studied, there had been more than 1000 professional development offerings during the 2013-14 school year. Given a 180-day school year, this would result in over 5.5 professional development sessions every day. This is an almost unmanageable number for a system to adequately manage, oversee, and administer. Odden, et al (2002) found that in four of the districts they studied, outside providers, including non-profit organizations and a local university, administered a significant portion of the professional development budget, but these outside providers operated separately from the districts' priorities and offered services that duplicated or contradicted the districts' offerings.

The second finding of the researchers was that the estimates of professional development spending should account for the costs of contracted time for professional development. The amount of time that a district allocates to system-wide professional development days should be

included as cost of professional development, but often it is not because the amount is so large that it distorts comparisons between districts. The Northeast district in this study paid teachers for two days of professional development, plus an additional 18 hours scheduled over the school year at each school. These days added \$7 million to the total professional development spending for this district and represented 35 percent of that district's professional development spending total. The Upper Midwest district provided ten paid professional development days for the teachers at a cost of \$15 million.

Overall, the amount of paid professional development days can vary widely between systems. Sawchuk (2010) examined the school calendars of 100 of the largest school districts and found that the number of days that teachers were expected to be at school, but would not be instructing students, varied from no days in Albuquerque, NM to 17 days in Little Rock, AR. When paid teacher professional development days are removed from each of the districts' calculations, the total amount of professional development spending decreases significantly, and the variation between the districts' spending drops dramatically. Therefore, the researchers recommend that cross-district comparisons of professional development spending should be adjusted to show spending levels with and without paid professional development days.

The third finding of this study was that district spending to provide teacher time for professional development is significant but varies widely in size and composition. The five districts in the study devoted 21 percent to 51 percent of the total professional development spending to purchasing teacher time. According to the researchers, the districts were surprised to discover how much they paid for teacher stipends and substitutes. This astonishment was due to stipends and substitutes being paid out of separate district budgets that were not coordinated or planned among departments.

The fourth finding of this study was that four of the five districts targeted the majority of their spending toward building school-level capacity and very little spending toward developing individual capacity that was apart from a school or district program or initiative. There was a great level of inequity among the resources allocated to each school within a district and school leaders had a great deal of difficulty integrating the resources from different sources effectively. As research begins to make clear what kinds of professional development are more effective, the districts in this study were examined to show professional development spending by delivery strategy. The researchers found that delivery strategies like lead teachers, instructional facilitators, training academies, and formal professional development schools varied widely among the five districts in the study. Strategies that were heavily implemented in some districts were never, or infrequently, used in other districts.

Finally, the last finding of this research was that districts relied on external source of funding for almost half of all professional development that was provided. Federal funds, at 33 percent, provided the largest source of outside funding. Title I funds were the single largest source of Federal funds, followed by the National Science Foundation, Individuals with Disabilities Education Act, and Title II Eisenhower Math and Science grants (Porter, Garet, Desimone & Birman, 2003). Private sources of funding such as grants from foundations or corporations ranged from 5 percent to 17 percent of the total professional development funding in the districts that were studied. State support for professional development, not coming from the general fund budget, ranged from 2 percent in the Southeast to 18 percent in the Midwest school district. The source of professional development funding is important to consider because outside funds are often attached to programs or initiatives that may or may not align with school or system goals and priorities. Additionally, when professional development is funded by outside

sources it can be viewed as something “extra” that only happens when funding is available rather than being viewed as an essential part of school improvement.

Professional development spending in the State of Alabama has varied over the past several years. During the fiscal years of 2013, 2014, and 2015, The State of Alabama allocated \$0 per teacher for professional development. During the 2016 school year, Alabama allocated \$63.7862 per each teacher unit in the state. This brought the total amount of professional development allocation in FY 2016 to \$3,000,001. The 2017 FY budget showed a slight decrease in per teacher spending at \$63.78568 per teacher unit. However, the total amount of professional development allocation in FY 2017 was \$3,021,630, which was an increase of \$21,629 over the total amount allocated in FY2016. This was due to an increase in the number of teachers employed across the state (Alabama, undated).

The work of Miles et al. (2004) showed that districts have more resources available for professional development than they think, and that the priority of a school or school district must be to make strategic use of those resources. Schools and school systems spend an enormous amount of money trying to help teachers improve their practice. In fact, professional development spending in the field of education far outweighs what other businesses and industry spend on development and support for their employees. In 2013, the average large government or military organization (with 10,000 or more employees) spent \$2 million on staff training. In a similarly sized school district studied by The New Teacher Project, more than \$90 million was spent on teacher training and support during the same time frame (The New Teacher Project, 2015). Financial costs are not the only costs that districts must consider when developing and administering professional development. The *Mirage*, a report by the New Teacher Project (The New Teacher Project, 2015) found that the teachers surveyed reported attending approximately

19 days of professional development during the school year. This equates to more than 10 percent of the days that are available for instruction during the academic year. In ten years of teaching, a typical teacher will miss more than a full year of instructional days attending professional development. This represents a significant commitment in time, money, and lost classroom instruction. If it could be shown that professional development efforts were bearing fruit, the costs associated with professional development could be worth the expense, but that doesn't seem to be the case.

The *Mirage* report by the New Teacher Project (The New Teacher Project, 2015) found that most teachers' performance did not improve from year to year, especially after their first few years in the classroom. Additionally, when teachers did make improvements, those improvements could not be traced back to any systematic improvement effort. In the districts studied by The New Teacher Project, only 3 out of 10 teachers improved their practice substantially over the years of the study. Five out of the ten teachers simply remained unchanged, and most alarming, 2 of the 10 teachers' practice declined.

Improving Professional Development

A review of the literature does offer some suggestions for improving the effectiveness of the professional development that is offered by schools and school systems. One possible avenue of improvement centers around offering new and different types of professional development. Much of the professional development offered in schools is in the form of one-and-done, sit-and-get, lecture style workshops. These choices are made despite evidence that demonstrates that these types of professional development are often ineffective.

An alternative form of professional development from Japan called "lesson study" has shown promise in terms of increasing teacher knowledge (Akiba & Wilkinson, 2016). In 2010,

the Florida Department of Education was awarded \$700 million in Race to The Top (RTTT) funds to develop innovative plans to improve the teacher workforce in that state. One component of those plans was the implementation of “lesson study”. Lesson study was introduced to the United States in the late 1990s. A video study by Stigler and Hiebert (1999) showed that math lessons in the United States tended to focus on lower level mathematical skills, while Japanese math lessons tended to focus on developing students’ conceptual understanding. The researchers identified lesson study as the primary force that allowed the Japanese teachers to implement student-centered, problem-solving approaches in their classrooms that promoted the conceptual understanding of their students.

In a lesson study cycle, a group of three to six teachers progress through four stages. In Stage One, the teachers study the content of a chosen unit of study and examine the student understanding of the unit. The teachers use this knowledge to develop a learning goal for the unit that is consistent with the content standards and any pre-existing school goals. In Stage Two of the lesson study cycle, the team of teachers work together to collaboratively develop a lesson plan for an experimental lesson that is called the “research lesson”. In Stage Three, a member of the team teaches the research lesson in a classroom with students, while the other team members observe the lesson and collect student data. During Stage Four, the lesson study team meets to discuss the effectiveness of the lesson based on the student data that was collected and discusses ways to improve the lesson and the teaching approaches that would facilitate attainment of the learning goal.

Lesson study shows promise because it provides the teacher participants with an opportunity to engage collectively in a detailed study of their curriculum, the way students think about the content, and the instructional materials that facilitate student learning. Lesson study has

found less success among teachers in the United States because most teachers do not work in an environment where the time to engage in this type of inquiry-based professional learning is embedded into the organizational structure of the school.

Akiba and Wilkinson (1999) examined Florida's implementation of the lesson study model in a total of 583 schools across 28 districts (17% of all schools in Florida) during the 2012-2013 school year. They found that, despite being a state-wide mandate, only 12 districts requested RTTT funds that had been dedicated to lesson study and only 19 districts used any funding to support lesson study during the 2012-2013 school year. In the 19 districts that did use funding for lesson study, the amount was minimal with an average of \$20,137 per district. This limited funding was primarily used to provide substitutes for 1 or 2 days per teacher. When district leaders were interviewed about the implementation of the lesson study model, a lack of funding and time were often cited as challenges to successfully implementing lesson study in their districts and schools.

An additional challenge dealt with the manner in which the state chose to build capacity among the teachers. The state hired public and private sub-contractors to provide lesson study training. This approach resulted in the lesson study model being presented as an overly simplified process that could be completed in two or three days. Essentially, the state of Florida used mandates to scale up the use of lesson study in the schools across the state but did not provide adequate funds to support the process or build capacity among the teachers. Lesson study was shortened and simplified to fit into the existing organizational structure for professional development with minimal success.

Akiba and Wilkinson (1999) identified three challenges that teachers in the United States would likely experience in attempting to develop an authentic, and effective, implementation of

lesson study. First, United States teachers' schedules pose a challenge to engaging in lesson study. In Japan, a cycle of lesson study takes two to three months and teachers typically complete two cycles per year. During this time the lesson study team meets on a weekly or bi-weekly basis to study the curriculum, discuss student understanding and misconceptions of the content, and develop lesson plans. Teachers in the United States do not typically have this type of time available during the work week because of the heavier workload they carry, 26.8 hours of instruction per week compared to 17.7 hours per week for Japanese teachers. For teachers in the United States to successfully implement lesson study as a method for increasing teacher effectiveness, and increasing student content knowledge, schools and school systems will have to find ways to fund release time using substitutes, or stipends for teachers to meet outside of the regular school day.

The second challenge identified by Akiba and Wilkinson concerns the lack of experience most teachers have with engaging in a research process that deals with studying the curriculum, collecting and interpreting data, and drawing conclusions from the data that inform their teaching practices. Many teachers had difficulty providing evidence that supports their claims about a lesson and the student learning that did, or did not, take place. They also struggled with reflecting on their own learning. As these teachers made the shift from more traditional teacher roles where they utilize knowledge and data generated by others, to a role where they generated knowledge and data to inform their own practice, a certain degree of capacity building needed to take place through training, resources, and leadership support.

The third and final finding of the study was that most teachers do not have the resources or opportunity to develop the types of pedagogy and content knowledge that is needed to facilitate the lesson study process by themselves. Instructional coaches or teacher leaders with

high levels of expert knowledge have been shown to be effective in helping teachers to successfully navigate a lesson study cycle. Japanese teachers benefit from observing lessons from within and outside their schools. In addition to participating in their own lesson study group, Japanese teachers also observe at least two lessons by other lesson study groups within their own school and visit another school to observe a research lesson at least once a year. These types of opportunities to observe instruction in other schools and work closely with coaches or content area experts are not often available for most of the teachers in the United States.

A policy brief by Corcoran (1995) outlined several changes to existing professional development policy that could substantially improve professional development for educators. First, schools and school systems need to be clear about the problems they are trying to solve and identify the conditions under which the teachers are most likely to change their practice. In most schools and school systems, there is a wealth of teacher experience and expertise that remains largely untapped. Corcoran offered several suggestions that would facilitate professional development that is integrated with teachers' work, takes advantage of the expertise of accomplished teachers, and recognizes teachers as a valuable source of information regarding effective professional development.

The first of these suggestions is joint work and job enrichment. In joint work teachers share responsibility for tasks like team teaching, serving on curriculum committees, or other activities that facilitate cooperation and interdependence among teachers. Joint work opportunities promote on-the-job learning by providing opportunities for fruitful exchanges among teachers and reflection about their practice. Job enrichment is an approach that requires teachers to acquire new skills by extending their work and school responsibilities. The new

responsibilities provide the teachers with opportunities to discuss their teaching practices and sharing new ideas among the group.

A second suggestion by Corcoran involves the implementation of teacher networks, which focuses on specific subject areas and are designed to deepen content understanding and the implementation of new teaching strategies. The professional communities that are developed as a result allow teachers to share their expertise and experiences to ultimately improve their practice.

The third recommendation of Corcoran is an increase in the collaboration between schools and colleges. There are several organizations that actively support and promote partnerships between colleges and schools. Current reform efforts are rigorous and will require teachers to significantly increase their content-level knowledge. It is important that colleges and universities are involved in these efforts so that they can incorporate these activities into their teacher preparation programs.

The fourth recommendation also involves schools and local institutions of higher learning. Corcoran recommends creating professional development or practice schools where novice and expert teachers could work in tandem with university faculty, in a professional setting, to work toward improving teaching practice through observation, low-risk experimentation, reflection, and coaching.

The final recommendation of Corcoran is to help teachers to work toward the attainment of National Board Certification. The National Board of Professional Teaching Standards has established standards and assessments that lead to the recognition of exemplary teachers through a process called National Board Certification. The process of applying for, and attaining, National Board Certification should be viewed as an excellent professional development

opportunity for teachers because it requires teachers to document their practice, reflect on their strengths and weaknesses, and demonstrate specific knowledge and skills.

Corcoran ends the article with several suggestions for policymakers and urges setting clear goals for professional development. The suggestions were intended as an attempt to address what Corcoran viewed as the current weaknesses of professional development: unfocused, fragmented, low-intensity activities that do not lead to significant changes in teaching practice. These suggestions include the following: focus professional development on the core problems of teaching and learning, balance individual and organizational interests in professional development and restructure incentives, embed more professional development in the workplace so that it is more closely related to teachers' work experience, ensure that high-quality professional development opportunities are available for the teachers who serve the most vulnerable students, improve the productivity of professional development, increase the awareness of existing professional development programs along with increasing public support and awareness of professional development, review existing policies and practices, set standards and priorities, provide more time for professional development, strengthen the teacher role in the professional development process, and support and adopt promising professional development approaches.

Corcoran has not been the only researcher to offer suggestions for improving professional development. The National Staff Development Council (NSDC) also offers twelve standards/suggestions for professional development (National Staff Development Council, 2001). The first of these suggestions is the establishment of Learning Communities. Professional development that improves the learning of all students should organize the adults in the building into learning communities whose goals are aligned with the goals of the school and district.

The second recommendation involves the school administration/leadership. The NSDC believes that the type of professional development that improves the learning of all students requires skilled school and district leaders who guide continuous instructional improvement.

Professional development can be viewed in two ways; 1) an investment that will pay future dividends in the form of improved teaching and learning, or 2) an expense that decreases a school or school districts' ability to meet other financial obligations. The NSDC believes that professional development that improves teaching and learning requires resources to support the learning and collaboration of the adults in the building.

Professional development should be data-driven and should use disaggregated student data to determine teacher learning priorities, monitor progress toward goals, and help maintain continuous improvement. Closely related to the last suggestion is evaluation where professional development is based on multiple sources of information to guide the improvement efforts and monitor its impact on teaching and learning.

The NSDC believes that professional development prepares educators to apply research to decision making. The newest and most popular professional development sessions are often led by charismatic speakers who are entertaining and appealing, but schools, school systems, and teachers should be aware of the latest educational research and choose the professional development content and process accordingly.

The design of the professional development opportunity should use learning strategies that are appropriate to the intended goal. Human learning is based on a common set of principles, and professional development should apply knowledge about human learning and change to be effective.

Professional development should provide teachers with the knowledge and skills that are needed to effectively collaborate. Individuals learn best in environments where they feel safe and secure. Professional development should prepare educators to appreciate and understand all students, create learning environments that are safe, orderly, and supportive, and hold high expectations for their students' achievement. Professional development should deepen teachers' content knowledge, provide teachers with research-based instructional strategies to help their students meet rigorous academic standards, and prepare teachers to appropriately select and use various types of classroom assessments. Finally, the NSDC believes that professional development should provide educators with the knowledge and skills that are needed to successfully involve families and other stakeholders in the educational process.

Within large school systems, many schools operate as small insulated communities of learning where decisions are made locally, and programs are initiated by teachers and administrators. Administrators play a vital role in the implementation of professional development as they make decisions about who attends professional development, what professional development will be offered, and how the knowledge and skills acquired during professional development will be implemented in their schools. Desimone, Smith, and Ueno (2006) conducted research on the relationship between middle school math teachers' knowledge of and background in mathematics and their participation in content-focused professional development. These researchers found that professional development often serves an unusual role where it is not uncommon for only teachers with strong content knowledge choose to participate in sustained content-focused professional development. Studies have shown that almost 70% of teachers nation-wide choose their own professional development opportunities. If the teachers with the weakest content knowledge are not choosing to attend sustained content-

focused professional development, state, district, and school leaders need to work to find ways to encourage those teachers to attend professional development that will address these weaknesses. There is a risk, however, that shifting from a predominately volunteer model for professional development attendance, to a model of principal or district mandated professional development can cause these efforts to experience the same types of failure that other top-down approaches to reform have suffered. School and district administrators should look for ways to structure professional development sessions that provide teachers with weak content knowledge with the types of intensive, focused professional development that will make a significant impact on teaching and learning.

One way that Desimone et al. (2006) suggested to address teacher feelings of unpreparedness or insecurity in content knowledge is to scaffold the professional development that teachers receive. In other words, target the professional development activities that teachers receive to their varying levels of content knowledge. One way to accomplish this is to divide the teachers into subgroups by content and the levels that they teach and then provide professional development targeted to the teachers in each group. This method can be problematic in small schools where there might be only one or two teachers in each department. Schools and school systems try to get the biggest return on their professional development investment by sending as many teachers as possible to professional development sessions being conducted in their school or district. This approach often results in mixed groups of vastly different skill/knowledge levels, and different disciplines. For example, schools often send ELA and Social Science teachers to the same sessions. This arrangement is not typically an issue because social science classes concentrate heavily on reading. In fact, ACT reading benchmarks are set by tracking student performance in college courses in Western Civilization or U.S. History (ACT, 2017). However,

when mathematics and science teachers attend a session together, the content does not always apply to both groups, and it can be difficult for the presenter to meet the needs of each group.

In addition to scaffolding, Desimone et al (2006) also recommends linking professional development to the overall school vision for teaching and learning. If teachers can visualize how attending the more challenging professional development sessions could impact their school and their students, many of the weaker teachers could be motivated to stretch beyond their own comfort zones and attempt new things. School administrators can play a large role in this process by explicitly linking the schools' vision to the professional development that is being offered and providing support for teachers and helping them to make the connections between school goals and the professional development that they receive. In many cases, this technique will mean discontinuing the existing method of teachers self-selecting professional development and moving to models where administrators evaluate teachers and then determine what kinds of professional development activities could help teachers to improve their classroom practices. This method can run the risks that other top-down mandates have experienced where teachers feel as though they have no autonomy to make their own decisions. Care should be taken on the part of administrators to avoid this issue. One way that some districts and administrators avoid this pitfall is by working to provide incentives to organizations to deliver the types of professional development that have been found to be effective. If state departments of education, districts, colleges, and universities were to stop offering one-shot workshops and began to offer the sustained, content-focused workshops that are needed to make significant changes to teaching and learning, teachers would have no choice but to select high-quality, content-focused professional development because that would be all that was being offered.

Dufour and Berkey (1995) also offered some concrete suggestions for ways that principals can change their organization by focusing on teacher professional development. These suggestions include creating a consensus on what the school is and what it is trying to become, monitoring school improvement efforts, encouraging experimentation, developing a commitment to professional development, providing one-on-one staff development, and providing the staff with professional development that is purposeful and research based. The researchers identified four key roles in which school leaders influence teacher learning in their schools through professional development. Principals should be stewards of learning who show that they value learning and commit themselves to learning daily. As stewards, principals can ensure that the focus and goals of teacher professional development stay centered on teaching and learning. Principals should also serve as models of life-long learning. They should model their expectations for professional development in their schools by welcoming teachers to the sessions and being an active participant. When the professional development is not important to the principal, it is often not important to the teachers either. Teachers often grade papers, plan lessons, or check emails during professional development sessions because no one from administration is attending the session, and they know there will be no follow-up or implementation expectations, and they had no role in planning or choosing the professional development. Non-participation, or outright defiance, can be one way that teachers express their dissatisfaction.

Bredeson (2000) says that there are three ways that administrators help shape the cultural, political, and structural climates of their schools so that professional development can flourish. First, the administrator should be a communicator. Principals are often uniquely positioned within the organization to communicate with parents, students, board members, and stakeholders

about the purpose, structure, and potential impact of teacher professional development. Through conversations with teachers, especially in evaluation conferences, principals can help teachers become more reflective and critical about their own teaching practices. By posing questions, challenging assumptions, and promoting collaborative problem-solving, principals often begin conversations that lead to the development and implementation of effective professional development. Second, the administrator should be a supporter of professional development. One form of support is financial, through conference fees, travel, substitute teachers, etc., and another form of support is cultural when principals create an environment where teachers can take risks, experiment with new ideas and practices, and exercise their creativity. The principal needs to be there to provide professional, psychological, and emotional support when teachers run into problems or meet with failure when attempting to implement new ideas and techniques learned in professional development sessions. Finally, the administrator should be a manager. The creation and development of a successful learning environment requires a great deal of work in coordination and highly effective management. This includes: 1) recruiting and hiring teachers and other support staff who are willing to learn, 2) coordinating professional development activities, 3) making decisions regarding resources and school priorities, 4) scheduling the time, space, and opportunities for teachers to work and learn together, 5) identifying available resources and disseminating important information to the staff, 6) aligning the available incentives with the professional development priorities at the school, 7) arranging substitute teachers and release time, 8) visiting classrooms, 9) developing and implementing teacher evaluation processes that support growth and teacher improvement, and 10) acting as a buffer against disruptive external forces that threaten to interfere with the school's learning environment.

There are a multitude of educational change experts, consultants, and legislative policy-makers who inundate teachers and schools with workshops, seminars, and other professional development opportunities “guaranteed” to improve the school. Principals can help support teachers by making sure that the selected professional development opportunities and resources are aligned with the school goals. This process helps to ensure that the professional development opportunities provided for teachers do not become fragmented, isolated, and/or incoherent activities that have little hope of having a positive impact on teachers or students.

Sandholtz and Ringstaff (2016) conducted a study to investigate the factors that influenced the sustainability of the outcomes of a three-year, state-funded professional development program for K-2 science teachers in small, rural school districts. The researchers used case-studies to examine a purposive sample of five schools, where the 39 participating teachers had been provided with over 100 hours of professional development opportunities. The program of professional development included three main components: intensive adult-level science content instruction, pedagogical training focused on science instruction and how to connect science with language arts and mathematics, and training and support to facilitate teacher collaboration. In their study, the researchers were attempting to determine which contextual factors influenced the sustainability of the science instruction after the professional development had ended. The authors found that school administrators played a crucial role in facilitating or hindering K-2 science instruction after the conclusion of professional development sessions through their instructional expectations, curriculum and pacing guides, resource allocation, and time for collaboration. In schools where there was a significant turnover in administration, the science teachers found it difficult to adapt to changing instructional expectations. When the new principal’s expectation was a focus on language arts and

mathematics, many of the teachers had difficulty fitting science into the instructional day. In some of the participating schools, the schools were designated as program improvement sites. The teachers at the program improvement site schools reported that as the focus of the curriculum shifted to language arts and mathematics, they were allowed less and less time to teach science.

Sandholtz and Ringstaff also found that teachers with on-going collegial support at their schools were better able to sustain the instructional practices that were learned in professional development. This has implications for middle and high schools where teachers seldom have common planning times with their subject- or grade-level coworkers. In schools where professional development has been provided to the teachers of a grade level or subject area, administrators and central office staff should work to ensure that those teachers have time to collaborate and work together to sustain the outcomes of the professional development. Collegial support for a program or initiative can also change over time as teachers retire, change grade levels, or move to other schools. When a school is able to maintain an intact pool of teachers who participated in a common professional development and share an interest in teaching a subject, collegial support is increased. An additional finding of the researchers was that teachers with a personal motivation to teach science found time to teach science. In other words, the teachers with the highest levels of personal motivation to teach science found ways to “make time” and used the strategies that they had been taught, but schools cannot rely on individual teacher motivation to overcome many of the issues that teachers experience when attempting to incorporate new learning.

There are a variety of professional development opportunities that schools may choose to implement and more appear every day. Schools and school systems have spent thousands of

man-hours and millions of dollars delivering professional development opportunities to their teachers, with decidedly mixed results. Many of the current professional development conversations have focused on ways to improve the delivery and effectiveness of new and existing programs.

Newmann, Smith, Allensworth, and Bryk (2001) have introduced an interesting concept into the improving professional development conversation. These researchers claim that current reform efforts may fail to improve student achievement in schools if those reform efforts do not pay attention to the concept of instructional program coherence. Instructional program coherence is the set of interrelated programs, for both students and teachers, that are guided by a common framework for curriculum, instruction, assessment, and learning climate. Reform efforts should strengthen the instructional program coherence rather than the more common implementation of a wide variety of unrelated, and uncoordinated, programs of short duration. When schools, or school systems, adopt multiple school improvement projects, programs, and/or partnerships a pattern of teacher behavior often emerges. The staff is divided among various initiatives, where they devote a great deal of time and energy attending workshops, meetings, and conferences. While they may not expect immediate success, when the desired improvements in student achievement do not materialize in a timely manner, professional frustration and fatigue may rise. Many of the programs fade away or are discontinued by the school or system, and new programs are adopted to take their place. These schools are frequently placed into a difficult situation where they want to acquire new programs and materials that might help them to be more effective, but they soon find that they are caught up in a massive and fragmented menagerie of professional development activity.

Principals may recognize that the faculty members are scattered among programs but may feel that providing a variety of initiatives may be the only way to address the problem areas that have been identified within their school. With so many gaps and areas of need, many principals feel like they cannot afford to refuse new programs when they are offered, and reason that the variety of diverse programs will somehow complement one another. The school systems, schools, and principals continue to adopt new programs but often do little to establish, or strengthen, coordination or coherence between them.

Newmann, Smith, Allensworth, and Bryk (2001) examined the concept of program coherence in Chicago elementary schools. They found that a pattern often develops in low performing elementary schools. Many of the lowest performing elementary schools will seek to improve their instructional programs and academic outcomes by adopting various school improvement projects, programs, or partnerships with outside vendors. The staff is then divided among the various initiatives and spend a great deal of time, effort, and energy attending workshops, meetings, and/or conferences. Even though immediate success may not be expected, certain results and improvements are expected after a reasonable period of time has passed. When the expected gains do not materialize, fatigue and frustration can arise among the faculty. The school system, school, and/or teachers will then abandon the current programs and adopt new, more promising initiatives.

These schools can quickly become caught in a cycle of adoption of programs and materials, and as a result their school improvement efforts quickly become fragmented. The authors found that strong program coherence is present when there are three prevailing conditions in a school. The first condition is the presence of a common instructional framework that guides curriculum, teaching, assessment, and the learning climate. The framework provides

specific expectations for student learning and includes specific strategies and materials to guide teaching and assessment. A common framework would include the following features; 1) The curriculum, instructional strategies, and assessments are coordinated among teachers at a school, 2) The curriculum and assessments proceed logically through the grade levels and possess a progression of complexity that introduces the students to increasingly complex subject matter rather than repeating material covered in previous grade levels, and 3) Student support programs like tutoring, remediation, parent education, and parental involvement focus on the schools' instructional framework.

The second condition of strong program coherence is staff working conditions that support implementation of the framework. Administrators and teachers are all expected to implement the framework. The recruiting and hiring of teachers are tied to criteria that emphasize competence and commitment to executing the framework. Teachers are evaluated and held accountable for how effectively they are implementing the framework. Professional development activities for teachers and staff are focused on the common instructional framework, and the professional development is structured in ways that allow for the incorporation of more complex topics over time. For example, teachers can be introduced to a new teaching strategy, have opportunities to critically examine the new strategy, have time to implement it into their classrooms, and then have opportunities to receive feedback from their colleagues and outside experts. The new strategy becomes a school focus for several months or even years.

The final condition that must be present for strong instructional coherence is when schools allocate resources like time, materials, funding, and staff assignments in ways that

support the schools' common instructional framework and avoid disjointed, scattered improvement efforts.

In 1994 and 1997, surveys regarding program coherence were distributed to elementary school teachers from Chicago public schools. Newmann et al. (2001) examined these data and student performance data from the Iowa Tests of Basic Skills. They found a strong positive relationship between improving program coherence and improving student achievement. School districts and schools routinely offered a variety of professional development options from which the teachers were allowed to choose, but state and district policy did not usually require that these efforts be coordinated within the school. There was rarely a requirement or an incentive for the entire school staff to participate.

The implication for educational leaders and policymakers is to give more attention to creating program coherence within their schools. The authors offer several suggestions for increasing program coherence. School administrators should work to focus the school improvements plans, professional development, and instructional materials on a few core educational goals that are pursued through the common instructional framework. Foundations, grants, and other organizations that support school improvement should coordinate their efforts within the schools to avoid conflicting offerings, duplication of effort, and fragmentation of offerings. District sponsored professional development should emphasize program coherence, and available funding should be used to support program coherence.

Summary, Conclusion, and Contextualizing

This literature review has revealed several interesting observations regarding professional development. First, there is very little consensus among experts on a concrete definition of professional development. Some groups, organizations, and researchers have developed

definitions of professional development that are lists of activities that can be considered types of professional development more than they are formal definitions of professional development. Almost any formal, or informal, meeting of teachers can be considered professional development. Activities like teachers engaging in personal or faculty-wide book studies, mentoring or being mentored, attending college classes, or just informally talking to another teacher in the hallways during class change have been considered professional development by some researchers. For the purposes of this paper, professional development will be defined as any activity that develops an individual's skills, knowledge, expertise, or other characteristics that are essential to their role in education. This definition most closely aligns with my work with teachers and school systems, and is supported by, and derived from the literature regarding effective professional development.

With this definition in mind, the next important concept to consider is what factors make professional development effective. There are a variety of suggestions from many different researchers and educational organizations regarding what improves the effectiveness of professional development. These suggestions often come from governmental sources through legislation like No Child Left Behind, and private research groups like the Center for Public Education. Researchers working with groups of teachers have also developed lists of characteristics that they believe will make professional development more effective. While there are some common features among these various recommendations, there is also a great deal of disparity and contradictory information. Nearly all the recommendations for effective professional development stipulate that the professional development should be on-going, intensive, and connected to the teachers' daily practice. However, only a few of the suggestions

mention building relationships between the teachers, or the importance of providing modeling for the teachers as they try to implement the new information into their daily practice.

Of the various recommendations presented by educational researchers, I find that my experiences with effective professional development most closely align with the recommendations by Bayar (2014). Bayar found that the teachers in the research study defined any professional development as effective if it was organized around an identified need and was provided for a long time. The study participants identified six characteristics that they felt made professional development effective; 1) it should be a match to existing teacher needs, 2) it should be a match to existing school needs, 3) there should be teacher involvement in the designing and/or planning of the professional development, 4) the professional learning should include opportunities for participants to be actively engaged, 5) the professional development should incorporate long-term engagement, and 6) the professional development should be conducted by high-quality instructors. This set of characteristics contains many of the components recommended by other researchers.

Most researchers believe that the selection of professional development topics should be driven, and supported, by the data that are available. This belief is captured by recommendations 1 and 2. Additionally, professional development should be of acceptable duration to be meaningful for the teachers. 5. Nearly all the available research on professional development has found that one-time, sit-and-get workshops are not effective, but this continues to be the primary form of professional development that is offered to many Alabama teachers. Recommendation 4 states that professional development should include opportunities for participants to be actively engaged, but the workshop method of professional development seldom provides these types of opportunities. Finding ways to improve the effectiveness of professional development that is

delivered to Alabama teachers is important because well-designed, well-delivered professional development has been shown to improve student achievement.

An additional challenge facing schools, school systems, and professional development providers, is the lack of an evaluation instrument that will provide the types of data that are needed to measure the effectiveness of professional development. This issue causes a serious gap in the available literature. Professional development is too costly, in terms of time, money, resources, and missed instructional days to fail to measure if it has accomplished its intended purpose. With very few exceptions, current evaluation practices are little more than satisfaction surveys administered to participants at the end of a professional development session. When the satisfaction survey is the only thing standing between teachers getting to go home at the end of long day, it is easy to see that the data that results from these surveys may be considered suspect. There are methods of evaluating professional development that do not rely on survey results, but these alternate methods require observations, interviews, case studies, and other more time-consuming methods of collecting data on effectiveness. These methods are infrequently used due to time constraints.

Another important consideration in the discussion of professional development is cost. Professional development is very expensive in terms of money, time, and resources. A varied collection of research has shown that most school systems have no grasp of the amount of money being spent on professional development. Accounting practices need to be developed that will allow schools and school systems to track their professional development spending. As a multi-billion-dollar business, professional development is too important, and too costly, to continue to be managed in the haphazard way it has been treated in the past. Before legislators, schools and school systems try to fix what is wrong with education by throwing more money at the problem,

it would be prudent to develop an understanding of what is currently being spent on professional development and what that money is purchasing in terms of increased levels of teacher knowledge or improved student achievement.

A review of the literature offered several ways that professional development could be improved. As an alternative to the perennially popular one-day workshop format of professional development, schools and school systems should begin to consider alternative forms of professional development. Lesson study has been found to be a highly effective form of professional development for teachers in Japan. While lesson study has been implemented in the United States with less than desirous results, there is evidence to suggest that these implementations may not have been executed to fidelity. Lesson study and other less common forms of professional development should be considered by schools and school systems rather than continue to rely on the one-day workshops that have been shown to be ineffective.

The effectiveness of professional development can also be improved by the involvement of the school administrator. In many cases, the administrator sets the tone for the school and when the message is being sent to the faculty that professional development is not important, ultimately it will not be important. If administrators and other school leaders want the professional development that is taking place in their schools to have a positive impact on teaching and learning, then there must be a level of expectation on their part in the form of delivery, implementation, and follow-up.

One of the most important system-wide actions that could be taken to improve professional development is an evaluation of program coherence. In the case of many systems, professional development is being scheduled out of multiple offices or departments with little or no coordination of effort. This method often leads to teachers attending multiple sessions on

duplicate topics, costly duplication of effort, or the presentation of contradictory information. Too often professional development is scheduled to address popular hot-topics or the personal preferences of teachers and school leaders rather than relying on school or system data to determine areas of weakness. Professional development is frequently scheduled with little or no attention to system, school, or teacher needs. Sessions are delivered to the entire faculty during system-wide in-service days without regard to subject area or grade-level assignments. Effective professional development should be tailored to the needs of the attendees, and the one-size-fits-all professional development model seldom meets these requirements.

The primary purpose of professional development should be to improve teaching and learning. If well-designed, effective, needs-based professional development is provided to teachers in Alabama, there should be a corresponding increase in student achievement. An examination of national standardized testing data revealed that there are vast differences between the states in terms of student achievement. Academically, Alabama trails much of the nation in terms of student standardized test scores. Many schools and school systems turn to professional development activities to help teachers improve their content knowledge and instructional practices, and by extension student achievement.

As a part of this dissertation research, the professional development policies of a variety of states will be examined to determine the features that they share and the differences that may or may not make them unique. If the academically successful states' professional development policies contain features that academically low-performing states do not utilize, then these components will be included in a list of recommendations for future state-level professional development policy makers. If common features contained in the professional development policies of academically high-achieving States can be identified, the current Alabama

professional development policy will be examined to determine if it contains these features. If not, a list of recommendations for policy changes in Alabama will be generated.

CHAPTER THREE

The purpose of this chapter is to describe the research design that I chose, how the sample for this study was selected, and how the data in the study were collected, analyzed, and reported. To begin the process of data analysis, I used a data collection and analysis planning matrix. This matrix allowed me to plan various methods of data collection and develop analysis techniques to answer each of the research questions associated with this study. Each of the five research questions was taken through a series of questions that facilitated the formulation of a plan to collect the data, organize the data, analyze the data, and report the data. These data were then used to answer the research questions that were associated with this study.

The questions contained in the data collection and analysis planning guide were *What data are needed to answer this research question? Where can these data be found? How will the data be collected? What survey/interview questions(s) will be used to collect these data? How will the data be organized once collected? How will the data be analyzed? How will the data be reported?* The answers to these questions were found through an examination of the existing State of Alabama professional development policy and the professional development policies of selected states and educational programs from across the nation. By analyzing the data that was collected and combining this information with the characteristics of effective professional development that emerged from the literature, I was able to generate a series of recommendations for policy makers in Alabama regarding the development of a viable, and effective, teacher professional development policy.

This chapter is organized to illustrate and describe the research design that was chosen to answer the research questions associated with this study. In addition, the unit of analysis of the study was identified, the data collection techniques were discussed, the sample and sampling strategies were described, and the data analysis methods were defined. Finally, the issue of researcher bias was addressed.

Research Design

This study employed a qualitative research design focused on a document analysis using state-wide professional development policies. By examining the professional development policies of as many states and educational programs as possible, I was able to complete a comparative policy analysis of current professional development policy. Merriam (2009) stated that research can typically be divided into two categories: basic and applied. Basic research is motivated by an interest in a subject or phenomenon and has as its goal an extension of knowledge. Applied research is often conducted to improve the quality of the practice of a specific discipline.

As this research was conducted to find ways to improve professional development for Alabama teachers, it is my hope that the results of this study will be used by state-level policy makers to modify current professional development policy and to influence the development of future professional development policy. Since this study was not seeking to make a prediction using the data that was collected, a qualitative study was the most appropriate method for this research (Qualitative Research Consultants Association, 2018). Since qualitative data are often a source of rich descriptions and explanations of human processes, qualitative research allows the researcher to preserve the chronological flow of events, identify potential cause and effect relationships, and derive explanations for observed events (Miles, Huberman & Saldana, 2014).

Denzin and Lincoln (2008) stated that qualitative research is a situated activity that locates the observer in the world. This statement means that the qualitative researcher studies phenomena in their natural settings and attempts to make sense of, or interpret, what they observe in terms of the meaning that people bring to them. This information was important as I continued with this study due to the nature of the data sources and the topic of the research. Professional development is conducted by individuals and delivered to groups of teachers and administrators. The individuals involved in the professional development process bring with them their own unique perspectives, past experiences, and attitudes regarding the delivery, acceptance, and assimilation of professional development. Qualitative research was best suited to research centered on professional development for exactly these reasons. Qualitative research methods allowed information about current professional development policy to be combined with current research to develop professional development recommendations for state-level professional development policymakers.

Often, the main reason for choosing a qualitative research method is that the research question being asked requires a qualitative approach and not another approach (Flick, 2014). Qualitative research focuses on the "why" rather than the "what" of social phenomena and relies on the direct experiences of the individuals under study. Rather than using statistical procedures, qualitative researchers often use multiple means of inquiry for the study of human phenomena. Qualitative researchers have described more than 20 different qualitative research methods ranging from content analysis, case studies, historical analyses, discourse analyses, ethnographies, to grounded theory and phenomenology (Miles, et al, 2014). Qualitative research typically seeks to describe a phenomenon and in the case of this research, the phenomenon under study is professional development policy. Since professional development typically takes place

in school settings with teachers and other educational personnel, it was not possible to separate the act of professional development from the participants. This combination necessitated the use of a research design that was qualitative in nature.

Merriam (2009) found that qualitative research can be defined by four characteristics: 1) The focus of the research is on meaning and understanding. Qualitative research should achieve an understanding of how individuals make sense out of their experiences, how the process of meaning-making takes place, and how those individuals interpret what they experience. 2) The researcher is the primary instrument for data collection and analysis. A human researcher should be able to be immediately responsive and adaptive when collecting and analyzing data. The researcher should also be able to increase their understanding of a concept through verbal and nonverbal communication, process the information or data that is acquired almost immediately, clarify and summarize the data that are collected, and further explore unusual or unexpected findings or responses. 3) Qualitative research is inductive. Qualitative researchers gather data to build concepts, theories, or hypotheses rather than testing hypotheses as in many other forms of research. These researchers build toward theory from observations and understandings gathered from the qualitative research process. Information from interviews, observations, and documents are combined and ordered into larger themes as the researcher moves from the specific to the general. 4) The product of qualitative research is richly descriptive. Rather than using numbers associated with statistical measures, in qualitative research words or even pictures are used to convey what the researcher has learned about a concept.

A qualitative research approach also takes into consideration that humans cannot be studied as isolated units but must be understood in the context of the world in which they live, and in their cultural and social connections. The topic of this research was professional

development and how it can be made more effective for teachers through policy recommendations. Individuals engage in the process of professional development and the prior experiences and attitudes that those individuals bring with them to the professional development experience can have an impact on the effectiveness of that process. The qualitative study of professional development is made even more complicated by the nature of the complex structures that make up professional development. Geertz (1973) said that qualitative researchers must deal with complex conceptual structures with many of them layered upon one another or knotted together in strange, irregular, or unexpected patterns. The role of the qualitative researcher can then be thought of as a systematic detangling of the subject matter under study and then a rendering of the information gathered by the research process.

Qualitative research is conducted because there is a problem or issue that needs to be explored (Creswell, 2013). Current professional development activities are costly and time consuming. Schools and school systems allocate valuable resources to the on-going process of professional development, and in return, there is an expectation that the professional development will have a positive effect on student achievement. When the expected increase in achievement is not realized and student test scores do not improve, educational leaders often seek ways to improve the professional development process. Effective teacher professional development and state-wide professional development policies are complex and multifaceted components of the educational landscape. Therefore, a qualitative research design was the most appropriate technique for studying how professional development can be made more effective for Alabama teachers.

While this study employed a qualitative research design, the research was focused on a document analysis using state-wide professional development policies. The word document is

often used as a universal term that refers to a wide variety of written, visual, digital, and physical materials that are relevant to the study being conducted. In many cases the documents used in a qualitative research study are already in existence before the start of the research study, rather than being created during the research process, and that was also be the case for this study (Merriman & Tisdale, 2016). Rapley and Rees (2018) found that analytic work with documents can be divided into two areas: work that uses the actual documents and work that focuses on the use of the documents. There are multiple sources of public documents including federal, state, and private agency reports, individual program records, and educational statistics (Merriam & Tisdale, 2016). For the purposes of this study, I examined public documents pertaining to state-level professional development policy. The state-level professional development policies examined in this study contained the data that were needed to answer the research questions associated with this study by using inductive logic to build patterns, categories, and themes from the data that were available (Creswell,2013). I was able to identify professional development policy characteristics that appeared to support increased levels of effectiveness in the professional development process.

In addition to the rationale described above, there was another reason why a qualitative research approach was the most appropriate research method for this study. The research process in a qualitative study is emergent in design (Creswell, 2013). While it was possible to identify or develop an initial plan for the research associated with a study, engaging in the research changed or modified that initial plan into something that allowed me to gather the data that were needed to answer the research study questions. By reflecting on the information that emerged from the literature review and data analysis, I found that the research moved in directions I that had not been previously considered.

As well suited as qualitative research was to answer the research questions that were associated with this study, qualitative research does possess some disadvantages. The quality of the data that were collected as a part of this research were subjective in nature. There were almost as many different opinions regarding the characteristics of effective professional development as there are researchers studying professional development. While the eventual list of recommended effective professional development characteristics was based on the most current available research, it was impossible to include every facet of professional development. In a critical realism view of qualitative research, Maxwell (2018) found that the results of any qualitative study should consider local results tied to the appropriate setting or population that is being studied. These restrictions make generalization or transferability of the research results problematic. The recommendations of this study may not be applicable for schools, school systems, groups, or organizations outside of Alabama.

Unit of Analysis

The unit of analysis for this study was state-wide professional development policies. The unit of analysis of state-wide professional development policies was chosen because State Departments of Education provide guidance for their schools and school systems to use while developing, selecting, or providing professional development activities for educators. It is possible that local schools and school systems may also provide additional regulations and guidelines for professional development within their individual schools or school systems. These additional protocols, if they exist, would not be available to every school or school system within the state. Therefore, it would not have been appropriate to consider them as a data source for this study. Therefore, only professional development policies provided at the state level were used in the analysis of data for this research.

Since the unit of analysis for this study was state-level professional development policy and human subjects were not used, Institutional Review Board (IRB) review was not required. A copy of the letter from the University of Alabama Director & Research Compliance Office can be found in the Appendix.

Data Collection Methods

According to Maxwell (2018) a key consideration in data collection is the importance of considering how the data that are collected will be used to develop and test one's understanding of the phenomenon that is being studied. Berg (2004) said that any information that a researcher gathers can potentially be used to answer the research questions or solve the problems that have been identified. How a researcher goes about gathering data is determined by the nature of the problem or setting, limitations encountered, and in many ways the researcher's personal choice. As previously stated, I made use of a data collection and analysis planning matrix.

The first question on the data collection and analysis planning matrix was *What data are needed to answer this research question?* This question was answered by reviewing the current literature regarding effective professional development practices and by examining state-level professional development policies.

The second question in the data collection and analysis planning matrix was *Where can these data be found? and from whom?* A preliminary review of the literature revealed a wealth of information concerning effective professional development. Additionally, I found that many state-level professional development policies were available via internet searches. Due to the breadth and variety of information that was found using internet searches, the use of interview questions was not necessary.

This leads to the next question in the data collection and analysis planning matrix *What survey/interview question(s) will be used to collect the data?* As stated previously, the information regarding state-level professional development policy was located through internet searches. If an individual State's professional development policy could not be located through an internet search, the Department of Education in that State was contacted via email and phone call. The use of survey/interview questions was not necessary.

The next question on the data collection and analysis planning matrix is *How will the data be organized once collected?* Through inductive analysis and axial coding, I generated a list of the common characteristics of effective professional development and incorporated those characteristics into a list of recommendations for state-level professional development policy makers. These recommendations were grounded in the most recent professional development literature and the existing state professional development policies examined by this study.

Since the focus of this research was effective professional development policy recommendations, the data for this study were primarily found in the existing professional development policy provided by the Alabama State Department of Education and the professional development policies of a purposeful sample of State Departments of Education and other applicable educational programs. Siedman (2013) stated that the "heart" of what it means to be human is the ability to communicate and symbolize experiences through language. By coding these policies and examining the critical components of each, I was able to identify recommendations for future professional development policy in Alabama and other States.

An examination of other documents, including current research articles and the professional development policy recommendations of a variety of educational groups, was required to fully understand what makes professional development effective and what

recommendations need to be made concerning professional development policy in Alabama. By studying articles, books, newspapers, and other sources of information pertaining to effective professional development, a picture of effective professional development began to emerge as my research was conducted.

The State of Alabama, along with many other states across the nation, has rules, regulations, and procedures that govern the professional development process. By using the 2015 8th grade mathematics NAEP data as a ranking tool, other states and their professional development policies were identified and selected to be included in this study. Using internet searches, the most current professional development policies of the participating states were located. The analysis of these policies was reported as a summary of the characteristics of professional development policies in the selected states. These professional development policies were also grouped in a variety of ways to help identify common themes and characteristics.

Using the analyses of the Alabama Department of Education's professional development policy and the state-level professional development policies of states from across the nation, a picture began to emerge of the similarities and differences between Alabama professional development policies and the professional development policies of other states. Using comparison and contrasting techniques with the themes that emerged from the Alabama Department of Education's professional development policy and the themes that emerged from the professional development policies of other states, it was possible to identify areas where the policies were similar and areas where there were significant differences. These data were reported in tables and other visual representations that illustrated the commonalities and differences between the Alabama professional development policy and the professional development policies of other selected states.

The literature review was used to identify a list of specific characteristics of effective professional development as supported by research. By comparing this list to the list of characteristics in the Alabama Department of Education's professional development policy, it was possible to determine whether the current Alabama professional development policy contained the identified effective professional development characteristics or not. By examining the state professional development policies of academically high-performing states and comparing the characteristics that emerged against the characteristics that materialized from the analysis of professional development policies found in academically low-performing states, it was possible to identify characteristics that were shared by academically high-performing states. If the current Alabama professional development policy did not contain the characteristics or factors found in the professional development policies of academically high-performing states, then these characteristics were incorporated into the recommendations to policy makers for inclusion in a viable state-level professional development policy that could positively impact student academic performance in Alabama.

Sample and Sampling Strategy

The unit of analysis for this study was existing professional development policies generated at or provided at the state level. Using the 2015 8th grade mathematics NAEP data, participating educational programs were identified. As previously stated, the 2015 NAEP data were used as a sampling strategy only. There is no known empirical link between NAEP scores and the effectiveness of PD policy in any given state. The number of states that were available to be sampled included the 50 United States, the District of Columbia, the Department of Defense's educational program, and Puerto Rico. In the end, state-level professional development policies could only be located for 41 states. Organizational-level professional development policies could

not be located for the District of Columbia, the Department of Defense, or Puerto Rico. The list of 53 educational programs were ordered from the highest academically performing states/organizations to the lowest academic performing states/organizations, and then the list was divided into four groups or quartiles. A purposeful sample was drawn from each of the four groups. This sample was limited to states/organizations with readily available professional development policies. An internet search was conducted to look for the current professional development policy for each educational program or state. If the professional development policy could not be located, the state or program was not included in the sample. Care was used to ensure that at least 5 professional development policies from each of the four groups or quartiles were included. An attempt was made to over-sample the highest and lowest groupings, but this task was not possible due to the availability and accessibility of state-level professional development policies.

This sampling method ensured that professional development policies from academically high-performing and academically low-performing states were included. However, the availability of state-level professional development policies ultimately determined which states were included in this study. Using this sampling method meant that some states were not included in the data set if their professional development policies could not be located. There is the potential that these policies contained unique features or characteristics that I was not able to consider when making recommendations to Alabama policy makers. If an academically high-performing state's success is a direct result of its state-wide professional development policy, the eventual recommendations of this study could be incomplete or lacking in depth since these states' professional development policies were not also included. By only using the professional development policies of states and educational entities that had made their policies readily

available via the internet, building a complete picture of professional development policy in the United States was not possible.

Data Analysis Methods

According to Miles, Huberman, and Saldana (2014) qualitative data analysis is composed of three on-going activities: data condensation, data display, and drawing or verifying conclusions. Data condensation is the process by which data are selected, focused, simplified, abstracted, and/or transformed from the larger body of documents being studied. Consistent with established qualitative research data analysis methods, the data from this study were analyzed by using inductive analysis and coding. This inductive approach was a systematic procedure for examining and analyzing qualitative data in conjunction with specific objectives. The overall pattern of inductive data analysis in a quantitative study focuses on moving from specifics to analytic generalizations. (Hatch, 2002) Using this method allowed research findings to emerge from the raw data by examining the frequent, dominant, or significant themes. (Thomas, 2003) An inductive approach also allowed me to condense large amounts of varied text into a more concise summary format, to link these findings to the research questions, and to develop a theory of how professional development can be made more effective for Alabama teachers through professional development policy recommendations.

Using coding allowed me to aggregate the large amounts of data collected from the state-level professional development policies into smaller categories of information. The themes, patterns, and categories were built from the bottom up by organizing data into these abstract units of information. (Creswell, 2013) Inductive coding began with a close reading of the text and consideration of the meanings that were found in the text. As this process was taking place, I identified text segments that held meaning for my study and created a label for each new

category that emerged. (Thomas, 2003). These labels, words, or short phrases assigned a summative, essence-capturing attribute for a portion of the text. This information was known as a code (Saldana, 2013). Qualitative research is emergent, and while I used codes to identify common themes in the available professional development policies, there was no way at the beginning of the research to determine how many codes would be needed or what the nature of the codes would be. The use of preexisting or a priori codes in the coding process was possible. The literature review had already revealed common themes that are found in effective professional development, i.e. teacher needs, school needs, long-term, teacher involvement. At the onset of the study, I was unsure whether the coding process would use predetermined codes, or if I would use in vivo codes that emerged from the study of the professional development policies. In the end, the coding process was a combination of both in vivo and predetermined codes.

Regardless of the nature of the codes, they were grouped into themes, or broad categories of information or codes that formed a common idea. This resulted in a list of major study themes, and this list was much larger than recommended. As the codes emerged, I continued to refine and attempt to group the codes into the recommended three to eight summary categories that captured the key aspects of the themes from the raw data. (Thomas, 2003) In the end, I conducted the data analysis of the state-level professional development policies using the larger list of codes instead of the smaller more concise list. This was done for a very specific reason. Consolidating the codes and major study themes into just a few overarching summary categories resulted in a loss of much of the richness of the data. The complex nature of the state-level professional development policies could not be analyzed and described using only a few codes. The data required a larger number of study themes to explain and explore. By combining this

information with the findings of the literature review and my personal experiences with professional development, a list of recommendations for policy makers was generated. These recommendations are intended to guide the development of a viable professional development policy for Alabama teachers.

The existing state professional development policies were grouped in two ways: by the source of the content of the professional development policy and by the academic rank of the state under study. First, the state-level professional development policies were grouped by the source of the guidelines and recommendations that they contained. One group contained the professional development policies that had been adopted or adapted from existing, published professional development recommendations developed by various educational organizations and groups. The other group of professional development policies consisted of those professional development policies that are uniquely constructed and appeared to have been written by committees of educators within a state or specifically for a distinct state. Many states had adopted pre-existing professional development standards and guidelines without any modifications or alterations to meet the needs of their individual states, or they had made very minor modifications or additions that did not impact the intent of the original documents. This lack of editing does not mean, however, that these standards are not contributing to the development and implementation of effective professional development within those states. These common guidelines were often developed by experienced educational researchers or teacher groups and have the potential to contain elements that could promote effective professional development. These policies were examined as a group to evaluate their impact on the effectiveness of professional development.

The professional development policies of states that had not chosen to adopt existing standards were placed into another group. These policies varied widely in length, structure, and content and were examined as a group to determine if they also contained elements that could potentially impact the effectiveness of the professional development that is offered in those states. Since these policies were often written by committees of experienced educators, it is likely that the policies and guidelines they have created contain components anchored in experience. Given that the individuals who experience professional development on a regular basis are very likely to have unique insights into what makes professional development effective, the professional development policies that practicing educators have created could provide a great deal of insight. It is possible that these unique and individualized professional development policies offer understandings of professional development creation, organization, and delivery that have not been previously considered.

The second way that the professional development policies included in this study were grouped was by academic achievement as measured by the 2015 8th grade mathematics NAEP scores. If it could be shown that the professional development policies of the highest academic performing states contain a set of common concepts and ideas, translating these concepts into recommendations for lower academically performing states to adopt could have been possible. The overarching goal of this research was to identify ways that professional development can be made more effective for Alabama teachers through policy recommendations. If the professional development policies of the highest performing states contain common concepts and if the current Alabama professional development policy does not contain these concepts, then these concepts have the potential to become possible recommendations for the state of Alabama to adopt and include in future state-wide professional development policies.

These deliberate grouping of state professional development policies by source served an interesting role in the data analysis for this study. Examining the policies by source allowed me to identify emergent themes related to content but combining these data with the analysis of state professional development policies by academic ranking also allowed me to identify which type of policy is more effective. In other words, determining if professional development policies written by educational researchers and experts in the field were more effective in impacting student performance than professional development policies that were written by educational practitioners was achievable.

Qualitative research has specific standards of rigor that must be addressed as a part of any research study. Whittemore, Chase, and Mandle (2001) identified a series of primary and secondary validation criteria. According to these authors, the four primary validation criteria are credibility, authenticity, criticality, and integrity. The secondary validation criteria are related to explicitness, vividness, creativity, thoroughness, congruence, and sensitivity. Creswell (2013) considers validation in qualitative research to be an attempt to assess the accuracy of the study findings as they are described by the researcher and any participants. Creswell offers eight validation strategies that are frequently used by qualitative researchers: prolonged engagement and persistent observation, triangulation, peer review or debriefing, negative case analysis, clarifying researcher bias, member checking, rich, thick description, and external audits. The validation strategies that are appropriate to this study were triangulation, clarifying researcher bias, and rich, thick description.

To meet the criteria for triangulation, I made use of multiple and different sources of data to provide corroborating evidence. By finding evidence to document a code or theme from different sources of data, I was triangulating the information and providing validity to my

findings. (Flick, 2018) To assist in clarifying researcher bias at the onset of the study, I also discussed my past experiences, biases, and prejudices that may have shaped my approach to the study. Rich, thick descriptions allowed the readers of my study to make decisions regarding the transferability of my study findings because I described in detail the data sources, participants, and setting under study. Using detailed descriptions should allow readers to transfer the information found in my study to other settings and to make determinations for themselves whether my findings can be transferred based on shared characteristics. (Creswell, 2013).

Reliability in my study findings was much harder to establish due to the lack of intercoder agreement. (Creswell, 2013) I did not employ the use of multiple coders to analyze the state-wide professional development policies that served as the primary data source for this study. As I was the only researcher assigning codes to the data set, reliability was difficult to establish.

Researcher Bias/Situating Oneself as a Researcher

Mehra (2002) found that the researchers' personal beliefs and values are often reflected in their choice of a research topic. In other words, who I am, and my personal experiences determine, to a large extent, what I want to study. As a former classroom teacher, instructional coach, graduation coach, and now an educational consultant, I have attended and delivered a great deal of professional development during my 19 years in education. As a classroom teacher, my exposure to professional development was very minimal. For the first four years of my teaching career, I did not attend any formal professional development sessions other than district-led meetings on in-service days held before school started. In my first teaching position, I worked at a private school, and we did not have any type of professional development activities. I had been teaching for three years before I ever attended a "professional development" event. In

this instance, I had accepted a job in public education as a 7th grade math teacher. On my first day of employment, I attended a system-wide in-service meeting at a local church. After a welcome speech by the district superintendent, the rest of the meeting was facilitated by the then Lieutenant Governor of Alabama who explained in great detail why it was so important for the teachers in the system to support a proposed lottery measure intended to fund public education. The speech quickly disintegrated into veiled threats and dire warnings of teacher cuts and proration if the funding measure was not passed. I can remember sitting in the crowd, not knowing another person in the room, listening to why I was a bad teacher, and person, if I voted against the lottery measure and wondering if I had made an enormous mistake by entering the teaching profession.

Professional development did not improve very much for me over the next five years. Our district-wide professional development days were a series of motivational speakers, presentations on topics that were not related to my role in education, and a long list of threats of what would happen to the teachers if student test scores did not improve. Professional development took a positive turn for me when I left the classroom and began working for the Alabama State Department of Education. As a member of the state-wide school improvement team, the other peer mentors and I were sent to assist struggling schools with their school improvement efforts. For the first time, I was the person delivering, rather than receiving, the professional development. As there were many ways that schools could find themselves on a failing school list and the needs of each school varied widely, the other coaches and I had to constantly develop and build new professional development content to meet the needs of the schools we served. This experience was the first time that I had been given the opportunity to

work collaboratively with other educational professionals to create and deliver professional development that was tailored to the needs of a school.

Shortly after this experience, I left the State Department of Education to return to a local system to serve as an instructional coach/graduation coach. My exposure to professional development increased exponentially during this time. Since I did not have students assigned to me and I did not have classroom responsibilities, I was always the first choice of a faculty member to be sent to any district-mandated professional development sessions. No matter the topic or content, I would attend the sessions and then “turn-around” the training I had received with the appropriate personnel back at the school. Over the course of a school year, I would attend hundreds of hours of professional development on a mind-boggling array of topics, and then I would train the teachers on what I had learned in small-group, or through one-on-one sessions before school, after school, or during planning periods.

This pattern continued until I accepted my current position as an educational consultant with a private company. The parent company of my division provides the student data management system that is used by the Alabama State Department of Education and is provided to all public schools within the state. As a part of the contract with the State of Alabama, the company provides technical training on how to use the data management system to track grades, attendance, and discipline, as well as scheduling, student medical needs, and special education services. Several years ago, the need for a different type of training was identified, and the Professional Learning division of the company was created. The other educational consultants and I are contracted to provide professional development on a variety of topics to schools and school systems that purchase additional training contracts. Over the past seven years, I have

delivered an average of 100+ days of professional development sessions per year for schools and school systems across the State of Alabama.

I feel as though my experiences as a classroom teacher and instructional coach, and then as a consultant who delivers professional development, have given me an exceptional perspective from which to examine professional development and professional development policy. Having been a participant in the professional development process from both sides of the activity, I believe that my experiences have provided me with a unique lens with which to examine professional development and what makes it effective.

Directly related to the researcher's role in qualitative research is a concept called reflexivity or reflectivity. Qualitative researchers have increasingly focused on self-knowledge and sensitivity, have developed greater understandings of the role of self plays in the creation of knowledge, have increasingly self-monitored the impact that their biases, beliefs, and personal experiences on the research they conduct, and have endeavored to maintain a balance between the personal and the universal. (Berger, 2013) By turning the researcher lens back on oneself, qualitative researchers develop the ability to recognize and take responsibility for their own situations in the research and the subsequent effect that they might have on the setting and the people being studied, the questions that are being asked, and the way that the data are collected and interpreted.

By applying the lens of reflexivity, I recognized and acknowledged that there is a potential for researcher bias in this study. The first research question that was addressed by this study is "What are the characteristics of effective professional development for teachers as identified in the literature?" If the literature review revealed a set of characteristics of effective professional development that do not correspond with the picture of effective professional

development that I have developed through my experiences, I had to take care not to discard features or components that have the potential to contribute to effective professional development. Just because something did not “fit” what I think makes professional development effective does not mean that it should be eliminated from the list of effective professional development features. At its heart, teacher professional development is about gaining new skills and knowledge that will positively impact the teaching and learning process. Researchers have identified seven learning styles: visual, auditory, verbal, kinesthetic, logical, social, and solitary. (Reiff, 1992) Just because a potential feature of effective professional development did not fit into my own personal learning preference, that does not mean that it would not be effective for another individual.

A second potential source for researcher bias in this study pertains to the fifth research question, “What recommendations can be offered to policy makers in Alabama regarding the development of a viable teacher professional development policy at the state level?” This research question was answered in part by examining the professional development policies of both academically high-achieving states and academically low-achieving states, and then examining the State of Alabama professional development policy and making comparisons between and among the states. As I have only worked in Alabama, which has historically been considered a low-academically performing state, my perspective could be artificially skewed. It is possible that I did not recognize factors that lead to effective professional development, or inappropriately discard factors as not leading to effective professional development because they fell outside of my experiences. If academically high-performing states include certain concepts in their professional development policies, it is possible that I might not have include these concepts in my recommendations to policy makers in the State of Alabama because I either did

not believe that those factors are contributing to effective professional development or did not recognize the factors as contributors to effective professional development.

Summary of Chapter

Chapter Three discussed the methodology I employed as I completed this qualitative research study related to professional development policy. I chose to complete this research as a qualitative study due to the nature of the research questions I was attempting to answer and the data sources that I was using.

The unit of analysis for this research was state-level professional development policies and guidelines, and the data used in this study were collected from a review of the literature, the current professional development policy provided by the Alabama State Department of Education, and the current professional development policies provided by the State Departments of Education of a purposeful sample of states as identified using the 2015 8th grade NAEP mathematics data. The complete sampling strategy for the states selected to participate was described earlier in this chapter.

Chapter 3 also describes the data analysis methods that were used to examine the data collected as part of this research. The primary method of data analysis that was used in this qualitative study was axial coding that moves into themes. The use of interview questions was not been ruled out and but ultimately was not. Finally, this chapter describes how I addressed any potential biases that I might have brought to this study.

CHAPTER FOUR

Introduction

The data for this study were collected from a sample of state-level professional development policies. This chapter will describe the data collection methods that I used and the data that were collected. Additionally, this chapter will explain the data analysis techniques that I used, the codes that emerged from the data, and the overall study themes that were derived. Each of the five research questions associated with this study will be addressed, and the data that support each research question will be listed, described, and justified.

The first section in Chapter 4 will describe the techniques that I employed to collect as many state-level professional development policies as possible, to indicate which states or educational programs were located, and to pinpoint which states or educational programs could not be located. Descriptive data will be provided for each professional development policy that was located, and this information will be summarized in tables, charts, and graphs. The next section in this chapter will describe the methods that I used to analyze each professional development policy, the codes that emerged, how the code data were analyzed, and how the eventual study themes were generated. Any unexpected data or codes will be discussed and how I addressed the standards of rigor associated with my study will be described.

The next section of Chapter 4 will explain how I answered the five research questions using a combination of the data that were collected during the data analysis process and the characteristics of effective development that emerged from the literature in Chapter 2. Finally, Chapter 4 will end with a summary of the study findings.

Data on Study Sample

The data for this study have been gathered from the State-level professional development policies of a sample of States from across the United States, the District of Columbia, Puerto Rico, and the Department of Defense. Locating as many professional development policies as possible required several steps. First, an internet search was conducted to attempt to find online teacher professional development policies or standards in each of the 50 States, the Department of Defense, the District of Columbia, and Puerto Rico. Professional development standards or policies were located for 36 states by using a variety of search engines and search parameters. Professional development policies or professional development standards could not be located for Colorado, Idaho, Indiana, Maine, Montana, New Hampshire, North Dakota, Oklahoma, South Dakota, Texas, Virginia, West Virginia, Wisconsin, and Wyoming. Additionally, professional development standards or policies could not be located for the non-State entities of the Department of Defense, the District of Columbia, or Puerto Rico.

Second, if an individual state-level professional development policy could not be located through an internet search, then the State Department of Education for that state was contacted via email and phone call. This technique resulted in return email responses from seven states: Idaho, Maine, New Hampshire, North Dakota, Oklahoma, Virginia, and West Virginia. Five of these states (Idaho, New Hampshire, North Dakota, Virginia, and West Virginia) provided information pertaining to their states' Professional Development Standards or Policy. Two states (Maine and Oklahoma) replied to my emails but were unable to provide any information pertaining to their state-level Professional Development Standards or Policy. The details of the individual States' responses are included in the summary of each State.

Third, if an individual State Department of Education did not reply to the initial round of emails and phone calls, a second round of emails and phone calls was conducted. There were seven states that did not reply to any of the phone call or email attempts at contact (Colorado, Indiana, Montana, South Dakota, Texas, Wisconsin, and Wyoming) and for which publicly available professional development standards or policy could not be located. Therefore, these states were excluded from this research. In total, there were 9 states for which I could not locate state-level professional development policies, that did not respond to my requests for information, or that provided information that was not related to their state-level professional development policy or standards. The States that will not be included as part of this research are Colorado, Indiana, Maine, Montana, Oklahoma, South Dakota, Texas, Wisconsin, and Wyoming. Likewise, the Department of Defense, the District of Columbia, and Puerto Rico will not be included in this research. A summary of this information is displayed in Table 1.

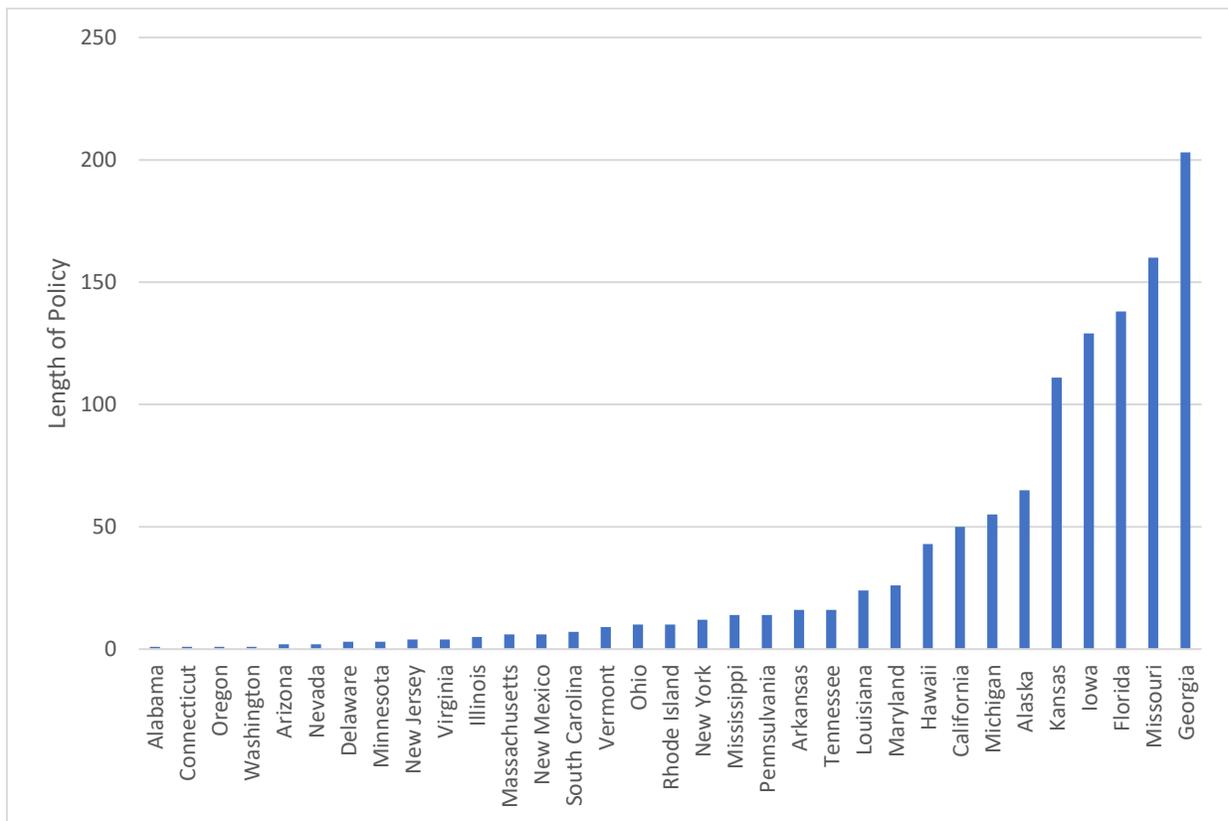
Table 1
Summary of State-level Professional Development Policies Located for this Study

State	PD Policy located through Internet Search	PD Policy provided by individual state	Information Provided NOT applicable	No information found/Not included	State	PD Policy located through Internet Search	PD Policy provided by individual state	Information Provided NOT applicable	No information found/Not Included
Alabama	X				Montana				X
Alaska	X				Nebraska	X			
Arizona	X				Nevada	X			
Arkansas	X				New Hampshire		X		
California	X				New Jersey	X			
Colorado				X	New Mexico	X			
Connecticut	X				New York	X			
Delaware	X				North Carolina	X			
Florida	X				North Dakota		X		
Georgia	X				Ohio	X			
Hawaii	X				Oklahoma			X	X
Idaho		X			Oregon	X			
Illinois	X				Pennsylvania	X			
Indiana				X	Rhode Island	X			
Iowa	X				South Carolina	X			
Kansas	X				South Dakota				X
Kentucky	X				Tennessee	X			
Louisiana	X				Texas				X
Maine			X	X	Utah	X			
Maryland	X				Vermont	X			
Massachusetts	X				Virginia		X		
Michigan	X				Washington	X			
Minnesota	X				West Virginia		X		
Mississippi	X				Wisconsin				X
Missouri	X				Wyoming				X

The overall length of the state-level Professional Development Policies varied widely from state to state. Some of the State policies contained just a list of Professional Development Standards, and other policies contained additional supporting materials, detailed explanations of the standards, examples of the standards in use, suggestions for evaluating the impact of the

professional development, assessing the level of implementation, etc. The shortest Professional Development Policies were found in Alabama, Connecticut, Oregon, and Washington at one page each. The longest professional development policy was found in Georgia at 203 pages. The professional development policies of six states (Kentucky, Nebraska, New Hampshire, North Dakota, North Carolina, and West Virginia) could only be found on-line without a PDF or Word document available for download or as part of the State Code (Utah & Idaho). It was not possible to measure the page lengths of those eight policies for comparison purposes. A summary of the information pertaining to the lengths of the professional development policies is shown below in Figure 1.

Figure 1
Length of State-level Professional Development Policies



The Learning Forward organization provides seven *Standards for Professional Learning*. The current set of standards was released in 2011 and represents the third iteration of standards that outline the characteristics of professional learning that lead to effective teaching practices, improved student results, and supportive leadership (Learning Forward, 2011). There are 24 States that have adopted the Learning Forward Professional Development standards verbatim or have used the Learning Forward standards as the foundation for their own State standards. These States are Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Oregon, Tennessee, and Utah. In Table 2, States that have adopted the Learning Forward *Professional Learning Standards* either (in-part or in-whole) are marked in the Aligned to Learning Forward Standards column. States that have not adopted the Learning Forward Professional Learning Standards or have not based their state-level professional development policies on the Learning Forward Professional Learning Standards are marked in the Not Aligned to Learning Forward Standards column. States where a state-level professional development policy could not be located are marked N/A.

The relative age of the professional development policy or standards was another area that was examined. While it was not possible to determine the date upon which a professional development policy was adopted for every State, 29 states list an adoption or implementation date for their state-level professional development policies or standards. It should be noted that the most recent version of the Learning Forward *Standards for Professional Learning* was created in 2011. In the states that have adapted or adopted in full the Learning Forward *Standards for Professional Learning* (Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Mississippi, Missouri,

Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Oregon, Tennessee, and Utah) the state-provided adoption date may be more recent than 2011, but the content of the professional development standards or policy will be based on the 2011, or in some cases an earlier version of the Learning Forward Standards. In the Table 2 below, the date of policy adoption for individual states is marked in the first column. If the date of the policy adoption could not be determined, the column for that state is marked with an “X”. If the professional development for a state could not be located, the N/A column is marked.

Table 2
Source of the Content of State-level Professional Development Policies

State	Aligned to Learning Forward Standards	Not Aligned to Learning Forward Standards	N/A	State	Aligned to Learning Forward Standards	Not Aligned to Learning Forward Standards	N/A
Alabama	X			Montana			X
Alaska		X		Nebraska	X		
Arizona		X		Nevada	X		
Arkansas	X			New Hampshire		X	
California		X		New Jersey	X		
Colorado			X	New Mexico		X	
Connecticut	X			New York	X		
Delaware	X			North Carolina	X		
Florida	X			North Dakota	X		
Georgia	X			Ohio		X	
Hawaii	X			Oklahoma			X
Idaho		X		Oregon	X		
Illinois	X			Pennsylvania		X	
Indiana			X	Rhode Island		X	
Iowa	X			South Carolina		X	
Kansas	X			South Dakota			X
Kentucky	X			Tennessee	X		
Louisiana		X		Texas			X
Maine			X	Utah	X		
Maryland	X			Vermont		X	
Massachusetts		X		Virginia		X	
Michigan	X			Washington		X	
Minnesota		X		West Virginia		X	
Mississippi	X			Wisconsin			X
Missouri	X			Wyoming			X

The most recently adopted state-level professional development policies or standards were found in Idaho, Pennsylvania, and Utah which all adopted their standards in 2019. The oldest professional development policy or standards was found in South Carolina, which adopted

the current professional development standards in 2000. The Alabama *Standards for Effective Professional Development* were adopted in 2002, which makes the Alabama professional development standards 17 years old (Alabama Department of Education, 2002). The average year of adoption for a state-level professional development policy or standards was 2011.4, which makes the average state-level professional development policy almost 8.5 years old. A summary of this information is provided in Table 3. The states that have adopted the Learning Forward Standards are highlighted in grey.

Table 3
Summary of State-level Professional Development Policy Adoption Dates

State	Date of Adoption	Adoption date not available	N/A	State	Date of Adoption	Adoption date not available	N/A
Alabama	2002			Montana			X
Alaska		X		Nebraska	2018		
Arizona	2012			Nevada	2015		
Arkansas		X		New Hampshire		X	
California		X		New Jersey	2014		
Colorado			X	New Mexico	2004		
Connecticut	2015			New York	2009		
Delaware	2012			North Carolina		X	
Florida	2010			North Dakota		X	
Georgia	2005			Ohio	2015		
Hawaii	2001			Oklahoma			X
Idaho	2019			Oregon	2011		
Illinois	2017			Pennsylvania	2019		
Indiana			X	Rhode Island	2018		
Iowa	2009			South Carolina	2000		
Kansas	2001			South Dakota			X
Kentucky	2013			Tennessee		X	
Louisiana		X		Texas			X
Maine			X	Utah	2019		
Maryland	2008			Vermont	2017		
Massachusetts	2012			Virginia	2004		
Michigan	2003			Washington		X	
Minnesota	2009			West Virginia	2018		
Mississippi	2012			Wisconsin			X
Missouri	2013			Wyoming			X

Reflections on Data Collection and Analysis Process

The data for this research have been derived from the 41 State-level professional development policies that were located through internet searches and direct phone/email communication with State Departments of Education. The data collection process for this study was not a succinct or straightforward process. In the first step of the data collection process, a search was conducted using Google with the phrase “*State name* Professional Development Policy”. If that search did not generate any usable results, a second search was conducted using “*State name* Professional Development Standards”. While these search parameters did result in several State-level professional development policies, the most common unintended search results were information about states’ Professional Teaching Standards, Standards for Instructional Leaders, or the State Course of Study/Curriculum Standards. To attempt to locate the professional development standards or policies of States that were not located in the first search attempt, additional internet searches were conducted using “*State name* Professional Learning Standards”, “*State name* Professional Learning Policy”, and “*State name* Teacher Learning Standards”.

If the internet searches detailed above did not yield usable results, the next step in the data collection process was to attempt to contact the specific State Departments of Education and request the information directly. During the first round of email and phone communication attempts, sixteen State Departments of Education were contacted (Colorado, Hawaii, Idaho, Indiana, Maine, Montana, New Hampshire, North Dakota, Oklahoma, Pennsylvania, South Dakota, Texas, Virginia, West Virginia, Wisconsin, and Wyoming). The process of emailing and phoning the State Departments of Education was not without challenges. In many cases, the State Department of Educations’ websites did not list a contact person for Teacher Professional;

therefore, it was difficult to determine to whom the email or phone inquiry should be directed. Some State Department of Education websites contained a “Click here to contact someone in our offices” button which linked to a form that could be filled out and someone from the office would be in contact. This option did not allow me to identify who I was attempting to contact and the automated “Thank you for your inquiry” response that I would receive was generated by an “unmanned” email account. Replying to these autogenerated emails in a follow-up email was not possible.

On some States’ websites, there was not a “Contact Us” button to use to reach out in an email attempt. In these states, I typically searched the hierarchy of the personnel and offices within the Department of Education and selected one or more individuals or offices to contact. Typically, these individuals held roles in Teacher Licensure and Certification, Educator Effectiveness, Educator Support and Higher Education, Teacher Support Systems, Professional Learning, Leadership & System Support, and the Professional Teaching Standards Board. There was also a return email response from an individual named Joshua who did not identify the office or department with which he was affiliated. In total, I received email responses from eight states. Five of these responses resulted in usable professional development policy or standards information and the other three responses provided links to information that was not applicable or simply stated that there was no professional development policy available in the state in question.

Attempting to contact State Departments of Education by phone was also problematic. Again, searching the hierarchy of the individual State Department of Education allowed me, in most cases, to identify the office or individual most likely to be involved with Teacher professional development. When this was the case, I placed phone calls to these offices or

individuals. I never spoke directly to anyone regarding the professional development policy in any individual State. Instead, I was directed to voice mail systems where I left messages. In other states, it was not possible to identify who was most likely involved in the professional development process. In these cases, phone calls were placed to Curriculum Departments, Teacher Licensure and Certification Departments, or State Superintendents' offices. I was not able to speak directly to anyone in these offices either and was directed to voice mail systems where I left messages. After a week with no response, I placed a second follow-up phone call to each of the individuals or offices that I had contacted previously and left a second round of voice mail messages. Ultimately, I did not receive any return phone calls from any of the State Departments of Education that I contacted.

The data analysis process began with a printed, hard copy of the standards for each State included in this study. There were 41 States where I was able to locate Professional Development Policy or Professional Development Standards. Most of these states provided either a pdf or Word document containing the Professional Development Policy or Standards that could be printed or a link to the Learning Forward Professional Development Standards which could also be printed. Some states only provided a list of standards on their websites, but it was possible to also print these standards using "Print Screen" or by copying and pasting the standards to a Word document. In four states (New Hampshire, Idaho, Utah, and West Virginia) the Professional Development Standards or Policy were embedded into the State Code, the Department of Education Administrative Rules, or the much larger State-wide Education Policies. In these cases, only the portion of the code, rules, or policy that was applicable to Professional Development was printed.

Once a printed copy of the State-level professional development policy was located and printed, each policy was thoroughly studied, and the key words or phrases associated with the professional development standards or policy were highlighted. These key words and phrases were then transferred to an Excel spreadsheet where they were marked as belonging to a specific State. For example, the first state-level professional development policy that was examined as a part of this study was the policy for the Alabama State Department of Education. The first standard listed in the policy was “*Effective professional development organizes adults into learning communities whose goals are aligned with those of the school, district, and the state.*” (Alabama Department of Education, 2002). The key words or phrases that were selected from the standard were “learning communities” and “goal alignment”. These key words or codes were transferred to the Excel spreadsheet and marked in the Alabama column.

Once an individual code was transferred to the Excel spreadsheet, if it appeared in the professional development policy or standards for another state, the word or phrase was not added to the spread sheet as a code again but instead was simply marked in the column for the appropriate State. For example, the first standard listed in the Learning Forward *Standards for Professional Learning* states, “*Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.*” (Learning Forward, 2011). The codes identified from this standard were “learning communities”, “continuous improvement”, “collective responsibility”, and “goal alignment”. Since “learning communities” and “goal alignment” were already part of the Excel spread sheet from when they were added from the Alabama professional development standards, these phrases were not added again. If these key words were found in any additional state-level professional development policies, the key words

or phrases were simply marked for any additional States in which they were found. Since Arkansas, New Jersey, Nevada, Michigan, Delaware, New York, Missouri, Illinois, Kansas, Connecticut, Iowa, Maryland, Florida, Georgia, Nebraska, Mississippi, Utah, Oregon, North Carolina, Hawaii, Kentucky, North Dakota, and Tennessee either directly use or base their state-level professional development policies on the *Learning Forward Standards for Professional Learning*, the columns for “learning communities” and “goal alignment” were marked for each of these States. Since the key phrases “continuous improvement” and “collective responsibility” were not already included, these codes were added to the Excel spreadsheet and subsequently marked in the column for any State in which they were found.

In some cases, state-level professional development policies would contain elements with the same focus or intent, but the wording of the standard would vary. For example, one of the Arkansas Department of Education professional development standards states that “*Professional development is a set of coordinated planned learning activities for educators that may provide educators with knowledge and skills needed to teach students with intellectual disabilities, including without limitation Autism Spectrum Disorder, students with specific learning disorders, including without limitation dyslexia, culturally and linguistically diverse students, and gifted students*” (Arkansas Department of Education, 2014). The Virginia Department of Education High-quality Professional Development Criteria addresses the same concept with different wording. One of the Virginia professional development criteria states that “*High-quality professional development should support the success of all learners including children with special needs and limited English proficiency*” (Virginia Department of Education, 2004). In still another variation of this theme, the New York Professional Development Standards addresses this same idea with the following standard, “*Effective professional development is that which*

improves the learning of all students, including those with different educational needs, learning styles, and incremental abilities, and those from diverse cultural and linguistic backgrounds” (New York State Education Department, 2009). When adding these standards to the Excel spreadsheet, they were coded under a more general code of “Teaching Special Populations SPED/Gifted ELL”. This method of coding was repeated several times for different concepts. If several States’ professional development policies or standards contained the same intent or idea, the concepts were coded under a general code that captured the essence of the standard. This grouping was done to attempt to limit the number of codes with very closely related wording or concepts. Even with using this technique, there were several themes addressed in various States’ professional development standards or policies that varied enough that it was necessary to include them as a second or third unique code.

One of the concepts that appeared in the professional development policy or standards for more than one State was “assessment”. One of the Learning Forward *Standards for Professional Learning* states that “*Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning*” (Learning Forward, 2011). One of the codes that emerged from this standard was “Variety of Assessments”. Since the Learning Forward Standards are used by multiple states, this code appears in the analysis for each of these States. In the Alaska Department of Education and Early Development State Literacy Blueprint, there is a Professional Development Standard that states that “*Districts should provide professional development to teachers in the use of classroom-based formative assessments*” (Alaska Department of Education & Early Development, undated). Even though this standard also deals with the idea of using assessments, the focus of the two standards varies to a degree that

necessitates a separate code. In this case the code that emerged from the Alaska standard was “New Assessment Strategies”.

By employing a printed copy of each States’ professional development policy or standards, highlighting the important concepts and/or themes, transferring these concepts/themes to an Excel spreadsheet as codes, indicating repeated codes that were shared by multiple states, and creating new codes when needed, 189 unique codes were identified in the 41 state-level professional development policies included in this study.

In Chapter 3, the validation strategies that were identified as appropriate to this study were triangulation, clarifying researcher bias, and rich, thick description. In terms of triangulation, many of the key concept or codes that emerged from the data were found in the state-level professional development policies of multiple states. For example, the code “Goal Alignment – State/Local” was found in 30 of the 41 (73.2%) state-level professional development policies that were examined. By finding evidence to document this code or theme in several different professional development policies, I have triangulated the information and provided validity to my findings.

The rich, thick descriptions that I have provided of the data collection and coding processes that I employed will allow the readers of my study to make decisions regarding the transferability of my study findings. Reliability in my study findings will be much harder to establish due to the lack of intercoder agreement, but I have made every attempt to eliminate researcher bias in the coding process. If the state-level professional development policy or standards contained information that was identical or extremely similar to the information found in another policy, this information was recorded under the same code. If the information in a state-level professional development policy varied from what was found in another state policy,

it was included as a separate code. If there was any question as to the degree of similarity of the information or concept, a unique code was generated to eliminate any researcher bias.

Emergent Codes, Logic, and Schemes

As each state-level professional development policy was examined, various codes were identified. A short summary of each States' professional development policy or standards was created as a part of the data analysis process. This summary includes the length of the policy, a brief description of the contents of the policy, and how it was located if it was not found as part of an Internet search. Additionally, the key words that became the codes from each state were listed as a part of the state-level summary. Each States' policy summary and emergent codes are listed below.

Alabama – The Alabama State Department of Education provides a 1-page document containing *12 Standards for Effective Professional Development*. The document states that the Alabama Professional Development standards are embedded in the NCLB definition of professional development. The standards are intended to be used to develop LEA Professional Development Plans and guide the implementation of professional development activities. The Standards have been adapted from the Learning Forward *Standards for Professional Learning* (Alabama Department of Education, 2002). *Key Words: learning communities, goal alignment, school and district leader participation, resources, disaggregated student data, multiple sources of information, research-based decision making, learning strategies appropriate to the goal, human learning and change, collaboration, understand and appreciate all students, safe, orderly, and supportive learning environments, high expectations for students, content knowledge, research-based instructional strategies, variety of classroom assessments, family and stakeholder involvement.*

Alaska – The Alaska Department of Education and Early Development provides a 65-page document entitled the *Alaska State Literacy Blueprint: Birth to Graduation*. This document provides professional development guidelines divided into grade bands (Birth to Kindergarten, Kindergarten to Grade 5, and Grade 6 to Graduation) and divided into State, District, and School/Community standards. The standards focus on four areas: delivery methods, resources, content, and comprehensive assessment (Alaska Department of Education & Early Development, undated). *Key Words: ongoing/long term/sustained, adult learning, mentoring/coaching. Literacy development, pool resources, data analysis to allocate resources, effective instructional practices, data analysis, effectiveness in achieving learning goals, formative assessments, assessment tools, pool resources/expertise, ongoing, collaborative, job embedded.*

Arizona – The Arizona State Department of Education provides a 2-page document designed to guide the professional development process for educators and schools within the state. The document provides a definition of professional development and standards centered around seven areas; Learning Communities, Leadership, Research, Data, Learning Designs, Implementation, and Outcomes. These standards have been adopted from Learning Forward. This document could be located on-line but was provided by the Arizona State Department of Education following an email request (Arizona Department of Education, 2012). *Key Words: learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, data, variety of data sources, theories/research/models of human learning to achieve intended outcomes, long-term change, educator performance, student curriculum standards.*

Arkansas – The Arkansas State Department of Education provides a 16-page set of rules that govern professional development. The document provides definitions, guidance, minimum

annual requirements, professional development criteria, requirements for specific licensure areas, templates for school and district level professional development plans, steps for provider and program approval, funding, reporting, monitoring, and evaluation. In an interesting note, Arkansas policy allows teacher to count time working in the classrooms as professional development. This criterion was unique and not found in any other State-level professional development policy or standards. Arkansas has adopted the Learning Forward Standards for Professional Development and all approved professional development must be aligned to these standards (Arkansas Department of Education, 2014). *Key Words: Learning communities, leadership, resources, data, integration of theories, research, and models, implementation, outcomes, apply what is learned, improved student academic achievement, research-based, standards-based, incorporate educational technology, students with intellectual disabilities, students with specific learning disorders, culturally and linguistically diverse students, gifted students,*

California – The California Department of Education provides a 50-page document called the *Quality Professional Learning Standards*. The report includes seven interdependent professional learning standards to promote quality teacher learning and development. The document also provides a detailed explanation of each of the seven standards (California Department of Education, 2014). *Key Words: Various sources of data, guide priorities and design, increase students' capacity, equitable access, opportunities, and outcomes for all students, achievement and opportunity disparities between student groups, evidence-based approaches, focused sustained learning, shared purpose, collective responsibility, resources, aligned to district/school needs, state/federal requirements.*

Colorado – Could not be located on-line. Despite multiple email communications and phone calls, the Professional Development Standards could not be located. This state will not be included in this research.

Connecticut – The Connecticut Department of Education provides a one-page document that details eight Connecticut *Standards for Professional Learning*. These standards have been adapted from the Learning Forward Standards (Connecticut State Department of Education, 2015). *Key Words: cultural competence, culturally-responsive strategies, enrich educational experiences, learning communities, continuous growth, collective responsibility, family and community engagement, goal alignment, leadership, resources, data, learning design, adult learning, learning design to achieve intended outcomes, change research, increased outcomes for students, aligned to Connecticut standards*

Delaware – The Delaware Department of Education provides a 3-page document to govern professional development. Delaware has adopted the 2011 *Standards for Professional Learning* from the Learning Forward Organization. The topics addressed by this 3-page document include pre-requisites for professional learning, learning communities, leadership, resources, data, learning designs, implementation, and outcomes (Delaware Administrative Code, 2012). *Key Words: Educators' commitment to all students, ready to learn, collaborative inquiry, learning at different rates/different ways, learning communities, continuous improvement, collective responsibility, goal alignment, collaboration, increased student results, mutual accountability, school goals, leadership, resources, variety of data sources, multiple data sources, learning design, theories/research/models of human learning, research on change, increases in student learning, variety of supports, constructive feedback and reflection, aligned to educator performance/student curriculum standards, high standards, high/equitable outcomes.*

Florida – The Florida Department of Education provides a 138-page document to guide professional development. This document gives guidance for Educator level, School level, and District Level planning, learning, implementing, and evaluating. These standards are based on the National Staff Development Council Standards (Florida Department of Education, 2010).

Key Words: Individual needs assessment, disaggregated student data, Professional Development Plan, learning communities, continuous improvement, goal alignment, content knowledge, evidence-based instructional strategies, strategies aligned with the intended goals/objectives, human learning and change, research-based instruction, feedback, sufficiently sustained/rigorous, technology, time within the workday, easy access to PD records, application of newly acquired skills/knowledge, coaches/mentors, web-based resources, educator reflection, student performance gains, summative/formative data from state/national standardized assessments, continuous improvement.

Georgia – The State of Georgia Department of Education provides a 203-page document entitled the *Georgia Standards for Professional Learning Resource Guide*. The document provides a plan for creating a shared vision, developing learning communities, assessing the current level of implementation, crafting time for professional development, planning for quality professional learning, and evaluating the impact of professional learning. The 12 *Georgia Standards for Professional Learning* have been adopted from the National Staff Development Council Standards for Staff Development (Georgia State Department of Education, 2005). *Key Words: learning communities, instructional leadership, resources, data, continuous improvement, impact on student learning, research-based decision making, variety of professional development formats that will accomplish the intended goals, adult learning, collaboration, equity, supportive*

learning environments, high expectations, deep content knowledge, research-based instructional strategies, variety of classroom assessments, family involvement.

Hawaii - The Hawaii State Department of Education provides a 43-page document that is entitled *Notice to Institutions of Higher Education and Private Providers Who Offer Professional Development Courses for The State of Hawaii, Department of Education, Office of Curriculum, Instruction, and Student Support*. This document provides guidance for developers and providers of professional development in the State of Hawaii. Within the document, there is a list of the National Staff Development Council National Standards for Staff Development and a list of the Elements of Quality Professional Development (Hawaii State Department of Education, 2001).

Key Words: learning communities, instructional leadership, resources, data, continuous improvement, impact on student learning, research-based decision making, variety of professional development formats that will accomplish the intended goals, adult learning, collaboration, equity, supportive learning environments, high expectations, deep content knowledge, research-based instructional strategies, variety of classroom assessments, family involvement, Hawaii Core Standards, knowledge of content, state standards, school-wide goals, plan supports need for professional development, impact on student action/accomplishment, develops learning/results outcomes, generates quality student performance/products, content knowledge, research validated practices, appropriate content, new/old knowledge link, on-going, time for participants to experiment/reflect, modeling, brings teams together, participants design/implement activities, job-embedded, incorporates stakeholders, creates responsibilities in the change process, based on interest/needs of participants, changes over time, based on an analysis of needs, acknowledges the participant's voice/purpose, time for reflection,

challenges/connects/enhances practice, results portfolio, reflection/evidence of new learnings, sponsor.

Idaho – The Idaho State Department of Education’s Professional Development Standards could not be located on-line. In a response to an email request for more information, the Idaho Director of Certification and Professional Standards responded with the following information: “The rules regarding Professional Development regarding certificated individuals that are required to renew their certificate are in IDAPA 08.02.02.060”. A review of this document revealed that it contains a set of State minimum standards that are based on the Danielson’s Framework for Teaching (Idaho Administrative Code, 2019). *Key Words: Knowledge of content, pedagogy, knowledge of students, setting instructional outcomes, knowledge of resources, designing coherent instruction, student assessments, environment of respect and rapport, culture for learning, classroom procedures, student behavior, organizing physical space, communicating with students, questioning/discussion techniques, engaging students, using assessments, flexibility responsiveness, reflecting on teaching, accurate records, communicating with families, professional community, growing/developing professionally, showing professionalism.*

Illinois – A set of professional development standards for Illinois educators could not be found, but the Illinois State Department of Education provided a 5-page document entitled Illinois State Professional Development Provider Requirements. These requirements include a provision that each approved professional development provider produce a written rationale for each professional development activity explaining how the activity aligns to one of the itemized purposes. The document references the *Standards for Professional Learning* provided by Learning Forward. The Illinois State Board of Education also provides an example of the evaluation instrument used at the conclusion of workshops, conferences, seminars, etc (Illinois

State Board of Education, 2017). *Key Words: continuous professional development, learning of students, learning communities, goal alignment, deepen content knowledge, research-based instructional strategies, various classroom assessments, strategies appropriate to the intended goals, collaboration, research-based decision-making.*

Indiana - Could not be located on-line. Despite multiple email communications and phone calls, the Professional Development Standards could not be located. This state will not be included in this research.

Iowa – The Iowa Department of Education provides a 129-page document entitled the *Iowa Professional Development Model: Technical Guide*. The document references the National Staff Development Council Standards for Staff Development standards as well as providing five Iowa Professional Development Standards (Iowa Department of Education, 2009). *Key Words: learning communities, leadership, resources, disaggregated student data, continuous improvement, multiple sources of data, research-based decision making, strategies appropriate to the intended goal, human learning and change, collaboration, understand and appreciate all students, safe/orderly/supportive learning environments, high-expectations, deepens educators' content knowledge, research-based instructional strategies, rigorous academic standards, classroom assessments, family/stakeholder involvement, Iowa teaching standards, evaluation component, instructional technology, classroom demonstration*

Kansas – The Kansas State Department of Education provides a 111-page document called the *Kansas Professional Development Guidelines*. Within this document, there are 13 Professional Education Standards, however, a note on the Kansas State Department of Education website states that Learning Forward *Standards for Professional Learning* were adopted in April of 2012 (Kansas State Board of Education, 2001). *Key Words: learning communities, continuous*

improvement, collective responsibility, goal alignment, increased educator effectiveness, resources, data, learning design, long-term change, student curriculum standards.

Kentucky – The Kentucky Department of Education provides a list of Professional Learning Standards on their website. These standards have been adopted from the Learning Forward *Standards for Professional Learning* (Kentucky Department of Education, 2013). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.*

Louisiana – The Louisiana Department of Education Office of Educator Support provides a 24-page document entitled *Leading the Way: A Principal's Guide to Professional Development*. The guide contains a list of Six Components of Effective Professional Development (Louisiana Department of Education, undated). *Key Words: Needs-driven response, produces ownership, adapts to change, adult learning needs, curriculum focus, deep understanding of content, effective classroom practice, state curriculum standards, research-based instructional strategies, varied assessment practices, promote academic growth/student achievement, professional growth plans, learning community, occurs regularly, supports team/individual learning, day-to-day school culture, school-wide learning strategies, student achievement, ongoing follow-up/support/technical assistance, active engagement, stimulate critical thinking, sparks investigation/innovative solutions, research-based instructional strategies, variety of teaching tools/face-to-face/online, relevance, practical applications, addresses needs of students/educators in 21st century, reflects current research, appropriate use of information technology/resources, evaluation, focus on effective implementation of PD, uses data to*

determine effectiveness of PD, improving instructional practices/ increasing student achievement, identifying additional needs.

Maine – The Maine Department of Education Professional Development Standards could not be located on-line. An email request for more information resulted in the following information from the Educator Effectiveness Coordinator for the Maine Department of Education. The email response said “Thank you for reaching out, I wish I could provide more direction. I am unaware of state level professional development standards. Maine does require proof of professional development from educators for renewal of licensure.” This state will not be included in this research.

Maryland – The Maryland State Department of Education provides a 26-page document entitled the *Maryland Teacher Professional Development Planning Guide*. This document contains six guiding questions for schools and school systems to use while planning professional development and a link to the Maryland Teacher Professional Development Standards. These standards have been derived from the National Staff Development Council’s Standards for Staff Development (Maryland State Department of Education, 2008). *Key Words: learning communities, continuous improvement, strong leaders, resources, clear expectations about what teachers will know and be able to do, teacher content knowledge, Maryland Content Standards, research-based decision making, collaboration, diverse learning needs, safe/secure/supportive learning environment, family involvement, data analysis,*

Massachusetts – The Massachusetts Department of Elementary and Secondary Education provides a 6-page guide for professional development. The *Massachusetts Standards for Professional Development* operate under four guiding principles: High-Quality Professional Development (HQPDP) is intentional, HQPDP is a process, HQPDP is evaluated for effectiveness,

and HQPD requires strong leadership that strengthens the structure and organization of professional development, HQPD guarantees follow-up to professional development, and HQPD promotes a culture of high expectations (Massachusetts Department of Elementary and Secondary Education, 2012). *Key Words: clear goals and objectives tied to student outcomes, aligned with state/local goals and priorities, based on data analysis, assessed to ensure meeting goals, promotes collaboration among teachers, advances ability to use learning, good pedagogical practice, uses adult learning theory, use resources to ensure goal is met, highly qualified facilitator, sessions connect and build upon each other.*

Michigan – The Michigan Department of Education provides a 55-page document called the *Updated Vision and Standards for Professional Learning of Michigan Educators*. The document contains the expectations of quality professional learning as well as twelve Standards of Staff Development that have been adopted from the National Staff Development Council, which is also known as Learning Forward. The Michigan Department of Education also provides a set of Guidelines for Professional Development that Qualifies for Michigan Legislative Requirements (Michigan Department of Education, 2003). *Key Words: learning communities, goal alignment, leadership, continuous improvement, resources, disaggregated student data, adult learning priorities, monitor progress, multiple sources of information, research-based decision making, learning strategies appropriate to the goal, knowledge about human learning and change, collaboration, understand and appreciate all students, safe/orderly/supportive classrooms, high expectations, research-based instructional strategies, family/stakeholder involvement.*

Minnesota – The Minnesota Department of Education provides a 3-page document detailing 10 standards for Professional Development. The mission of the Minnesota ABE (Adult Basic Education) Professional Development standards is to foster practitioner development and

enhance the professionalism of Minnesota ABE (Minnesota Department of Education, 2009).

Key Words: knowledge of content, instructional strategies, new trends in ABE, assessment strategies, supportive learning environments, high expectations for students, multiple sources of data to determine state priorities, monitor progress, promote continuous improvement, multiple evaluation strategies to measure impact and guide future professional development, enhance teachers' ability to use data, research, theory, evidence-based practices, and professional wisdom in their work, takes place over time, encourages self-reflection, strategies appropriate to the goal, variety of delivery approaches, adult learning theory, fosters collaboration, learning communities, local and state leadership support for professional development.

Mississippi – The Mississippi Department of Education provides a 14-page document listing the *Standards for Professional Learning* published by Learning Forward in 2011. In addition to the seven standards (Learning Communities, Leadership, Resources, Data, Learning Designs, Implementation, and Outcomes), Mississippi also provides a chart for each standard giving examples of what the standard would look like in action and what the standard would not look like in action (Mississippi Department of Education, 2012). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.*

Missouri – The Missouri Department of Elementary & Secondary Education has provided a 160-page document titled the *Missouri Professional Learning Guidelines for Student Success*. The document contains five sections covering regulations, roles, responsibilities, standards, budget, planning, implementation, and evaluation, and resources. The Missouri Professional Learning Guidelines contain seven standards that have been adopted from the Learning Forward

Standards (Missouri Department of Elementary & Secondary Education, 2013). *Key Words: Learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of sources and types of data, theories/research/models of human learning, research on change, aligns outcomes with educator performance and student curriculum standards.*

Montana - Could not be located on-line. Despite multiple email communications and phone calls, the Professional Development Standards could not be located. This state will not be included in this research.

Nebraska – The Nebraska Department of Education does not provide a list of professional development standards. On the Nebraska Department of Education’s website, there is a section entitled Professional Development. This section is provided as part of the CIP (Comprehensive Improvement Process) Toolkit. The website provides a series of guiding questions, websites and resources, tools, and data sources/data information guides. Under the websites and resources, there is a link to the National Staff Development Council’s *Standards for Professional Learning* (Nebraska Department of Education, 2018). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.*

Nevada – The Nevada Department of Education provides a two-page list of seven Nevada Teacher Professional Development Standards and a definition of professional development adopted from Learning Forward (Nevada Department of Education, 2015). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of*

human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.

New Hampshire – The New Hampshire Professional Development Standards could not be located on-line. An email request for more information resulted in an email response from the Bureau of Credentialing & Closed School Transcripts in the Division of Educator Support and Higher Education. The email provided a link to the Professional Development Master Plan and Recertification in the DOE Administrative Rules, Part Ed 513. The Professional Development Master Plan requirements include some elements that could be considered Professional Development Standards and have been included in this research. A formal, written, concise document outlining a set of Professional Development Guidelines or Policy does not appear to exist (New Hampshire Department of Education, undated). *Key Words: Increased educator effectiveness, increase student learning/academic achievement, student learning needs, individual educator goals, school/district goals, evaluate student learning/educator growth, master professional development plan, knowledge of content areas, pedagogy/knowledge of learners, continuous cycle of improvement, collective responsibility, coherent/sustained/evidence-based learning strategies, coaching,*

New Jersey – The New Jersey Department of Education provides a 4-page document that defines professional development as well as lists the New Jersey *Standards for Professional Learning*. The *Standards for Professional Learning* have been adapted from the standards developed by the Learning Forward organization. Both the professional development definition and the standards provide guidance for New Jersey educators when planning professional development activities (New Jersey Department of Education, 2014). *Key Words: goal alignment, improve teacher/leader effectiveness in assisting students to meet CCRS,*

collaboration, ongoing review of student data, educator learning goals based on data, evidence based strategies that improve educator effectiveness, job-embedded coaching, Educator Professional Development Plan, for-profit and nonprofit entities from outside of the school, learning communities, continuous improvement, goal alignment, skillful leaders, resources, variety of data sources, theories of human development and learning, research on change and sustained support, outcomes aligned with educator performance and curriculum standards,

New Mexico – The New Mexico Public Education Department provides a 6-page *Framework for Professional Development* as a guide for educational systems to use in designing district/school professional development activities. The framework provides professional development requirements, a definition of professional development, as well as belief statements (New Mexico Department of Education, 2004). *Key Words: student learning, related to learning goals/needs, aligned with state/district/school goals, aligned with district/state/national standards for educators, knowledge of content, effective pedagogy, adult learning, different developmental levels among participants, variety of delivery methods, time to attain/implement new skills, job-embedded, work-related, collaboration, jointly determined goals, student needs, safe implementation environment, impact on student learning, evaluating its impact, focus on best practices, resources, collaboration, skilled leadership, culture that values teacher/student learning.*

New York – The New York State Education Department provides a 12-page document detailing professional development requirements for recertification, attributes of effective professional development, and ten standards for High Quality Professional Development. The standards were developed to align with the New York State Learning Standards in conjunction with the National Staff Development Council’s Standards on Staff Development (New York State Education

Department, 2009). *Key Words: continuous improvement, improved student learning, different educational needs/learning styles/incremental abilities/ diverse cultural & linguistic backgrounds, research-based expectations for what teachers should know and be able to do, professional learning communities, collaborative leadership, shared responsibility, job embedded, related to classroom practice, provided over time, opportunity to practice new strategies, time to reflect, time to integrate new learning, adequate resources, design based on data, job-embedded, adult learning theory, expands educators' content knowledge, instructional strategies, assess student progress, research-based, opportunities to analyze/apply/engage in research, collaboration, knowledge/skills to meet diverse student needs, safe/secure/supportive/equitable learning environment for students, engage/collaborate with parents/stakeholders, disaggregated student data, monitor student progress, continuous professional growth, technology literacy/effective use of technology, evaluated using multiple source of information,*

North Carolina – The North Carolina Department of Public Instruction and the State Board of Education provide a link on the State website to the Learning Forward *Standards for Professional Learning* (North Carolina Department of Public Instruction, 2009). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.*

North Dakota – The North Dakota Professional Development Standards could not be located on-line. An email request for more information resulted in an email response from the North Dakota Teacher Support System Coordinator that said “It is my understanding that several

schools in ND utilize the *Standards for Professional Learning* by Learning Forward: <https://learningforward.org/standards>. We use these standards with Instructional Coaches who are accepted into the Coaches Academy for 6 days of professional development.” (North Dakota Department of Public Instruction, 2019). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.*

Ohio – The Ohio Department of Education provides a 10-page document called the *Ohio Standards for Professional Development*. This document includes Guidelines for a Successful Professional Learning System, the Intended Audience, How to Use the Standards and seven Standards for Professional Development broken down into Elements & Indicators. These seven standards have been adopted from the *Standards for Professional Learning* provided by Learning Forward (Ohio Department of Education, 2015). *Key Words: learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, data, learning design, long-term change, student curriculum standards.*

Oklahoma – The Oklahoma State Department of Education’s Professional Development policy could not be located on-line. In a response to an email request for more information, the Oklahoma Executive Director of Professional Learning responded with the following information: “In Oklahoma professional development is managed at the local district level. Each district establishes a professional development committee that chooses topics and types of professional development for teachers and administrators. State statute requires teachers to obtain 75 points of professional development over a 5-year period to maintain certification. Generally one clock hour equals one point of PD.” It was not possible to locate any information

pertaining to state-level Professional Development Policy or Standards. This state will not be included in this research.

Oregon - The Oregon Department of Education provides a 1-page list of seven Standards for Professional Development. These standards have been adopted from the national standards

developed by Learning Forward in 2011 (Oregon Department of Education, undated). *Key*

Words: educator effectiveness, learning communities, continuous improvement, collective

responsibility, goal alignment, skillful leaders, resources, variety of data sources,

theories/research/models of human learning, long-term change, aligns outcomes with educator

performance/student curriculum standards.

Pennsylvania – The Pennsylvania Department of Education provides a 14-page document

entitled *ACT 48 Professional Education Plan Guidelines*. This document provides four

Professional Education Criteria, a list of allowable Professional Education Activities, and

guidance for preparing the Professional Education Plan. The list of allowable Professional

Education Activities includes sections for classroom teachers, school and district administrators,

school counselors, and educational specialists excluding school counselors. For the purposes of

this research, only the information pertaining to teacher professional development will be

included (Pennsylvania Department of Education, 2019). *Key Words: based on student needs,*

evaluated using student data, disaggregated student data , enhances content knowledge,

increases teaching skills, interventions for struggling learners, variety of classroom-based

assessment skills, skills to analyze and use data, work effectively with parents/community

partners, annually updated plan, adult learning styles, tailored to stages of an educator's career,

aligned to at least one component of the Danielson Framework for teaching, knowledge of

content, knowledge of pedagogy, knowledge of students, setting instructional outcomes,

knowledge of resources, coherent instruction, designing student assessments, environment of respect and rapport, culture for learning, classroom procedures, student behavior, organizing physical space, communicating with students, questioning/discussion techniques, engaging students in learning, assessment in instruction, flexibility/responsiveness, reflection, maintaining accurate records, communicating with families, professional communities, growing/developing professionally, showing professionalism.

Rhode Island – The Rhode Island Department of Education provides a 10-page document entitled the *Rhode Island Professional Learning Standards*. The document lists eight Professional Learning Standards along with descriptors for each standard (Rhode Island Department of Education, 2018). *Key Words: clear goals/related outcomes for educator and student outcomes, connects learning to intended student outcomes, changes in educator’s knowledge/beliefs/practices to achieve intended student outcomes, educator input shapes professional learning, aligned with professional standards/individual growth goals/improvement priorities of school/district/state, ongoing analysis of data to identify goals/objectives, multiple sources of data inform decisions about professional learning goals, collective understanding of targeted areas of improvement, appropriate professional learning to address targeted areas, strategically resourced, sustained over time, identification of local resources, resource allocation provides sustained support over time, resource allocation supports varied forms of professional learning, evaluation to measure impact related to goals/objectives, formative evaluations, summative evaluations, data/evidence support inform continuous improvement efforts, shared responsibility, facilitate collaboration, grounded in culture of trust/collaboration/continuous improvement, apply learning to context, relevant to participants’ context, opportunities for practice/feedback/reflection, content is rooted in the curriculum, adult*

learning strategies, connect new learning with prior knowledge/experiences, active engagement strategies, models of the practices, structure/delivery meets learning needs of educators, guided by skillful person, well-conceived activities, provides structures/information to meet goals/objectives, support educators to become facilitators of professional learning.

South Carolina – The South Carolina State Department of Education provides a 7-page document detailing the *South Carolina Standards for Professional Development*. The standards were designed to be used by educators at all levels to plan, monitor, and assess professional development (South Carolina State Department of Education, 2000). *Key Words: Continuous improvement, strong leadership, aligned with organization mission/plan, linked to student achievement, adequately funded, adequate time to learn and work together, provides decision makers with information, adult learning, change process, disaggregated data, framework for integrating/relating innovations, ongoing evaluation, multiple approaches, follow-up, stages of group development to build collegial teams, responsive to needs of all students, classroom management strategies, diversity, high expectations, community/family involvement, various types of performance assessments.*

South Dakota - Could not be located on-line. Despite multiple email communications and phone calls, the Professional Development Standards could not be located. This state will not be included in this research.

Tennessee – The Tennessee Department of Education provides a 16-page document entitled *Professional Learning and Evaluation Rubric*. This document includes the Learning Forward *Standards for Professional Learning*. Each of the standards is itemized into a rubric that describes each component of the standard at the Emerging, Developing, Performing, and Transforming level of implementation (Tennessee Department of Education, 2017). *Key Words:*

educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards.

Texas - Could not be located on-line. Despite multiple email communications and phone calls, the Professional Development Standards could not be located. This state will not be included in this research.

Utah – The Utah State Board of Education provides a list of Professional Learning Standards as part of the Utah Code. The professional learning standards can be found in 53G-11-303. The Utah professional learning standards are derived from the Learning Forward *Standards for Professional Learning* (Learning Communities, Learning Designs, Skillful Leaders, Implementation, Resource, Data, and Outcomes). The Utah Professional Learning Standards also includes a Technology component that is not found in the Learning Forward Standards (Utah State Board of Education, 2019). *Key Words: educator effectiveness, learning communities, continuous improvement, collective responsibility, goal alignment, skillful leaders, resources, variety of data sources, theories/research/models of human learning, long-term change, aligns outcomes with educator performance/student curriculum standards, use of technology, enhance the learning environment, integrate technology into content delivery.*

Vermont – The Vermont Agency of Education provides a nine-page *Adult Education and Literacy Professional Development Handbook* that provides a definition of professional development, a list of where Vermont educators can find professional development opportunities, as well as eleven standards to guide the quality and nature of the professional development process (Vermont Agency of Education, 2017). *Key Words: deepens teachers'*

knowledge of content areas, instructional strategies, and assessment strategies, supportive learning environments, high expectations for students, multiple data sources, continuous improvement, evaluation strategies, practitioners' ability to apply current research, occurs over time, strategies appropriate to the goal, variety of delivery methods, adult learning and development, collaboration, learning communities, state/local leadership, policies/guidelines to support practitioners in benefitting from professional development.

Virginia – The Commonwealth of Virginia Department of Education Professional Development Policy could not be located online. An email request for more information resulted in an email response from the Virginia Department of Education Assistant Superintendent for Teacher Education and Licensure. This email included a link to the Commonwealth of Virginia Department of Education *High-Quality Professional Development Criteria*. This 4-page document from 2004 includes a list of 10 high-quality professional development criteria as well as a more detailed explanation of the criteria (Virginia Department of Education, 2004). *Key Words: increase teacher knowledge, highly-qualified, sustained/intensive, classroom-focused, positive/lasting impact on classroom instruction, teachers' performance, Virginia Standards of Learning, scientifically-based research, improve student academic achievement, increase knowledge/teaching skills of teachers, sponsored by experienced providers, delivered by qualified individuals, support all learners – special needs/ELL, technology, data/assessments to improve instruction, reviewed for high-quality, evaluated to determine if intended result was achieved.*

Washington – The Washington Department of Education provides a one-page document of *Standards for Professional Learning* to provide guidance on the preparation and delivery of High-Quality Professional Learning (Washington State Legislature, undated). *Key Words: clear*

goals and objectives related to student outcomes, aligned with state and local goals, data analysis, assessed to determine meeting goals, collaboration, ability to apply knowledge and skills from the professional learning, adult learning theory, resources, facilitated by a professional, sessions connect and build.

West Virginia – An internet search did not result in locating a professional development policy or standards for West Virginia. An email request was sent requesting any information regarding Professional development policy in West Virginia. The response from the state Coordinator in the Office of Leadership & System Support included a link to the West Virginia Department of education policies. The information included in this research was found under “Policy 5500 Professional Learning for West Virginia Educators” (West Virginia Department of Education, 2018). *Key Words: data-driven decisions, online professional development, personalized learning courses, professional learning plan, student data, school-wide goals, collaborative model, improve teacher practice, support student learning, school-wide growth, professional learning communities, increased student achievement, school budget support, flexible/creative scheduling provides opportunities during the work day, individualized, school-based setting.*

Wisconsin – The Wisconsin Professional Development Standards could not be located on-line. An email request for more information regarding Professional Development Policy was sent and resulted in a response from an individual named Joshua. There was no indication of the office or role with which Joshua was affiliated. The response contained a link to the Wisconsin Administrative Code and Statute related to teacher training. The information contained in this link includes state legislation on the Professional Standards Council for Teachers, administrative rules governing the framework of Professional Standards Council, and Administrative rules governing teacher education program approval and licenses. It was not possible to locate any

information pertaining to a Professional Development Policy or Standards. This state will not be included in this research.

Wyoming – The Wyoming Department of Education Professional Development Standards could not be located on-line. An email request for more information was sent and a response was received from a Wyoming Professional Development Specialist at the Wyoming Professional Teaching Standards Board. The response was as follows: “Please visit our website for this information. There are two different sections: Attending a Workshop and Hosting a Workshop. If an individual in WY attends a PD opportunity that was not pre-approved, they would visit the “Attending” section, and follow those guidelines, if a company/facilitator wants to host a workshop, they would visit the “Hosting” section, and follow those guidelines.” Visiting the website and clicking on the “Hosting” section resulted in a link to a Facilitator’s Request for Professional Development Credit, Instructions for Electronic Submission of PTSB Workshop Participant Credit, and a table to convert contact hours into credits. It was not possible to locate any information pertaining to a Professional Development Policy or Standards. This state will not be included in this research.

Summary of Codes & Major Study Themes

As previously described, each States’ key words or codes were entered into an Excel spreadsheet. If a code was repeated, either verbatim or in very similar language, it was not added to the spreadsheet again. Instead, subsequent States that shared the same codes were simply marked in the appropriate column on the spreadsheet. If the examination of a state-level professional development policy resulted in a code that had not been previously recorded, then a new code was added to the spreadsheet and marked for any subsequent States in which it was

found. If there was any question as to whether a code from one State was similar to a code from another State, a new code was created to eliminate researcher bias.

A complete table of the codes that emerged from the examination of the 41 State-level Professional Development policies that were included as part of this research is included below in Table 4. States for which a professional development policy could not be found are highlighted in yellow. In total, 189 unique codes related to elements of state-level professional development policies were identified.

A summary of the 189 individual codes generated by adding codes to the excel spread sheet as needed is included below in Figure 2. This table contains every code generated by the 41 state-level professional development policies included in this study.

Figure 2

Summary of Codes from State-level Professional Development Policies or Standards

<ul style="list-style-type: none"> • Learning Communities • Collective responsibility • Goal Alignment - State/local • Administrator Participation/Support, skillful leaders • Supporting Resources • Disaggregated Student Data • Multiple Sources of Data • Research Based Decision making • Learning Strategies appropriate to the goal • Human learning and Change • Collaboration • Understand and Appreciate all students • Safe, supportive, orderly learning environments • High Expectations for students • Deepen Content Knowledge • Research-based Instructional Strategies • Variety of Assessments • Involve Families/Stakeholders • Increased Student Achievement/CCRS • Educational Technology • Teaching Special Populations SPED/Gifted/ELL • Equitable access, opportunities, and outcomes • Shared purpose for student learning/ Collective responsibility • Sustained Approach for improving teacher effectiveness • Job embedded • Informed by teacher evaluation • Integrate reading, literacy & numeracy enhancement, cultural awareness, and teaching ELLs into instructional practice • Time available during workday 	<ul style="list-style-type: none"> • PD record keeping • New Assessment Strategies • Use data to monitor progress • Use data to promote continuous improvement • Measure professional development • Ability to use data, research, theory in their work • Reflection/Application • Variety of delivery approaches/methods • Clear goals and objectives - Student Outcomes • Adult learning theory • HQ facilitator/presenter • Sessions connect/build • Educator learning goals based on data • Educator Professional Development Plan • For-profit and nonprofit outside entities • Aligned to student curriculum standards • Analysis of data related to goals • Models pedagogical practices • Provides policies/guidelines for accessing/benefitting from professional development • Adult Learner needs/developmental levels • Time to attain/implement new learning • Work-related knowledge/skills • Safe environment to implement learning • Impact on student learning • Culture that values teacher/student learning • Continuous Improvement • Adequate funding • Provides decision-makers with information about organization development and systems thinking
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- Change process: Initiation, implementation, institutionalization
- Framework for integrating/relating innovations
- Ongoing evaluation
- Follow-up
- Responsive to needs of all students
- Diversity
- Long-term change
- Educator performance
- Educator commitment to all students
- Teacher willingness to learn
- Collaborative inquiry
- Educator learn in different ways/different rates
- Mutual Accountability
- Variety of Supports
- Constructive feedback and reflection
- Clear expectations for what teachers should know/be able to do
- Professional learning communities
- Related to classroom practice
- Provided over time/ongoing/sustained focus
- Practice new strategies
- Diverse needs of students
- Monitor student progress
- Continuous professional growth
- Technological literacy/Use of technology
- Continuous professional development
- Culturally-responsive strategies
- Enrich educational experiences for all students
- Rigorous academic standards
- Mentoring/Coaching
- Literacy Development
- Pool Resources/Expertise
- Analyze data to allocate resources
- Maryland Content Standards
- Teacher Feedback
- Individual Needs Assessment
- Content Standards
- Sustained/Rigorous
- Summative/Formative test data

- Flexible/Creative Scheduling creates time during work-day
- School-wide Goals
- School-wide growth
- Data-driven decision making
- Personalized learning courses
- On-line professional development
- State plan supports need for PD
- Content Knowledge
- Research based Practices
- Link old/new knowledge
- Content appropriate for participants
- Generates quality student performance/products
- Participants design/implement activities
- Inquiry-based/varied/engaging
- Integral work of school/classroom
- Mutual Obligation
- Creates responsibilities in change process
- Based on interest/needs of participants/school
- Formal analysis of needs
- Acknowledge/embrace participants voice/purpose
- Time for reflection
- Challenges/enhances/connects with practice
- Relevance/personal significance of their learning
- Learning Results Portfolio
- Coaching during implementation
- Supports participants in adjustments to the learning
- Produces Ownership
- Adapts to change
- Addresses gaps in student achievement
- Effective classroom practice
- Promotes academic growth/student achievement
- Occurs regularly
- Supports team/individual learning
- Part of day-to-day school culture
- School-wide learning strategies

- Promotes active participation
- Stimulates critical thinking
- Sparks investigation/innovative solutions
- Provides practical applications
- Addresses 21st century student/teacher needs
- Research based
- Uses information technology/resources
- Evaluation focuses on effective implementation of PD
- Improving instructional practice
- Clear goals/related objectives for educator outcomes
- Clear goals/related objectives for student outcomes
- Changes in educators' knowledge/beliefs/practices
- Aligned to state/district/school goals
- Data informed decisions about learning goals/objectives
- Collective understanding of targeted areas
- Appropriate learning to address targeted areas
- Resource allocation provides sustained support for PD
- Formative evaluations of progress toward goals
- Summative evaluations of attainment of goals
- Facilitates collaboration to support implementation of learning
- Learning is grounded in culture of trust/collaboration
- Structure/delivery meets learning needs of educators
- Educators are supported to become facilitators of professional learning
- Well-conceived professional learning activities

- Provides structures/information to meet goals/objectives
- Student Learning Needs
- Individual Educator Goals
- Evaluate Student Learning
- Evaluate Educator Growth
- Master professional Development Plan
- Pedagogy/Knowledge of Learners
- Based on student needs
- Educator teaching skills
- Interventions for struggling students
- Analyze and use data
- Work effectively with parents/community partners
- Annually updated plan
- Adult learning styles
- Danielson Framework for Teaching
- Knowledge of students
- Setting Instructional Outcomes
- Knowledge of resources
- Designing coherent instruction
- Designing student assessments
- Environment of Respect and rapport
- Classroom Procedures
- Student Behavior
- Organizing Physical Space
- Communicating with Students
- Questioning/discussion techniques
- Engaging students in learning
- Flexibility and Responsiveness
- Maintaining accurate records
- Communicating with Families
- Showing Professionalism
- Highly-qualified
- Teacher performance
- Increase knowledge/skills of teachers
- Sponsored by experienced providers
- Data/assessments to improve instruction
- Evaluated to determine if intended results were achieved

Once the codes from the State-level Professional Development Policies were identified, they were transferred to a Word document and sorted. Codes with a common theme or intent were placed together in a cell of a table. Once all 189 of the codes were sorted, the codes within a cell were examined and an overarching code or theme that captured the essence of the codes within the group was assigned. The codes within individual themes were examined and if the content within two or more codes were found to contain significant similarities, the themes were combined into a single concise code. For example, following the first round of grouping a code for “resources” and a code for “funding” were developed. After further study and analysis, these codes were combined into a single code named “resources”.

This process resulted in the formation of 26 grouping codes; Communities, Collaboration, Stakeholders, Technology, Data, Content, Location, Duration, Goals, Measuring, Resources, Presenter, Reflection, Delivery, Follow-up, Modeling, Administration, Adult Learning Theory, Outcomes, Assessment, Professional Development Plan, Needs Assessment, Classroom Practice, Culture and Climate, Research Based, and Professionalism. The major study themes and the codes that are associated with each are listed in Table 5.

Table 5
Codes Grouped by Major Study Themes

Communities	Learning Communities Professional learning communities
Collaboration	Collaboration Collaborative inquiry Facilitates collaboration to support implementation of learning Learning is grounded in culture of trust/collaboration
Stakeholders	Communicating with Families Involve Families/Stakeholders Work effectively with parents/community partners
Technology	Educational Technology Technological literacy/Use of technology
Data	Disaggregated Student Data

	<p>Multiple Sources of Data</p> <p>Use data to monitor progress</p> <p>Use data to promote continuous improvement</p> <p>Data-driven decision making</p> <p>Data/assessments to improve instruction</p> <p>Analyze and use data</p>
Content	<p>Deepen Content Knowledge</p> <p>Teaching Special Populations SPED/Gifted/ELL</p> <p>Work-related knowledge/skills</p> <p>Integrate reading, literacy & numeracy enhancement, cultural awareness, and teaching ELLs into instructional practice</p> <p>Literacy Development</p> <p>Related to classroom practice</p> <p>Content Knowledge</p> <p>Maryland Content Standards</p> <p>Content Standards</p> <p>Content appropriate for participants</p> <p>Addresses gaps in student achievement</p> <p>Increased Student Achievement/CCRS</p> <p>Rigorous academic standards</p> <p>Aligned to student curriculum standards</p> <p>Highly-qualified</p> <p>Effective classroom practice</p> <p>Promotes academic growth/student achievement</p> <p>Pedagogy/Knowledge of Learners</p> <p>Educator teaching skills</p> <p>Addresses 21st century student/teacher needs</p> <p>Improving instructional practice</p> <p>Diversity</p>
Location	<p>Job embedded</p> <p>Time available during workday</p> <p>On-line professional development</p> <p>Flexible/Creative Scheduling creates time during work-day</p>
Duration	<p>Provided over time/ongoing/sustained focus</p> <p>Sessions connect/build</p> <p>Sustained/Rigorous</p> <p>Sustained Approach for improving teacher effectiveness</p> <p>Continuous professional development</p> <p>Continuous Improvement</p> <p>Occurs regularly</p> <p>Part of day-to-day school culture</p> <p>Integral work of school/classroom</p>
Goals	<p>Goal Alignment - State/local</p> <p>Clear goals and objectives - Student Outcomes</p> <p>Educator learning goals based on data</p> <p>School-wide Goals</p>

	<p>Analysis of data related to goals Aligned to state/district/school goals Data informed decisions about learning goals/objectives Clear goals/related objectives for educator outcomes Clear goals/related objectives for student outcomes Formative evaluations of progress toward goals Individual Educator Goals Summative evaluations of attainment of goals</p>
Measuring	<p>Measure professional development Ongoing evaluation Evaluated to determine if intended results were achieved Evaluate Student Learning Evaluate Educator Growth Evaluation focuses on effective implementation of PD Learning Results Portfolio</p>
Resources	<p>Supporting Resources Pool Resources/Expertise Analyze data to allocate resources Knowledge of resources Resource allocation provides sustained support for PD Adequate funding</p>
Presenter	<p>HQ facilitator/presenter For-profit and nonprofit outside entities Sponsored by experienced providers</p>
Reflection	<p>Reflection/Application Constructive feedback and reflection Continuous professional growth Time for reflection</p>
Delivery	<p>Variety of delivery approaches/methods Learning Strategies appropriate to the goal Uses information technology/resources Structure/delivery meets learning needs of educators Participants design/implement activities Inquiry-based/varied/engaging Promotes active participation Stimulates critical thinking Sparks investigation/innovative solutions Provides practical applications Well-conceived professional learning activities Acknowledge/embrace participants voice/purpose Challenges/enhances/connects with practice Relevance/personal significance of their learning Personalized learning courses Supports team/individual learning Appropriate learning to address targeted areas Provides structures/information to meet goals/objectives</p>

	Provides decision-makers with information about organization development and systems thinking
Follow-up	Mentoring/Coaching Variety of Supports Time to attain/implement new learning Safe environment to implement learning Coaching during implementation Supports participants in adjustments to the learning Framework for integrating/relating innovations Practice new strategies Educators are supported to become facilitators of professional learning Change process: Initiation, implementation, institutionalization Follow-up Teacher Feedback
Modeling	Models pedagogical practices
Administration	Administrator Participation/Support, skillful leaders
Adult Learning Theory	Human learning and Change Adult learning theory Educators learn in different ways/different rates Adult Learner needs/developmental levels Adult learning styles
Outcomes	Ability to use data, research, theory in their work Long-term change Changes in educators' knowledge/beliefs/practices Increase knowledge/skills of teachers Impact on student learning Link old/new knowledge
Assessment	Variety of Assessments New Assessment Strategies Summative/Formative test data Designing student assessments Monitor student progress
Professional Development Plan	Educator Professional Development Plan Individual Needs Assessment State plan supports need for PD Master professional Development Plan Annually updated plan
Needs Assessment	Based on interest/needs of participants/school Formal analysis of needs Based on student needs Adapts to change
Classroom Practice	Setting Instructional Outcomes Designing coherent instruction Safe, supportive, orderly learning environments Research-based Instructional Strategies Culturally-responsive strategies

	<p>Student Learning Needs Environment of Respect and rapport Classroom Procedures Student Behavior Organizing Physical Space Communicating with Students Questioning/discussion techniques Engaging students in learning Understand and Appreciate all students High Expectations for students Interventions for struggling students Diverse needs of students Enrich educational experiences for all students Knowledge of students Flexibility and Responsiveness Responsive to needs of all students Generates quality student performance/products</p>
Culture and Climate	<p>Collective responsibility Shared purpose for student learning/ Collective responsibility Culture that values teacher/student learning Educator commitment to all students Teacher willingness to learn Mutual Accountability Mutual Obligation Creates responsibilities in change process Produces Ownership School-wide learning strategies School-wide growth Collective understanding of targeted areas Equitable access, opportunities, and outcomes Clear expectations for what teachers should know/be able to do</p>
Research Based	<p>Research Based Decision making Research based Practices Research based</p>
Professionalism	<p>PD record keeping Educator performance Maintaining accurate records Showing Professionalism Teacher performance</p>

The 26 major study themes that appear in this study represent a large amount of data and information. To consolidate this information into fewer categories, as called for by many traditional qualitative researchers, the 26 major study themes were condensed into four grouping

categories. These categories were *Individuals*, *Working Together*, *The Professional Development Session*, and *After the Session*.

The major study themes that were assigned to *Individuals* were Stakeholders, Presenter, Delivery, Administration, Adult Learning Theory, Culture and Climate, Professionalism, and Classroom Practice. The category of *Individuals* was designed to encompass the professional development participants and the effect that the professional development has on those individuals. This includes who delivers the professional development, how the professional development is delivered, and how the professional development changes the school, the community, and the teachers. This is important to examine because of the nature of professional development. Professional development is generally provided by individuals to other individuals, and its very nature precludes separating the act from the participants. Subsequently, the parties involved in a professional development session have an enormous impact on the success or failure of that initiative. The codes associated with *Individuals* look at the way people have an impact on professional development and how professional development has an impact on people.

The major study themes that were assigned to *Working Together* were Communities, Collaboration, Modeling, Professional Development Plan, and Needs Assessment. The category of *Working Together* was designed to describe the teachers, parents, stakeholders, and administration work together to implement the content of a professional development session. This includes making data-based decisions regarding professional development, creating a workable plan for implementation of the professional development, and working together to put the content of a professional development into practice. As with the category of *Individuals*, successful professional development takes the commitment of all the individuals involved in the professional learning process. The codes associated with *Working Together* work in tandem to

guide the planning and implementation phases of professional development. This is an important facet of professional development and should be examined. Without a successful planning stage, professional development can be doomed to failure before it ever begins. Without a successful implementation phase, the positive aspects of a successful professional development delivery can wither and die before they have a chance to positively impact the teachers or the students.

The major study themes that were assigned to *The Session* were Technology, Content, Location, Duration, Resources, and Research-based. The category of *The Session* was created to describe the types of activities that take place during a session of professional development. This encompasses where the professional development takes place, how it is presented, the resources that are needed for a successful implementation, and the strategies that are used to deliver the content. While the attitude of the participants and the planning that goes into the before and after phases are important, perhaps the most important component of a professional development delivery is the professional development session itself. Much of the success of professional development can be attributed to whether it meets the needs of the participants and whether the participants can take away what they need from the session. This is an important concept to study because of the human interact component of professional development. As stated previously, the individuals involved in a professional development activity cannot be separated from the professional development activity itself. If teachers and administrators are not provided with what they need during a professional development activity, whether that be the content, the delivery method, the learning strategies, or the resources needed to follow through with the learning, the professional development initiative would likely find failure.

The fourth and final category was *After the Session*. The major study themes that were assigned to *After the Session* were Data, Goals, Measuring, Reflection, Follow-up, Outcomes,

and Assessment. These study themes deal directly with what happens after the professional development session has ended. This includes collecting data to measure the impact of the professional development session, reflecting on the content of and implementation of the professional development, and understanding the outcome of the professional development. As previously stated, professional development can be very expensive and time consuming. When teachers and administrators participate in a session of professional development there is an expectation that there will be a corresponding increase in adult knowledge, and by extension, student achievement. The codes and major study themes that are tied to *After the Session* deal with what happens after a professional development session or initiative has ended. Schools and school systems often struggle with determining if the costs of a professional development initiative have been justified by the outcomes. This is an important component of professional development to examine for two reasons: First, if the professional development was not successful, then it should be examined to determine why it failed and how it could be improved the next time it is attempted. Second, if the professional development was successful, then it should be examined to determine why it was successful and which components could be incorporated into future professional development sessions.

While the four grouping categories served to constrain the study themes into manageable categories, reflecting on the content and impact of the four grouping categories led to the realization that limiting the study to just broad, overarching categories somehow robbed the study of its scope and depth. Many of the nuances of the data were contained in the original 26 major study themes and grouping them into four very broad categories lessened the impact of the data that were collected. Limiting this information to just four grouping categories had the

impact of obscuring the overall impact of the study findings. With this in mind, the remainder of the study and the data analysis was conducted using the original 26 major study themes.

Residual Study Data

The data for this study were derived from the state-level professional development policies of 41 State Departments of Education. Given the nature of these data, it was not surprising that many of the state-level policies contained very similar material. Since 24 of the 41 state-level professional development policies had been adapted or derived from the Learning Forward *Standards for Professional Learning*, the codes generated from these 24 States were nearly identical.

The remaining 17 States that did not use the Learning Forward *Standards for Professional Learning* as the base for their state-level professional development policies provide a variety of codes, but most of these codes also contained significant similarities. Overall, there were 189 codes generated from the 41 state-level professional development policies, and these codes were condensed into 26 major study themes.

The analysis of the 41 state-level professional development policies resulted in two codes that could be considered residual data. The content of these two codes did not fit with the rest of the study data or contained information that was not found in any of the other state-level professional development policies. These two codes were “Danielson Framework for Teaching” and “Provides policies/guidelines for accessing/benefitting from professional development”.

The Danielson Framework for Teaching was found in the state-level professional development policies of two states: Idaho and Pennsylvania (Idaho Administrative Code, 2019; Pennsylvania Department of Education, 2019). The Danielson Framework for Teaching “is a research-based and validated set of components of instruction. By approaching this work with a

constructivist perspective, the Framework gives voice to what all educators know: teaching is very complex. To navigate these complexities, the Framework organizes this work into four domains, 22 components, and 76 elements. Through these areas, educators can grow and develop in their profession, with excellent results along the way.” (Danielson, undated). The four domains of the framework are Planning and Preparation, The Classroom Environment, Professional Responsibilities, and Instruction. Each of these domains are broken down further into components. Many of these components contain elements of the 26 major study themes that emerged from the analysis of the 189 codes that were developed from the 41 state-level professional development policies that were included in this research. For example, in Domain 4: Professional Responsibilities some of the components are “reflecting on teaching”, “communicating with families”, and “participating in a professional community”. Other components of this Domain were not prevalent in the state-level professional development policies that were studied in this research. For example, “Showing professionalism” and “Maintaining accurate records” appear in the Danielson Framework for Teaching but would not typically appear in a set of standards or guidelines designed to facilitate effective professional development.

In Idaho, the language of the Administrative Code states that “each district evaluation model shall be aligned to state minimum standards that are based on Charlotte Danielson’s Framework for Teaching” (Idaho Administrative Code, 2019). In the Pennsylvania ACT 48 Professional Education Plan Guidelines, there is a requirement that “All Act 48 professional development offerings must be aligned to at least one component of one of the four professional practice domains within the Danielson Framework for Teaching” (Pennsylvania Department of Education, 2019). Professional development opportunities being aligned to the Daniel

Framework, or any other teaching framework, was not part of the state-level professional development policies or guidelines found in any other States. Since many of the components of the Danielson Framework for Teaching can be found within other major study themes, the decision was made to consider “Danielson Framework for Teaching” as a residual code.

The second residual code that was uncovered during the analysis of the 41 state-level professional development policies was “Provides policies/guidelines for accessing/benefitting from professional development”. This code was found in the Vermont Department of Education Adult Education and Literacy Professional Development Handbook. The standard in question reads, “Professional development that continually improves the instruction and learning for all adult learners provides policies and guidelines to support practitioners in accessing and benefitting from quality professional development and in accessing career pathways.” There were also four sample indicators provided to support this standard and provide clarification: 1) Instructional staff are supported by paid professional development time, substitutes to allow for participation, and planning time for instruction. 2) Regular staff meetings are held to enable practitioners to share in decision-making for their program. 3) Time is provided for practitioners to develop an individual professional development plan, access professional development that supports the plan, and receive supportive monitoring by supervisors. 4) Staff advancement is supported through credentials, degrees, and career ladders with compensation commensurate with experiences and qualifications. The only portions of the standard guidance that align with the major study themes that support effective professional development would be the “supportive monitoring by supervisors” and “developing an individual professional development plan”. The remainder of the content of this standard is more focused around managerial tasks and career advancement (Vermont Agency of Education, 2017).

Since very little of the Vermont standard that generate the code “Provides policies/guidelines for access/benefit from professional development” is applicable to strategies or factors that lead to more effective professional development, and the parts of the standard that do address known strategies for more effective professional development are included in other codes, the decision was made to consider “Provides policies/guidelines for access/benefit from professional development” as a residual code. Additionally, this code did not appear in the state-level professional development policies of any of the other 40 States included in this study.

Characteristics of Effective Professional Development

The first research question associated with this study is *What are the characteristics of effective professional development for teachers as identified in the literature?* The body of literature regarding effective professional development is a confusing, often contradictory, and varied landscape. Guskey (2003) examined 13 lists of characteristics of effective professional development from the American Federation of Teachers, the Association of Supervision and Curriculum Development, the Education Development Center, the Educational Research Service, the Educational Testing Service, the Eisenhower Professional Development Program, the National Governors’ Association, the National Institute for Science Education, the National Partnership for Excellence and Accountability in Teaching, the National Staff Development Council, and the U.S. Department of Education. Guskey found that the lists had been derived in different ways, used different criteria to determine effectiveness, and contained a wide variety of characteristics. He further determined that the research regarding most of the characteristics that had been identified was inconsistent and sometimes contradictory. The research behind the characteristics rarely involved a rigorous investigation of the link between the characteristics of

effective development that were identified and improvements in the teachers' instructional practice or student achievement. Instead, most of the supporting research for the identified characteristics involved surveys of the opinions of the researchers and the educators.

Overall, Guskey identified 21 characteristics of effective professional development from his review of the 13 lists included in his research. Of these 21 characteristics, the most frequently cited was enhancement of teacher content knowledge and pedagogical skills. These characteristics were followed by sufficient time and resources, collegiality and collaboration, evaluation procedures, location, and using student data to guide professional development. The research supporting each of these characteristics was spotty at best. For example, most of the lists in Guskey's review stressed that professional development should be school- or site-based even though most of the research evidence suggests that this is not optimal. Guskey cited a study by the Consortium for Policy Research in Education that found when schools were allowed to make decisions about professional development staff members tended to ignore research-based programs and instead chose programs that were similar to what they were already doing at their schools.

Guskey ultimately derived three conclusions from his study. First, there appears to be little agreement among professional development researchers and practitioners regarding criteria for "effective" professional development. Some studies allowed for self-reporting of increases in knowledge and changes in instructional practices by teachers, while other studies looked for consensus in the opinions of professional development writers and researchers. Second, Guskey found that most of the currently identified characteristics of effective professional development could be described as "yes, but..." statements. For example, "Yes, improving teachers' content and pedagogical skills is important, *but* a great deal of the current research is focused on

mathematics and science instruction”, or “*Yes*, professional development should provide sufficient time and resources, *but* time and resources must be used wisely”. These statements can be frustrating for individuals looking for simple answers to professional development, but in actuality tend to accurately represent the fact that most professional development takes place in the real-world with the challenges that this can bring. Therefore, professional development programs that appear to be very similar in design or content might be quite successful in one setting and less successful in another.

Guskey’s final finding was that while research-based decision making in professional development has less than stellar, it does not have to remain that way. Analyzing student test data often shows the amount of variation in student performance between classrooms in a school is often greater than the student performance differences between schools or districts. In other words, there are teachers in nearly every school who are finding ways to help students learn and finding ways to increase student achievement. By identifying the strategies and practices of those teachers and then sharing them with their colleagues can provide a basis for highly effective professional development within a school.

Guskey states that he thinks, given the multiple and highly complex nature of professional development characteristics, it is unlikely that a “single list of characteristics leading to broad-brush policies and guidelines for effective professional development will ever emerge”. It is important, however, to continue to seek to provide criteria for effectiveness, descriptions of important contextual elements, and pursue steady progress in our efforts to improve the quality of the professional development that is delivered to teachers. Working from this premise, this research study seeks to add to the collective body of knowledge regarding the characteristics of effective professional development.

The analysis of the 41 state-level professional development policies included in this study resulted in the identification of 26 major study themes: Communities, Collaboration, Stakeholders, Technology, Data, Content, Location, Duration, Goals, Measuring, Resources, Presenter, Reflection, Delivery, Follow-up, Modeling, Administration, Adult Learning Theory, Outcomes, Assessment, Professional Development Plan, Needs Assessment, Classroom Practice, Culture and Climate, Research Based, and Professionalism. Each of these study themes has varying levels of support from the literature regarding effective professional development.

Based on the literature review found in Chapter 2 of this study, a brief summary of the research, policies, and literature pertaining to each major study theme is included below:

Communities - A study by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found that professional development should build strong working relationships among the teachers. According to standards provided by the Learning Forward organization, professional learning should take place in learning communities that are committed to continuous improvement, shared responsibility, and goal alignment (Learning Forward, 2011). The National Staff Development Council (2001) recommends the establishment of Learning Communities.

Collaboration – Zambo and Zambo (2008) found that professional development had the potential to increase the group competence of a team of teachers from under-performing schools by allowing them to come together to work as a team. The Organization for Economic Co-operation and Development found that in countries that performed above the OECD average, at least 80% of the students were attending schools where teachers within a school cooperated with each other (OECD, 2017). Desimone (2011) identified five areas of professional development that have been associated with changes in knowledge, teacher practice, and student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation. The National

Staff Development Council (2001) states that professional development should provide teachers with the knowledge and skills that are needed to effectively collaborate.

Stakeholders - The National Staff Development Council (2001) believes that professional development should provide educators with the knowledge and skills that are needed to successfully involve families and other stakeholders in the educational process.

Technology – None of the research included in the literature review found in Chapter 2 addressed the use of technology in professional development delivery or technology as a topic of professional development sessions.

Data – According to standards provided by the Learning Forward organization, effective professional development should be planned, assessed, and evaluated by using a variety of student, educator, and system-wide data sources (Learning Forward, 2011). The National Staff Development Council (2001) believes that professional development should be data-driven and should use disaggregated student data to determine teacher learning priorities, monitor progress toward goals, and help maintain continuous improvement.

Content - A study by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found that professional development should be connected to the teachers' practice, should focus on student learning, and should address the teaching of specific curriculum content. The No Child Left Behind Act of 2001 established the criteria that professional development should be sustained, intensive, and content focused (Regional Educational Laboratory, 2007). This idea was developed further with the statement that professional development should be aligned with state academic content standards, student achievement standards, and/or assessments. According to the guidelines provided by the Elementary and Secondary Education Act, professional development should improve teachers' knowledge of their academic subject and allow teachers

to become highly qualified (U.S. Department of Education, 2004). The Center for Public Education (2013) found that the content that is presented to teachers should not be generic, but instead should be specific for a subject or grade-level. Barrett, et al (2015) found that targeted, intensive training of teachers in the Appalachian schools they studied had a positive impact on student outcomes not only during the year that the teacher received the professional development, but also during the following year. The American Federation of Teachers (2008) recommend that professional development should deepen and broaden knowledge of the content as well as provide a strong foundation in the pedagogy of a particular discipline. Additionally, professional development should be aligned with the standards and curriculum teachers use and be designed by teachers in cooperation with experts in the field. Desimone (2011) identified five areas of professional development that have been associated with changes in knowledge, teacher practice, and student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation. Corcoran (1995) recommended that schools and school systems focus professional development on the core problems of teaching and learning. The National Staff Development Council (2001) believes that professional development should deepen teachers' content knowledge, provide teachers with research-based instructional strategies to help their students meet rigorous academic standards, and prepare teachers to appropriately select and use various types of classroom assessments.

Location – The American Federation of Teachers (2008) provided a recommendation that states that professional development should be job-embedded and site specific. Corcoran (1995) recommended that schools and school systems embed more professional development in the workplace so that it is more closely related to teachers' work experience.

Duration – Research by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found that professional development that offered substantial contact hours, ranging from 30 to 100 hours, spread over 6 to 12 months, showed a significant positive effect on student achievement. Bayar (2014) also found that duration was an important component of effective professional development. The teachers in that study defined any professional development as effective if it was organized around an identified need and was provided for a long time. The No Child Left Behind Act of 2001 established the criteria that professional development should be sustained, intensive, and content focused (Regional Educational Laboratory, 2007). According to the guidelines provided by the Elementary and Secondary Education Act, professional development should be sustained, intensive, and classroom focused, and should not be in the form of a short-term workshop (U.S. Department of Education, 2006). Yoon, et al (2007) found that the only types of professional development programs that impacted student achievement were those that were lengthy and intensive. The Center for Public Education (2013) developed a standard recommendation that said the professional development must be of sufficient duration and must be ongoing to allow the teachers time to learn a new strategy and work through the difficulties of implementation. Desimone (2011) identified five areas of professional development that have been associated with changes in knowledge, teacher practice, and student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation.

Goals – A study by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found that professional development should align with school improvement goals and priorities. According to standards provided by the Learning Forward organization professional learning should take place in learning communities that are committed to goal alignment (Learning Forward, 2011). Desimone (2011) identified five areas of professional development that have

been associated with changes in knowledge, teacher practice, and increases in student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation. A study by Corcoran (1995) found that schools and school systems need to be clear about the problems they are trying to solve and identify the conditions under which the teachers are most likely to change their practice, as well as balance individual and organizational interests in professional development and restructure incentives. Corcoran also suggested that schools and school systems set standards and priorities. Desimone, Smith, and Ueno (2006) recommended linking professional development to the overall school vision for teaching and learning. Newmann, Smith, Allensworth, and Bryk (2001) introduced the concept of instructional program coherence.

Measuring - The No Child Left Behind Act of 2001 established the criteria that professional development should be evaluated for its effects on teacher effectiveness and student achievement (Regional Educational Laboratory, 2007). Loucks-Horsley, Love, Stiles, Mundry, and Hewson (2003) found that professional development evaluation is often overlooked in terms of the valuable data it can provide the presenter about the session that was just delivered. Bredson and Johansson (2000) found that most professional development evaluations were little more than participant satisfaction surveys. Soine and Lumpe (2014) have attempted to create and psychometrically test an instrument that could be used to measure teachers' perceptions of various characteristics of professional development. Main, Pendergast, and Virtue (2015) also developed an instrument for measuring the effectiveness of professional development based off Desimone's five core features of effective professional development. The National Staff Development Council (2001) recommends evaluation where professional development is based

on multiple sources of information to guide the improvement efforts and monitor its impact on teaching and learning.

Resources – According to standards provided by the Learning Forward organization, effective professional learning requires prioritizing, monitoring, and coordinating the resources that are available for professional development (Learning Forward, 2011). Sawchuk (2010) found that school systems rarely have an accurate estimate of how much they spend each year on professional development, or what that spending bought in terms of increased teacher or student knowledge. An examination of U.S. Census data revealed that school districts spend approximately three percent of their annual operating budget on professional development (Killeen, Monk & Plecki, 2002). Miles, Odden, Fermanich, and Archibald (2004) estimated that district spending on professional development ranges from 1 percent of the operating budget to more than 8 percent. The work of Miles, et al (2004) also shows that districts have more resources available for professional development than they think, and that the first priority of a school or school district must be to make strategic use of those resources. Corcoran (1995) suggested that schools and school systems provide more time for professional development. The National Staff Development Council (2001) believes that professional development that improves teaching and learning requires resources to support the learning and collaboration of the adults in the building.

Presenter - In a study by Bayar (2014), the study participants said that professional development should be conducted by high-quality instructors. The Organization for Economic Co-operation and Development found that in countries that performed above the OECD average, at least 80% of the students were attending schools where experts were invited to conduct teacher training and/or organize professional development for teachers (OECD, 2017).

Reflection - Ende (2016) found that a period of time for reflection was important for the school system and the presenter of the professional development to determine what worked and what still needs improvement.

Delivery – A 2014 study by Bayar found that participants felt that there should be teacher involvement in the designing and/or planning of the professional development, and that the professional learning should include opportunities for participants to be actively engaged. According to the guidelines provided by the Elementary and Secondary Education Act, professional development should be developed with the participation of teachers, administrators, and parents (U.S. Department of Education, 2006). The Center for Public Education (2013) found that professional development should be designed so that teachers' initial exposure to a concept is not passive. Ende (2016) stated that the delivery of professional development should be fluid enough that it can meet the needs of the individual learners in the group. Steiner (2004) found that alternative forms of professional development like study groups, teacher networks, mentoring, coaching, and other collaborative activities were preferable to workshops of limited duration. The American Federation of Teachers (2008) provide a recommendation that states that professional development should be intellectually engaging and address the complexity of teaching, and should take a variety of forms, including some we have not typically considered. Desimone (2011) identified five areas of professional development that have been associated with changes in knowledge, teacher practice, and increases in student achievement: Content focus, Active learning, Coherence, Duration, and Collective participation. Corcoran (1995) recommended that schools and school systems support and adopt promising professional development approaches. The National Staff Development Council (2001) recommends that the

design of the professional development opportunity should use learning strategies that are appropriate to the intended goal.

Follow-up - The Center for Public Education (2013), developed a standard recommendation that said the professional development must be of sufficient duration and must be ongoing to allow the teachers time to learn a new strategy and work through the difficulties of implementation.

The recommendation went on to state that there must be teacher support during the implementation stage that addresses the specific challenges of changing classroom practice.

French (1997) found that teachers need as much as 50 hours of instruction, practice, and coaching before a new strategy is mastered and successfully implemented in the classroom.

There must be teacher support during the implementation stage that addresses the specific challenges of changing classroom practice. Trusdale (2003) found that teachers who were coached successfully incorporated the new practices into their classroom routines, but the teachers who did not receive coaching quickly lost interest and did not continue to use the new skills. The American Federation of Teachers (2008) provides a recommendation that states that professional development should provide sufficient time, support, and resources to enable teachers to master new content and pedagogy, and to integrate these into their practice.

Modeling – The Center for Public Education (2013) found that modeling was a highly effective way to help teachers understand a new practice.

Administration - According to standards provided by the Learning Forward organization, effective professional learning requires educational leaders who develop capacity among their staff, advocate for the teachers, and create support systems for professional development (Learning Forward, 2011). The National Staff Development Council (2001) believes that the type of professional development that improves the learning of all students requires skilled

school and district leaders who guide continuous instructional improvement. Desimone, Smith, and Ueno (2006) suggested that school and district administrators look for ways to structure professional development sessions that provide teachers with the weakest content knowledge with the types of intensive, focused professional development that will make a significant impact on teaching and learning. Dufour and Berkey (1995) offered concrete suggestions for ways that principals can change their organization by focusing on teacher professional development. Bredeson (2000) described three ways that administrators help shape the cultural, political, and structural climates of their schools so that professional development can flourish.

Adult Learning Theory – According to standards provided by the Learning Forward organization, professional learning should integrate theories, research, and models pertaining to how students and adults learn (Learning Forward, 2011).

Outcomes - The No Child Left Behind Act of 2001 established the criteria that professional development should improve and increase the teachers' knowledge of the subjects they teach (Regional Educational Laboratory, 2007). According to the guidelines provided by the Elementary and Secondary Education Act, professional development should give teachers knowledge and skills that help students meet the challenging state academic standards (U.S. Department of Education, 2006). According to standards provided by the Learning Forward organization, the outcomes of professional development should be aligned with educator performance and student curriculum standards (Learning Forward, 2011). The American Federation of Teachers (2008) provided a recommendation that states that professional development should contribute to measurable improvements in student achievement. Corcoran (1995) recommended that schools and school systems improve the productivity of professional development. Sandholtz and Ringstaff (2016) conducted a study to investigate the factors that

influenced the sustainability of the outcomes of a three-year, state-funded professional development program for K-2 science teachers in small, rural school districts.

Assessment - The National Staff Development Council (2001) believes that professional development should prepare teachers to appropriately select and use various types of classroom assessments.

Professional Development Plan - According to the guidelines provided by the Elementary and Secondary Education Act, professional development should be an integral part of school-wide and district-wide educational improvement plans (U.S. Department of Education, 2006).

Needs Assessment – In a study by Bayar (2014) the participants identified two characteristics of effective professional development that were related to the “needs assessment” study theme. They felt that professional development should be a match to existing teacher needs, and it should also be a match to existing school needs.

Classroom Practice - The No Child Left Behind Act of 2001 established the criteria that professional development should advance teachers’ understanding of effective instructional strategies (Regional Educational Laboratory, 2007). According to the guidelines provided by the Elementary and Secondary Education Act, professional development should improve classroom management skills, and should increase teacher knowledge of scientifically-based, effective instructional strategies (U.S. Department of Education, 2006). The American Federation of Teachers (2008) provided a recommendation that states that professional development should provide knowledge about the teaching and learning process. The National Staff Development Council believes that professional development should prepare educators to appreciate and understand all students, create learning environments that are safe, orderly, and supportive, and hold high expectations for their students’ achievement.

Culture and Climate - According to standards provided by the Learning Forward organization professional learning should take place in learning communities that are committed to shared responsibility (Learning Forward, 2011). Sun, Penuel, Frank, Gallagher, and Youngs (2013) found that certain types of professional development can promote the diffusion of instructional expertise among colleagues through interactions with their peers. These researchers found that when teachers participated in professional development of a lengthy nature, with a wide range of writing-related content and with multiple strategies for active learning, the teachers were more likely to provide help to others with teaching writing. Corcoran (1995) recommended that schools and school systems strengthen the teacher role in the professional development process.

Research Based – According to standards provided by the Learning Forward organization, research on change and support for the implementation of professional development is necessary for long-term change (Learning Forward, 2011). The American Federation of Teachers (2008) provided a recommendation that states effective professional development should be rooted in and reflect the best available research. The National Staff Development Council (2001) believes that professional development prepares educators to apply research to decision making.

Professionalism – None of the research included in the literature review found in Chapter 2 addressed professionalism as a component of professional development.

Table 6 below shows a summary of the information from the literature review in Chapter 2 that is associated with each of the major study themes. If an article or other research-based study could be found to support the inclusion of a major study theme as a component of effective professional development, the research is included in the column on the right.

Table 6

Summary of the Supporting Research for Each Major Study Theme

Major Study Theme	Supporting Research
Communities	Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) Learning Forward (2011) National Staff Development Council (2001)
Collaboration	Zambo and Zambo (2008) OECD (2017) Desimone (2011) National Staff Development Council (2001)
Stakeholders	National Staff Development Council (2001)
Technology	No supporting research was found
Data	Learning Forward (2011) National Staff Development Council (2001)
Content	Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) Regional Educational Laboratory (2007) U.S. Department of Education (2006) Center for Public Education (2013) Barrett, et al (2015) American Federation of Teachers (2008) Desimone (2011) Corcoran (1995) National Staff Development Council (2001)
Location	American Federation of Teachers (2008) Corcoran (1995)
Duration	Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) Bayar (2014) Regional Educational Laboratory (2007) U.S. Department of Education (2006) Yoon, et al (2007) Center for Public Education (2013) Desimone (2011)
Goals	Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) Learning Forward (2011) Desimone (2011) The New Teacher Project (2015) Corcoran (1995) Desimone, Smith, and Ueno (2006) Newmann, Smith, Allensworth, and Bryk (2001)
Measuring	Regional Educational Laboratory (2007) Loucks-Horsley, Love, Stiles, Mundry, & Hewson (2003) Bredson and Johansson (2000)

	Soine and Lumpe (2014) Main, Pendergast, and Virtue (2015) National Staff Development Council (2001)
Resources	Learning Forward (2011) Sawchuk (2010) Killeen, Monk & Plecki (2002) Miles, Odden, Fermanich, and Archibald (2004) Corcoran (1995) National Staff Development Council (2001)
Presenter	Bayar (2014) OECD (2017)
Reflection	Ende (2016)
Delivery	Bayar (2014) U.S. Department of Education (2006) Center for Public Education (2013) Ende (2016) Steiner (2004) American Federation of Teachers (2008) Desimone (2011) Corcoran (1995) National Staff Development Council (2001)
Follow-up	Center for Public Education (2013) French (1997) Truesdale (2003) American Federation of Teachers (2008)
Modeling	Center for Public Education (2013)
Administration	Learning Forward (2011) National Staff Development Council (2001) Desimone, Smith, and Ueno (2006) Dufour and Berkey (1995) Bredeson (2000)
Adult Learning Theory	Learning Forward (2011)
Outcomes	Regional Educational Laboratory (2007) U.S. Department of Education (2006) Learning Forward (2011) American Federation of Teachers (2008) Corcoran (1995) Sandholtz and Ringstaff (2016)
Assessment	National Staff Development Council (2001)
Professional Development Plan	U.S. Department of Education (2006)
Needs Assessment	Bayar (2014)
Classroom Practice	Regional Educational Laboratory (2007) U.S. Department of Education (2006) American Federation of Teachers (2008) National Staff Development Council (2001)

Culture and Climate	Learning Forward (2011) Sun, Penuel, Frank, Gallagher, and Youngs (2013) Corcoran (1995)
Research Based	Learning Forward (2011) American Federation of Teachers (2008) National Staff Development Council (2001)
Professionalism	No supporting research was found

A review of the literature found in Chapter 2 revealed support for 24 of the 26 major study themes found in the 41 state-level professional development policies examined in this study. The two study themes for which there was no supporting research in the literature were “technology” and “professionalism”.

The codes that contributed to “technology” were “Educational Technology” and “Technological literacy/Use of technology”. While these codes sound familiar, the intent of each is very different. An example that illustrates this difference is found in the *Utah Professional Learning Standards*. Standard 2(h) states that “Professional learning incorporates the use of technology in the design, implementation, and evaluation of high quality professional learning practices, and includes targeted professional learning on the use of technology devices to enhance the teaching and learning environment and the integration of technology in content delivery” (Utah State Board of Education, 2019). In the first part of the Utah standard, technology is addressed as something that should be included in the design, implementation, and evaluation of professional development. This definition would link the code “technology” to the codes for “measuring” and “design”. In the second part of the Utah standard, technology is addressed as something that teachers learn how to use as part of a professional development delivery. This explanation would seem to link the code for “technology” to the code for “content”. While the literature review may lack specific support for “technology”, there is ample evidence for the need to measure the effectiveness of professional development. Similarly, there

is abundant evidence in the literature regarding the content of professional development and the design of professional development. Therefore, “technology” will be considered something that should be addressed in professional development standards through content, design, and measuring.

The other major study theme for which there was not empirical support in the literature review was “professionalism”. The codes that addressed “professionalism” were “PD record keeping”, “Educator performance”, “Maintaining accurate records”, “Showing professionalism”, and “Teacher performance”.

“PD record keeping” was a component of the Florida Professional Development System Evaluation Protocol and was addressed in the standard that said, “Educators have easy access to up-to-date records of their professional learning” (Florida Department of Education, 2010). This element is more related to a managerial recommendation rather than a recommendation that would lead to more effective professional development; therefore, the lack of empirical evidence to support this component is not surprising. “Educator Performance” was found in the state-level professional development policies of many of the States that adopted or adapted the Learning Forward *Standards for Professional Learning*. The standard for Outcomes states, “Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards” (Learning Forward, 2011).

“Maintaining accurate records” and “Showing Professionalism” are components of the Danielson Framework for Teaching so they appear in the Professional Development Standards for Idaho and Pennsylvania (Idaho Administrative Code, 2019; Pennsylvania Department of Education, 2019). Finally, “Teacher performance” was found in the Virginia *High-quality Professional Development Criteria* as “High-quality professional development should be sustained, intensive,

and classroom-focused in order to have a positive and lasting impact on classroom instruction and teachers' performance in the classroom.” (Virginia Department of Education, 2004). This statement would seem to link to the study theme of “outcomes”.

Given the analysis of the codes associated with “Professionalism”, it appears that the only code that potentially supports effective professional development would be “teacher performance” and that code also links to “outcomes”. Therefore, professionalism will be addressed as a component of effective professional development policy through the content tied to “outcomes”.

For the purposes of this study, the remaining 24 major study themes will be considered to be elements or components of effective professional development. These components are Communities, Collaboration, Stakeholders, Data, Content, Location, Duration, Goals, Measuring, Resources, Presenter, Reflection, Delivery, Follow-up, Modeling, Administration, Adult Learning Theory, Outcomes, Assessment, Professional Development Plan, Needs Assessment, Classroom Practice, Culture and Climate, and Research Based.

Alabama State-level Professional Development Policy

The second research question associated with this study is *Does/do policies regarding professional development for teachers exist in Alabama at the legislative or state department of education levels? If so, of what do these policies consist? What do they require? What are their foci?* The Alabama State Department of Education provides a one-page list of 12 *Standards for Effective Professional Development*. The Standards were adopted by the Alabama Board of Education on June 13, 2002 and are embedded in the No Child Left Behind definition of professional development in Title IX, Section 9101(34) (Alabama State Department of

Education, 2002). The Alabama *Standards for Effective Professional Development* are adapted, in part, from the Learning Forward *Standards for Professional Learning*.

The Alabama *Standards for Effective Professional Development* are presented in a concise list without the additional examples, indicators, or guiding materials found in some of the other State-level professional development policies included in this study. Additional information regarding number of hours of professional development required for teacher recertification and the types of professional development that will be accepted is not included in the Alabama *Standards for Effective Professional Development*. Instead, this information can be found in the Teacher Re-certification Application packet found on the Alabama State Department of Education website (Alabama State Department of Education, 2019).

The Alabama *Standards for Effective Professional Development* are listed below:

Standard 1: Effective professional development organizes adults into learning communities whose goals are aligned with those of the school, the district, and the state.

Standard 2: Effective professional development requires knowledgeable and skillful school and district leaders who actively participate in and guide continuous instructional improvement.

Standard 3: Effective professional development requires resources to support adult learning and collaboration.

Standard 4: Effective professional development uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement.

Standard 5: Effective professional development uses multiple sources of information to guide improvement and demonstrate its impact.

Standard 6: Effective professional development prepares educators to apply research to decision making.

Standard 7: Effective professional development uses learning strategies appropriate to the intended goal.

Standard 8: Effective professional development applies knowledge about human learning and change.

Standard 9: Effective professional development provides educators with the knowledge and skills to collaborate.

Standard 10: Effective professional development prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement.

Standard 11: Effective professional development deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately.

Standard 12: Effective professional development provides educators with knowledge and skills to involve families and other stakeholders appropriately.

State-level Professional Development Policies from States other than Alabama

The third research question associated with this study is *Do state policies regarding professional development for teachers exist in other states? If so, of what do these policies consist? What do they require? What are their foci? Are there common themes/ideas to be found across them?* Professional Development policies were located in 40 States other than Alabama, for a total of 41 States. The States for which Professional Development Policies or Standards could not be located were Colorado, Indiana, Maine, Montana, Oklahoma, South Dakota, Texas, Wisconsin, and Wyoming.

Once the professional development policies were located, examined, and coded, 26 major study themes or grouping codes emerged. These codes were Communities, Collaboration, Stakeholders, Technology, Data, Content, Location, Duration, Goals, Measuring, Resources, Funding, Presenter, Reflection, Delivery, Follow-up, Modeling, Administration, Adult Learning Theory, Outcomes, Assessment, Professional Development Plan, Needs Assessment, Classroom Practice, Culture and Climate, Research Based, and Professionalism. The Excel spreadsheet was

sorted to reflect the 26 major study themes and the codes that were present in each State's professional development policy were examined. Every code did not appear in every State's professional development policy and some codes were more prevalent than others. The preliminary codes that were associated with each of the major study themes, the differences in state-level professional development policy treatment of each study theme, and the frequency at which each study code appeared is described below:

Communities – The codes that were associated with Communities were “Learning Communities” and “Professional Learning Communities”. Learning communities are part of the Learning Forward *Standards for Professional Learning* therefore, this code appeared in the State-level professional development standards or policy for any state that has adopted or adapted those standards. The Learning Forward Standard states that “Professional learning that increases educator effectiveness and results for all students occurs within **learning communities** committed to continuous improvement, collective responsibility, and goal alignment.” (Learning Forward, 2011). In Pennsylvania and Idaho, participating in a **Professional Learning Community** was listed as part of the requirements of the Danielson Framework for Teaching, under Domain 4: Professional responsibilities (Idaho Administrative Code, 2019; Pennsylvania Department of Education, 2019). In West Virginia, the State Code stated that school-based **professional learning communities** should examine student data to increase student achievement (West Virginia Department of Education, 2018). The codes dealing with Communities appeared in 32 of the 41 (78%) State-level professional development policies that were examined, including Alabama. For the purposes of this research, professional learning communities will be defined as a group of educators that meets regularly to share their expertise and works collaboratively to improve teaching and learning.

Table 9
Summary of Codes Associated with Stakeholders

Professional Development Policy Components	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming
Involve Families/Stakeholders	X					X			X	X					X				X		X								X		X																			
Communicating with Families																																						X												
Work effectively with parents/community partners												X																																						

Technology – The codes that pertain to technology were “Educational technology” and “Technological literacy/Use of technology” and can be divided into two areas. First, there were elements of state-level professional development policies that deal with using technology as part of the professional development delivery. In Arkansas, one of the rules regulating professional development says that “Professional Development may incorporate **educational technology** as a component of the professional development, including without limitation taking or teaching an online or blended course” (Arkansas Department of Education, 2014). Second, other States’ professional development policies address technology use in the classroom. The New York State Professional Development Standards state that “Professional development promotes **technological literacy** and facilitates the effective use of all appropriate technology.” (New York State Education Department, 2009). In total, the codes pertaining to technology appeared in 5 of the 41 (12.2%) of the state-level professional development policies studied. For the purposes of this research, technology will be defined as the process of using technology in the delivery of professional development or teaching students how to use technology. Technology did not appear in the Alabama Professional Development Standards. A summary of the codes associated with Technology appear in Table 10.

growth/student achievement”, “Pedagogy/Knowledge of Learners”, “Educator teaching skills”, and “Improving instructional practice”.

One of the most interesting codes that was discovered was “Highly-qualified”. This code was found in the Commonwealth of Virginia Department of Education *High-quality Professional Development Criteria*. The standard in question states that “High-quality professional development should improve and increase teachers’ knowledge of the academic subjects the teachers teach and enable teachers to become **highly-qualified** if they are teaching in a federal core content area” (Virginia Department of Education, 2004). The designation of highly qualified was a part of the United States Federal Government Department of Education *No Child Left Behind* legislation. Per the guidelines of this legislation, teachers had until the 2005-2006 deadline to demonstrate that they were highly qualified by having 1) a bachelor’s degree, 2) full state certification or licensure, and 3) proving that they know each subject they teach (U.S. Department of Education, 2004). The reauthorization of *No Child Left Behind* occurred in 2016 as the *Every Student Succeeds Act* (ESSA). ESSA removed the highly-qualified teacher designation requirement (U.S. Department of Education, 2016). Consequently, it is interesting to find that the Virginia *High-Quality Professional Development Criteria* still contains language addressing highly-qualified teacher status.

For the purposes of this research, content will refer to the topic or information that is presented during a professional development session. Overall, the codes that addressed the content of the professional development appeared in 39 of the 41 (95.1%) of the state-level professional development policies studied, including Alabama, Massachusetts and Washington had the only state-level professional development policies that did not contain the code word “content”. A summary of the codes associated with content is found in Table 12.

of Education & Early Development, undated). The Hawaii Department of Education takes a slightly different take on the location of professional development with a Standard that says, “Professional development is an integral work of the school/classroom that leads to improved practice” (Hawaii State Department of Education, 2001). Finally, West Virginia addresses the location of the professional development activities in *Policy 5500 Professional Learning for West Virginia Educators*. This administrative code states that “The professional and personalized learning plan should align, be incorporated into, and complement the county’s Strategic Plan, ensuring **flexible and creative scheduling** creates time for educators to participate in professional learning communities **during the work-day** and focus on professional learning offerings in individualized and **school-based settings** rather than in large-scale settings.” (West Virginia Department of Education, 2018).

For the purposes of this research, location will refer to where and when the professional development is taking place. Overall, 8 of the 41 (19.5%) of the state-level professional development policies studied contained the code “location”. Location did not appear in the Alabama Professional Development Standards. A summary of the codes related to information is provided in Table 13.

individual learning. Professional development is part of the **day-today school culture** and provides site-based and extended learning opportunities for teachers, principals, and administrative teams. School leaders and teachers collaboratively identify individual and school-wide learning strategies that impact instruction and student achievement. The school as a learning community provides ongoing follow-up, support, and technical assistance” (Louisiana Department of Education, undated). The Massachusetts and Washington Professional Learning standards call for sessions to “connect and build” (Massachusetts Department of Elementary and Secondary Education, 2012). The Washington Office of Superintendent of Public Instruction Professional Learning standards require that Professional development “is designed in such a way that **sessions connect and build upon each other** to provide a coherent and useful learning experience for educators” (Washington State Legislature, undated).

Overall, 31 of the 41 (75.6%) of the state-level professional development policies studied contained the code “duration”. For the purposes of this research, duration will be defined as the amount of time that a professional development activity takes place, specifically the amount of time that the professional development is spread across. Information pertaining to the duration or frequency of professional development activities did not appear in the Alabama Professional Development Standards. A summary of the codes associated with duration is included in Table 14.

set professional development goals. The state-level professional development policy standards or concepts tied to using data to set goals and evaluate progress toward goal attainment are coded under “goals” rather than “data”. The codes tied to goals are “Goal Alignment - State/local”, “Clear goals and objectives - Student Outcomes”, “Educator learning goals based on data”, “School-wide Goals”, “Analysis of data related to goals”, “Aligned to state/district/school goals”, “Data informed decisions about learning goals/objectives”, “Clear goals/related objectives for educator outcomes”, “Clear goals/related objectives for student outcomes”, “Formative evaluations of progress toward goals”, “Individual educator goals” and “Summative evaluations of attainment of goals”.

Several States mention using data to set Individual or Group Educator Learning Goals. In the Rhode Island Professional Learning Standards, this concept is addressed as “Multiple sources of qualitative and quantitative student and educator data and information inform decisions about professional development learning **goals** and learning objectives” (Rhode Island Department of Education, 2018). In New Mexico, the concept of “goals” is treated differently with a standard that states, “The professional growth process must be collaborative in nature with **goals** jointly determined and based on organizational goals and student needs” (New Mexico Department of Education, 2004).

For the purposes of this research, goals will be defined as the proposed or intended outcome of the professional development, including goals set at the state, school or individual level. Overall, the code “goals” appeared in 34 of the 41 (82.9%) state-level professional development policies included in this study, including the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with goals is included in Table 15.

In New Hampshire, the Department of Education Administrative Rules mandate a slightly different approach regarding measuring professional development. The New Hampshire requirement for measuring professional development says that the professional development master plan must include “A description of the needs assessment process that includes a data collection system and how the school or district makes decisions regarding professional development priorities in order to **evaluate student learning** and **educator growth**” (New Hampshire Department of Education, undated).

The most interesting finding regarding measuring professional development came from the Hawaii *Elements of Quality Professional Development*. As a requirement for every professional development activity, each participant must complete a Learning Results Portfolio which includes the application of their professional learning with the students, the results of their application efforts with students, and the usefulness and effectiveness of the strategy, process, program, approach, technique or material to improve student learning for the future (Hawaii State Department of Education, 2001). No other state-level professional development policy contained a **requirement** for a teacher created portfolio of implementation of a specific professional development activity. In Florida, the creation of a professional portfolio is offered as one of the many ways that educators can evaluate the impact of the professional learning on their practice, but it is not a requirement (Florida Department of Education, 2010).

For the purposes of this research, measuring will be defined as the way that a professional development initiative is evaluated to determine whether it has met its intended goals. In total, 11 of the 41 (26.8%) state-level professional development policies examined by this study contained the code “measuring”. The Alabama *Standards for Effective Professional Development* did not include this code. A summary of the codes associated with measuring is included in Table 16.

standards that govern resources. The first standard says, “Strategic planning process supports the **identification of local resources** available and needed to support identified goals and objectives”. The second standard says that “**Resource allocation** supports varied forms of professional learning that are planned in a logical and coherent manner.” (Rhode Island Department of Education, 2018). In a different spin on resources, the Pennsylvania *ACT 48 Professional Development Guidelines* says that approved professional development activities for individuals in leadership roles should “Instruct the leader in **managing resources** for effective results.” (Pennsylvania Department of Education, 2019).

In the early stages of the data analysis of the codes associated with this study, “funding” was initially considered to be a grouping code or major study theme separate from “resources”. After further consideration, the decision was made to include funding under the more general term of resources for two reasons. First, funding is one of the types of resources that is required for effective professional development to take place. Just as time, materials, and supplies are needed to implement professional development, funding is required for stipends, substitutes, conference fees, travel expenses, and presenter fees. Second, there were only two states that specifically mentioned funding in their state-level professional development policies; South Carolina and West Virginia. In retrospect, this information did not seem significant enough to warrant a separate study theme. In terms of funding, the South Carolina standard states that “Effective professional development is aligned with the organization’s mission and strategic plan, is linked to student achievement, and is **adequately funded** by the budget” (South Carolina State Department of Education, 2000). In the West Virginia Administrative Code, funding is addressed as “**School budgets** support professional and personalized learning” (West Virginia Department of Education, 2018).

The codes for “delivery” were intentionally kept separate from the codes for “content” because the codes for “delivery” were more aligned with “how” the professional development session was structured or presented and the codes for “content” were more aligned with “what” the professional development session was about or the information that the participants received from the session.

The most common code found in the standards tied to delivery was “learning strategies appropriate to the goal”. This code was found in 11 state-level professional development policies, including the *Alabama Standards for Effective Professional Development*. In Alabama, the standard tied to delivery says, “Effective professional development uses learning strategies appropriate to the intended goal” (Alabama State Department of Education, 2002). A very similar standard is found in the Michigan *Updated Vision and Standards for Professional Learning of Michigan Educators*. This standard states that “Staff development that improves the learning of all students uses **learning strategies appropriate to the intended goal.**” (Michigan Department of Education, 2003). In New Mexico, the *Framework for Professional Development* says that “The professional growth process must be both systemic and systematic, while allowing for a **variety of delivery modes** (both formal and informal); a variety of approaches; and a variety of purposes (such as mentoring, individual and group study, on-site training, workshops, conferences, university courses, on-line instruction)” (New Mexico Department of Education, 2004).

For the purposes of this research, delivery will be defined as the way that the professional development session is presented including learning strategies and techniques used. Overall, codes related to the delivery of professional development were found in 16 of the 41 (39.0%) of the state-level professional development policies studied. This includes the *Alabama Standards*

separate from the codes for “reflection” even though these two study themes contained similar material. After careful study, it was found that the codes for “reflection” tended to describe behaviors that the professional development participants would engage in following the completion of a professional development activity. The codes for “follow-up” tended to focus more on the supports that a teacher would receive after a professional development session had concluded and during the implementation stage. This information provides an important distinction. The reflection codes dealt with metacognitive activities on the part of the professional development participants. The follow-up codes dealt with how and to what extent the teachers would be supported as they implemented the new learning.

The codes associated with follow-up were “Mentoring/Coaching”, “Variety of Supports”, “Time to attain/implement new learning”, “Safe environment to implement learning”, “Coaching during implementation”, “Supports participants in adjustments to the learning”, “Framework for integrating/relating innovations”, “Practice new strategies”, “Educators are supported to become facilitators of professional learning”, “Change process: Initiation, implementation, institutionalization”, “Follow-up”, and “Teacher Feedback”.

In the Hawaii *Elements of Quality Professional Development* two standards address the idea of follow-up: Quality professional development “**supports participants in making ongoing adjustments** to their learning as needed” and “provides ‘**coaching**’ and expert support by the instructor **during implementation** of new learning/strategies” (Hawaii State Department of Education, 2001). The South Carolina State Department of Education *Standards for Professional Development* goes a step further with follow-up and includes a standard that says, “Effective professional development provides a **framework for integrating and relating** innovations to the mission of the classroom”. The most interesting standard related to follow-up

also comes from the South Carolina *Standards for Professional Development*. Taking into consideration that change is seldom easy or straightforward, South Carolina provides a standard that says, “Effective professional development provides for three phases of the change process: **Initiation, Implementation, and Institutionalization**” (South Carolina State Department of Education, 2000).

For the purposes of this research, follow-up will be defined as the period of time following a professional development activity, including how this period of time is structured and the types of activities in which participants will engage. Overall, the codes associated with follow-up were found in 10 of the 41 (24.4%) of the state-level professional development policies studied. The code “follow-up” did not appear in the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with follow-up is found in Table 21.

Table 21
Summary of the Codes Associated with Follow-up

Professional Development Policy Components	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming			
Mentoring/Coaching	X										X																																										
Variety of Supports							X																																														
Time to attain/implement new learning											X																			X	X																						
Safe environment to implement learning																														X																							
Coaching during implementation										X																																											
Supports participants in adjustments to the learning											X																																										
Framework for integrating/relating innovations																																																					
Practice new strategies																														X																							
Educators are supported to become facilitators of professional learning																																																					
Change process: Initiation, implementation, institutionalization																																																					
Follow-up																		X	X																																		
Teacher Feedback																				X																																	

Modeling – The code “modeling” appears in very few of the state-level professional development policies included in this study. However, modeling was included as a separate code for a specific reason. Some of the state-level professional development policies addressed modeling as a part of the activities that take place during the time after a professional development session. For example, in the Maryland Teacher Professional Development Standards, one of the standards says, “Professional development provides extensive follow-up, including but not limited to, **classroom demonstrations**, feedback on mastery of new skills, peer coaching and mentoring, and opportunities for additional study” (Maryland State Department of Education, 2008). This distinction would seem to place modeling with the codes related to “follow-up”.

code appears in the State-level professional development standards or policy for any state that has adopted or adapted the Learning Forward standards. The Learning Forward Standard states that “Professional learning that increases educator effectiveness and results for all students integrates **theories, research, and models of human learning** to achieve its intended outcomes” (Learning Forward, 2011).

The study theme of “Adult Learning Theory” is closely related to the study theme of “Delivery” but with an important distinction. The codes associated with Delivery focused on the types of activities that would be incorporated into the professional development, the types of thinking that the professional development was designed to elicit, and the structure of the professional development delivery. The codes associated with Adult Learning Theory are more focused on the theory behind the decisions that were made as part of the delivery of the professional development. This information provides an important distinction; delivery is “how” the professional development was presented; adult learning theory is “why” the delivery was structured the way it was designed. The Delaware Professional Development Standards include a prerequisite for professional learning that says, “Like all learners, **educators learn in different ways and at different rates**” (Delaware Administrative Code, 2012). The Pennsylvania Professional Education Plan Guidelines includes a standard that states “Approved professional development is based on knowledge of **adult learning styles** as a basis for instructional design and delivery of the proposed offerings, including knowledge acquired through experience, goal and relevancy orientation, self-direction, motivational factors, and practical application of content” (Pennsylvania Department of Education, 2019).

For the purposes of this research, Adult Learning Theory will be defined as how adults learn and the practice of designing professional development activities incorporating learning

styles suited to adults. The codes associated with “Adult Learning Theory” appeared in 35 of the 41 (85.4%) of the state-level professional development policies included in this study. This concept is included in the *Alabama Standards for Effective Professional Development*. A summary of the information related to Adult Learning Theory is found in Table 24.

Table 24
Summary of Codes Associated with Adult Learning Theory

Professional Development Policy Components	Alabama	Alaska	Arizona	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming					
Human learning and Change	X	X	X	X	X	X	X	X						X	X	X				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Adult learning theory	X				X			X	X									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Educators learn in different ways/different rates						X																																																
Adult Learner needs/developmental levels																X													X																									
Adult learning styles																																																						

Outcomes – The codes that were assigned to outcomes are related to the skills, changes in practice, and knowledge that teachers acquire as a result of participating in the professional development activity. The following codes were aligned to outcomes; “Ability to use data, research, theory in their work”, “Long-term change”, “Changes in educators’ knowledge/beliefs/practices”, “Increase knowledge/skills of teachers”, “Impact on student learning”, and “Link old/new knowledge”. In the New York State *Professional Development Standards*, this concept is addressed with a standard that says, “Professional development is research-based and provides educators with opportunities to **analyze, apply, and engage in research**” (New York State Education Department, 2009). Long-term change is mentioned in the state-level professional development policies of 12 States and is a part of the Learning Forward *Standards for Professional Learning*. The standard that addresses long-term change says, “Professional learning that increases educator effectiveness and results for all students applies

research on change and sustains support for implementation of professional learning for long-term change” (Learning Forward, 2011).

For the purposes of this research, outcomes will be defined as the skills, changes in practice, and knowledge that teachers acquire as a result of participating in the professional development activity. The codes pertaining to “outcomes” appeared in 28 of the 41 (68.3%) state-level professional development polices examined as part of this research. Outcomes did not appear in the *Alabama Standards for Effective Professional Development*. A summary of the information related to Outcomes is included in Table 25.

Table 25
Summary of Codes Associated with Outcomes

Professional Development Policy Components	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming				
Human learning and Change	X	X	X	X			X	X	X						X	X	X					X	X	X	X		X	X									X																	
Adult learning theory		X					X			X	X									X	X	X								X	X																							
Educators learn in different ways/different rates								X																																														
Adult Learner needs/developmental levels																	X													X								X																
Adult learning styles																																																						

Assessment – The codes associated with “Assessment” appeared in the state-level professional development policies of several of the States included in this study. The codes that aligned to assessment were “Variety of Assessments”, “New Assessment Strategies”, “Summative/Formative test data”, “Designing student assessments”, and “Monitor student progress”.

The decision to make “assessment” a separate study theme rather than combine the assessment codes with “data” or “content” was made for a strategic reason. The standards associated with “variety of assessments” lean towards several different applications of the data gathered from assessments. The first application of assessments is using the data collected from

assessments to make decisions regarding the selection of professional development topics or monitoring the progress of a professional development initiative. In the *Alabama Standards for Effective Professional Development*, this concept is addressed as “Effective professional development uses **disaggregated student data** to determine adult learning priorities, monitor progress, and help sustain continuous improvement” (Alabama State Department of Education, 2002).

Other standards lean more to assessments being used in the classroom and are closer to being part of the “content” of professional development deliveries. Again, from the Alabama standards this is addressed as “Effective professional development deepens educators’ content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of **classroom assessments** appropriately” (Alabama Department of Education, 2002).

Still other state-level Professional development standards address using student assessment data to monitor the progress of a professional development implementation as in the *Florida Professional Development System Evaluation Protocol*, where the standard reads, “The educator uses **summative and formative data** from state or national standardized student achievement measures, when available, or other measures of student learning and behavior such as district achievement tests, progress monitoring, educator-constructed tests, action research results, discipline referrals, and/or portfolios of student work to assess the impact of professional learning” (Florida Department of Education, 2010).

Since “assessments” could refer to teachers learning to design better assessments, using the results of assessments to plan for professional development, using the results of professional

development to monitor a professional development implementation, and new strategies to assess students the decision was made to include “assessment” as a separate study theme.

For the purposes of this research, assessments will be defined as the wide variety of methods or tools that educators use to evaluate, measure, and document the academic readiness, learning progress, skill acquisition, or educational needs of students. Overall, the codes associated with Assessment appeared in 15 of the 41 (36.6%) state-level professional development policies examined by this study. The code assessment did appear in the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with Assessment appears in Table 26.

Table 26
Summary of the Codes Associated with Assessment

Professional Development Policy Components	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming				
Variety of Assessments	x						x	x	x	x	x	x	x	x			x				x																																	
New Assessment Strategies		x									x											x																																
Summative/Formative test data							x																																															
Designing student assessments											x																																											
Monitor student progress														x																																								

Professional Development Plan – The codes associated with Professional Development Plan were “Educator Professional Development Plan”, “Individual Needs Assessment”, “State plan supports need for PD”, “Master professional Development Plan”, and “Annually updated plan”.

These codes were kept separate from the codes for “goals” for the following reason. “Goals” appeared in 82.9% of the state-level professional development policies studied. These standards discussed aligning the professional development activities to state, local, and school goals, or using data to inform the goals and monitor progress toward attaining goals. The codes

associated with Professional Development Plan are very different. These codes are tied to the idea of a formal, written plan for the professional development that will take place at the individual, school, district, or state level. The goals are derived from the Professional Development Plan, so the decision was made to include Professional Development Plan as a separate study theme. The codes that were linked to Professional Development Plan were “Educator Professional Development Plan”, “Individual Needs Assessment”, “State plan supports need for PD”, “Master professional Development Plan”, and “Annually updated plan”.

The Florida Department of Education *Professional Development System Evaluation Protocol*, provides for the creation of a teacher-level professional development plan with the following standard: “The educator’s **Individual Professional Development Plan** (IPDP) specifies the professional learning needs related to identified student achievement goals for those students to which the educator is assigned; aligned with the educator’s level of development; and contains: a) clearly defined professional learning goals that specify measurable improvement in student achievement; b) changes in the educator’s practices resulting from professional learning; and c) an evaluation plan that determines the effectiveness of the professional learning” (Florida Department of Education, 2010). In the West Virginia Administrative Code, the Professional Development Plan requirements state “The county plan shall be developed by the Local Staff development Council and incorporated into the county **Strategic Plan** using data from each county’s **professional learning plan**, or the West Virginia Support for Improving Professional Practice located on the WVDE website” (West Virginia Department of Education, 2018).

For the purposes of this research, Professional Development Plan will be defined as a formal, written plan intended to guide the professional development activities that will take place

professional development, then “classroom practice” is what it looks like as a teacher works with their students. “Classroom Practice” is also related to “Content” but with an important distinction; “content” is the topic of the professional development session or what was learned from the professional development session, but “Classroom Practice” is how that new knowledge plays out with students.

The codes that are associated with “Classroom practice” are “Setting Instructional Outcomes”, “Designing coherent instruction”, “Safe, supportive, orderly learning environments”, “Research-based Instructional Strategies”, “Culturally-responsive strategies”, “Student Learning Needs”, “Environment of Respect and rapport”, “Classroom Procedures”, “Student Behavior”, “Organizing Physical Space”, “Communicating with Students”, “Questioning/discussion techniques”, “Engaging students in learning”, “Understand and Appreciate all students”, “High Expectations for students”, “Interventions for struggling students”, “Diverse needs of students”, “Enrich educational experiences for all students”, “Knowledge of students”, “Flexibility and Responsiveness”, “Responsive to needs of all students”, and “Generates quality student performance/products”.

In the *Alabama Standards for Effective Professional Development*, several of these codes are addressed in Standard 10, which says “Effective professional development prepares educators to **understand and appreciate all students, create safe, orderly and supportive learning environments**, and hold **high expectations** for their academic achievement” (Alabama State Department of Education, 2002). The Idaho and Pennsylvania standards are tied to the Danielson’s Framework for Teaching which includes “**Designing Student Assessments**”, “Creating an Environment of **Respect and Rapport**”, “Designing **coherent instruction**”, and

“Setting **instructional outcomes**” (Idaho Administrative Code, 2019; Pennsylvania Department of Education, 2019).

For the purposes of this research, classroom practice was defined as how the learning that takes place during the professional development will look in the classroom as it is put into place by the teacher. Overall, the codes tied to “Classroom Practice” appeared in 22 of the 41 (53.7%) of the state-level professional development policies included in this study. Classroom practice was included in the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with Classroom Practice are found in Table 29.

process”, “Produces Ownership”, “School-wide learning strategies”, “School-wide growth”, “Collective understanding of targeted areas”, “Equitable access, opportunities, and outcomes”, and “Clear expectations for what teachers should know/be able to do”.

The concept of “Collective responsibility” is part of the Learning Forward *Standards for Professional Learning*; therefore, this code appears in the state-level professional development standards for any State that has adopted those standards. The Learning Forward standard that addresses collective responsibility states “Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, **collective responsibility**, and goal alignment” (Learning Forward, 2011). In the California *Quality Professional Learning Standards* the concept of “shared purpose for student learning” is covered in a standard that says “Quality professional learning facilitates the development of a **shared purpose for student learning and collective responsibility** for achieving it” (California Department of Education, 2014). The New Mexico Framework for Professional Development simply says that “Effective professional development is supported by a **culture that values teacher learning as much as student learning**” (New Mexico Department of Education, 2004).

For the purposes of this research, culture and climate was defined as the way teachers and other staff members work together and the overall set of beliefs, values, and assumptions that they share and how this effects the students and their learning. Overall, the codes that aligned to “Culture and Climate” appeared in 28 of the 41 (63.8%) of the state-level professional development policies examined by this study. The codes for Culture and Climate were included in the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with Culture and Climate is found in Table 30.

Table 30
Summary of Codes Associated with Culture and Climate

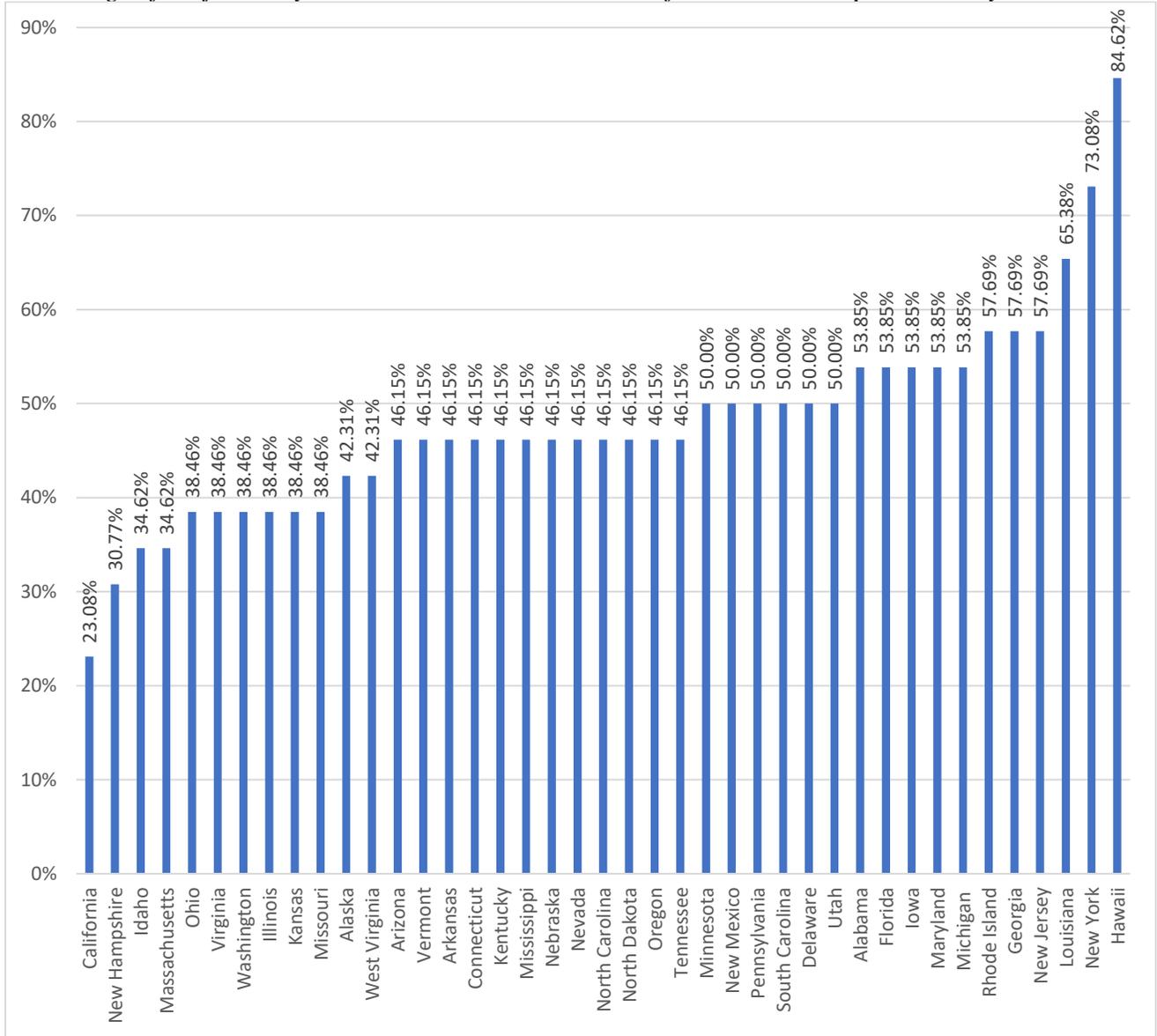
Professional Development Policy Components	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming			
Collective responsibility	X		X	X			X	X								X	X						X	X													X																
Shared purpose for student learning/ Collective responsibility					X		X																																														
Culture that values teacher/student learning												X							X											X																							
Educator commitment to all students								X																																													
Teacher willingness to learn								X																																													
Mutual Accountability								X																																													
Mutual Obligation										X																																											
Creates responsibilities in change process											X																																										
Produces Ownership																	X																																				
School-wide learning strategies																	X																																				
School-wide growth																																																					
Collective understanding of targeted areas																																																					
Equitable access, opportunities, and outcomes					X																																																
Clear expectations for what teachers should know/be able to do																			X																																		

Research Based – The codes that align to research based are “Research Based Decision making”, “Research based Practices”, and “Research based”. The concept of research based applies to several facets of the professional development process. First, research based applies to the construction of the professional development activity that is being offered. In terms of Learning Designs, the Learning Forward *Standards for Professional Learning* state that “Professional learning that increases educator effectiveness and results for all students integrates theories, **research**, and models of human learning to achieve its intended outcomes” (Learning Forward, 2011). The code “research based” will appear in the state-level professional development policies of any state that has adopted or adapted the Learning Forward *Standards for Professional Learning*. Second, the code “research-based practices” is found in standards that

“Teacher performance”. These codes are loosely tied to how teachers conduct themselves in their daily work. Educator performance is part of the Learning Forward *Standards for Professional Learning* and is included in a standard tied to Outcomes that says, “Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards” (Learning Forward, 2011). “Maintaining accurate records” and “Showing Professionalism” are part of the Idaho and Pennsylvania Professional Development Standards through the Danielson Framework for Teaching (Idaho Administrative Code, 2019; Pennsylvania Department of Education, 2019). In the Pennsylvania *Professional Education Plan Guidelines*, “maintaining accurate records” and “Showing Professionalism” are found in Domain 4: Professional Responsibilities (Pennsylvania Department of Education, 2019). The Florida Department of Education *Professional Development System Evaluation Protocol* says that “Educators have easy access to up-to-date records of their professional learning.” Florida was the only State included in this study that addressed Professional Development Records as part of their state-level professional development policy (Florida Department of Education, 2010).

For the purposes of this research, professionalism was defined as how teachers conduct themselves in their daily work including their interactions with students, parents, co-workers, parents, and administration. Overall, the codes that aligned to “professionalism” were found in 17 of the 41 (41.5%) state-level professional development policies that were examined as part of this study. The code “professionalism” did not appear in the *Alabama Standards for Effective Professional Development*. A summary of the codes associated with Professionalism is found in Table 32.

Figure 3
Percentage of Major Study Themes in Each State-level Professional Development Policy



Comparison of the Alabama Professional Development Policy and other State-level Professional Development Policies

State-level professional development policies were found for 41 States including Alabama. The 40 other State-level professional development policies vary from the Alabama Department of Education’s Professional Development policy in terms of length, scope, content, and intent. In Table 33 below, each of the 26 study themes are examined to determine whether

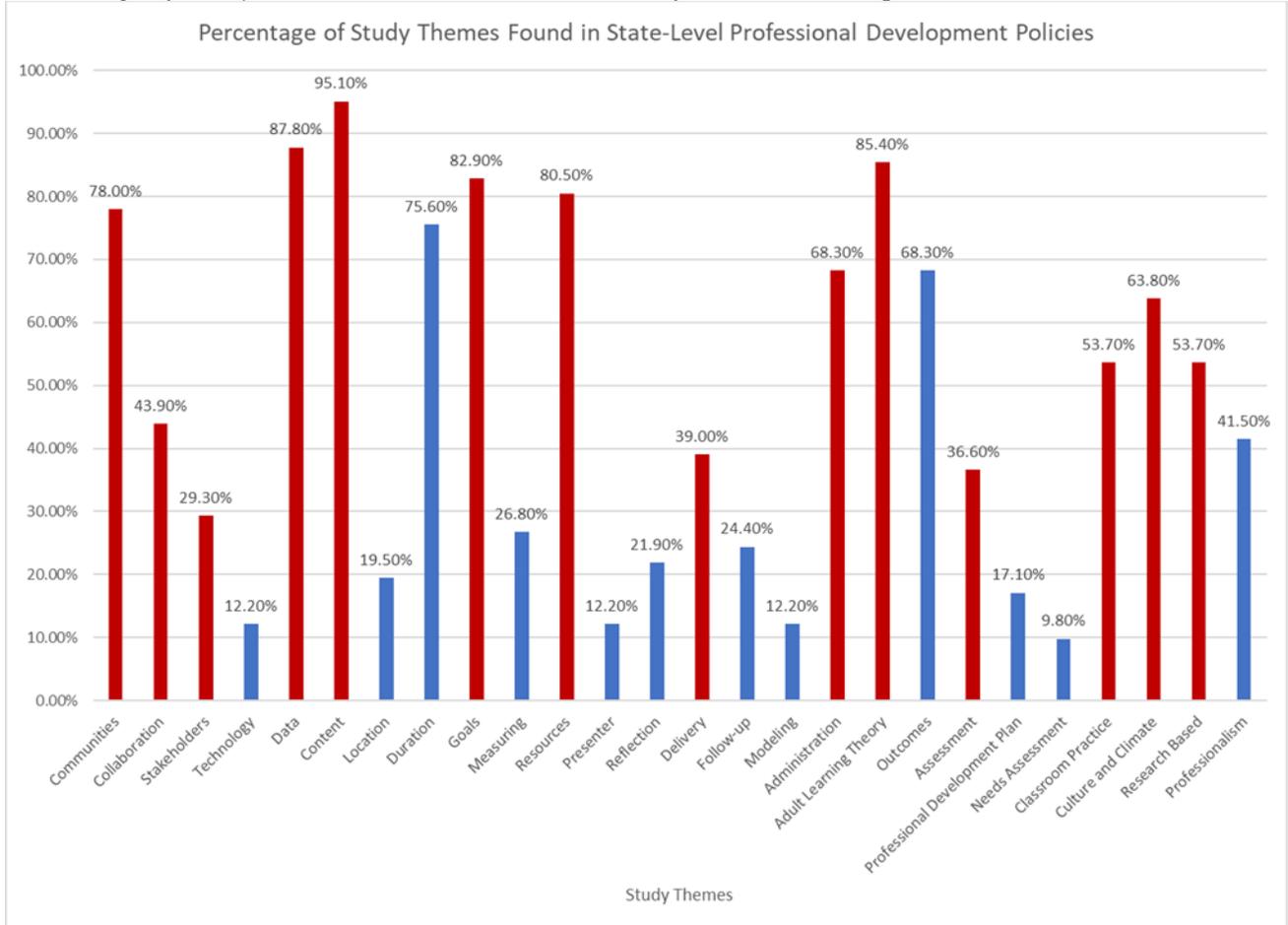
the theme appears in the Alabama Standard for Effective Professional Development and at what frequency it appears in the state-level professional development policies of the 41 States included in this study. If the study theme is found in the Alabama *Standards for Effective Professional Development*, the column is marked with a “X”. If the study theme is found in less than 33% of the State-level professional development policies examined, the cell is colored “red”. If the study theme is found in 33% to 66% of the state-level professional development policies examined, the cell is colored “yellow”. If the study theme is found in more than 66% of the state-level professional development policies examined, the cell is colored “green”.

Table 33
Percentage of Study Themes found in State-level Professional Development Policies

Study Theme	% of State-level professional development policies in which the Study Theme is found	Is the study theme found in the Alabama <i>Standards for Effective Professional Development</i> ?
Communities	78.0%	X
Collaboration	43.9%	X
Stakeholders	29.3%	X
Technology	12.2%	
Data	87.8%	X
Content	95.1%	X
Location	19.5%	
Duration	75.6%	
Goals	82.9%	X
Measuring	26.8%	
Resources	80.5%	X
Presenter	12.2%	
Reflection	21.9%	
Delivery	39.0%	X
Follow-up	24.4%	
Modeling	12.2%	
Administration	68.3%	X
Adult Learning Theory	85.4%	X
Outcomes	68.3%	
Assessment	36.6%	X
Professional Development Plan	17.1%	
Needs Assessment	9.8%	
Classroom Practice	53.7%	X
Culture and Climate	63.8%	X
Research Based	53.7%	X
Professionalism	41.5%	

A graph showing a comparison of the percentage of Study Themes found in the state-level professional development policies examined as part of this study is shown below in Figure 4. The Study Themes that are found in the *Alabama Standards for Effective Professional Development* are colored “red”.

Figure 4
Percentage of Study Themes Found in State-level Professional Development Policies



Since 24 of the 41 (58.5%) state-level professional development policies included in this study have been adopted in whole or in part from the Learning Forward *Standards for Professional Learning*, the first comparison will be conducted by examining the differences between the *Alabama Standards for Effective Professional Development* and the Learning Forward *Standards for Professional Learning*.

From a cursory examination of the content of the Alabama standards, it appears that the Alabama standards have been adapted from the Learning Forward *Standards for Professional Learning* with some important additions, deletions, and modifications. Many of the major study themes appear in both sets of Professional Development standards, but the underlying content and intent of the standards varies widely and should be examined.

The Learning Forward *Standards for Professional Learning* contain seven standards focused around the following topics: *Learning Communities, Leadership, Resources, Data, Learning Designs, Implementation, and Outcomes*. In the Learning Forward standard dealing with **Learning Communities**, the standard states that “Professional Learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment” (Learning Forward, 2011). In the Alabama *Standards for Effective Professional Development*, Standard 1 says “Effective professional development organizes adults into learning communities whose goals are aligned with those of the school, the district, and the state”. There is an important distinction to be found between these two Professional Development standards. While both standards call for educators to be involved in and organized into learning communities, the Alabama standards only mention “goal alignment” while the Learning Forward standards also call for “continuous improvement” and “collective responsibility” (Alabama State Department of Education, 2002; Learning Forward, 2011).

The Learning Forward standard dealing with **Leadership** states that “Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning” (Learning Forward, 2011). Leadership is addressed very differently in the Alabama *Standards for Effective*

Professional Development where Standard 2 says “Effective professional development requires knowledgeable and skillful school and district leaders who actively participate in and guide continuous instructional improvement” (Alabama State Department of Education, 2002). Again, the dissimilarity between the Alabama and Learning Forward standards is significant. The Alabama standards calls for leaders to participate and guide continuous instructional improvement, while the Learning Forward standard states that school leaders should develop capacity, advocate, and create support systems (Learning Forward, 2011).

Resources is another topic that is addressed very differently by the *Alabama Standards for Effective Professional Development* and the *Learning Forward Standards for Professional Learning*. In the *Alabama Standards for Effective Professional Development*, the resources requirement is addressed as “Effective professional development requires resources to support adult learning and collaboration” (Alabama State Department of Education, 2002). The *Learning Forward Standards for Professional Learning* suggest different guidelines in terms of resources by stating that “Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resource for educator learning”. The Alabama standard only acknowledges that resources are required, but the Learning Forward standards take this a step further and calls for prioritization, monitoring, and coordinating of resources.” (Learning Forward, 2011).

The next major study theme addressed by the *Learning Forward Standards for Professional Learning* and the *Alabama Standards for Effective Professional Development* is **Data**. In the *Learning Forward Standards for Professional Learning*, the standard that deals with data says, “Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and

evaluate professional learning” (Learning Forward, 2011). In the Alabama *Standards for Effective Professional Development*, the concept of data is found in two different standards. Standard 4 states that “Effective professional development uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement.” Standard 5 also addresses data but in a broader capacity. This standard says that “Effective professional development uses multiple sources of information to guide improvement and demonstrate its impact” (Alabama State Department of Education, 2002). The themes dealing with data in the Learning Forward standards are also found in part in the Alabama standards but are written in a different form or using different language.

The Learning Forward *Standards for Professional Learning* also address the concept of **Learning Designs**. The Learning Forward standard that deals with learning designs says, “Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes” (Learning Forward, 2011). As with the standards dealing with data, the Learning Forward standard for Learning Designs does not have an exact match in the Alabama *Standards for Effective Professional Development*. In the Alabama standards Learning Design is addressed in 3 standards; Standard 6, 7, and 8. Standard 6 states that “Effective professional development prepares educators to apply research to decision making”. Standard 7 says “Effective professional development uses learning strategies appropriate to the intended goal” and Standard 8 says, “Effective professional development applies knowledge about human learning and change”. While there is not an exact match between the Learning Forward standards and the Alabama standards in terms of Learning Design, the Learning Forward concepts of theories,

research, and models of human learning can be found in the corresponding Alabama *Standards for Effective Professional Development* (Alabama State Department of Education, 2002).

The next concept addressed in the Learning Forward standards is **Implementation**. The standard that deals with implementation states “Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change” (Learning Forward, 2011). There is no corresponding Alabama *Standard for Effective Professional Development* that addresses Implementation.

The final concept mentioned in the Learning Forward *Standards for Professional Learning* is **Outcomes**. The language of the standard that addresses outcomes says, “Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards.” (Learning Forward, 2011). There is not an Alabama *Standard for Effective Professional Development* that aligns with the concept of outcomes.

The Alabama *Standards for Effective Professional Development* include four standards that are not mentioned in the Learning Forward *Standards for Professional Learning*. These are Alabama standards 9, 10, 11, and 12. Standard 9 says, “Effective professional development provides educators with the knowledge and skills to **collaborate**”. The Learning Forward standards do not address collaboration but do mention a similar concept of collective responsibility. The Alabama Standard 10 states “Effective professional development prepares educators to **understand and appreciate all students, create safe, orderly, and supportive learning environments, and hold high expectations for their academic achievement**”. Appreciation of students, safe and orderly learning environments, and high student expectations

are not mentioned in the Learning Forward standards. The 11th Alabama Standard for Effective Professional Development says, “Effective professional development deepens **educators’ content knowledge**, provides them with **research-based instructional strategies** to assist students in meeting **rigorous academic standards**, and prepares them to use various types of **classroom assessments** appropriately” (Alabama State Department of Education, 2002). The Learning Forward standards mention “student curriculum standards” as part of the standard tied to outcomes, but there is no mention of educator content knowledge or classroom assessments. Finally, Alabama Standard 12 says, “Effective professional development provides educators with knowledge and skills to **involve families** and other **stakeholders** appropriately”. There is no mention of family or stakeholder involvement in the Learning Forward *Standards for Professional Learning*.

A summary of the major differences between the Alabama *Standards for Effective Professional Development* and the Learning Forward *Standards for Professional Learning* can be found in Table 34 below.

Table 34

Differences Between the Learning Forward Standards and the Alabama Standards

	Learning Forward Standards for Professional Learning	Alabama Standards for Effective Professional Development
Learning Communities	<ul style="list-style-type: none"> • Continuous Improvement • Collective Responsibility • Goal Alignment 	<ul style="list-style-type: none"> • Goal Alignment
Leadership	<ul style="list-style-type: none"> • Develop Capacity • Advocate • Create support systems 	<ul style="list-style-type: none"> • Participation • Guide continuous instructional improvement
Resources	<ul style="list-style-type: none"> • Prioritized • Monitored • Coordinated 	<ul style="list-style-type: none"> • Resources are required
Data	<ul style="list-style-type: none"> • Variety of sources • Variety of types • Student, Educator, and System data • Plan, assess, and evaluate professional learning 	<ul style="list-style-type: none"> • Disaggregated student data • Determine priorities, monitor progress, and sustain continuous improvement • Multiple sources of information • Guide Improvement • Demonstrate impact
Learning Designs	<ul style="list-style-type: none"> • Theories • Research • Models of Human Learning 	<ul style="list-style-type: none"> • Apply research to decision making • Learning Strategies appropriate to the goal • Knowledge about human learning and change
Implementation	<ul style="list-style-type: none"> • Long-term change 	<ul style="list-style-type: none"> • NA
Outcomes	<ul style="list-style-type: none"> • Educator performance • Student curriculum standards 	<ul style="list-style-type: none"> • NA

Many of the major study themes appeared in both the *Alabama Standards for Effective Professional Development* and the *Learning Forward Standards for Professional Learning*, but the underlying content and intent of the standards varied widely between the policies. The *Learning Forward Standards for Professional Learning* contain seven standards focused around *Learning Communities, Leadership, Resources, Data, Learning Designs, Implementation, and*

Outcomes (Learning Forward, 2011). The *Alabama Standards for Effective Professional Development* also address the concepts of Learning Communities, Leadership, Resources, Data, and Learning Designs but do not contain standards that address Implementation or Outcomes. Further examination revealed that the *Alabama Standards for Effective Professional Development* contain standards that address several concepts that do not appear in the Learning Forward standards. These standards include collaboration, safe/orderly learning environments, high expectations, understand/appreciate all students, educator content knowledge, research-based instructional strategies, rigorous academic standards, classroom assessments, and family/stakeholder involvement (Alabama State Department of Education, 2002).

There are clear dissimilarities between the *Alabama Standards for Effective Professional Development* and the *Learning Forward Standards for Professional Learning*. The differences between the *Alabama Standards for Effective Professional Development* and the state-level professional development standards found in other States are also significant.

When the *Alabama Standards for Effective Professional Development* were compared to the remaining 17 (41.5%) state-level professional development policies that had not been adapted or adopted verbatim from the *Learning Forward Standards for Professional Learning*, additional differences between the policies were noted. The states that had not adapted or adopted their state-level professional development standards from the *Learning Forward Standards for Professional Learning* were Alaska, Arizona, California, Idaho, Louisiana, Massachusetts, Minnesota, New Hampshire, New Mexico, Ohio, Pennsylvania, Rhode Island, South Carolina, West Virginia, Vermont, Virginia, and Washington.

The *Alabama Standards for Effective Professional Development* contain 14 (53.85%) of the 26 major study themes identified in this research. Each of the 12 major study themes that do

not appear in the Alabama Standards were identified in the 17 non-Learning Forward based state-level professional development policies. The most common major study themes that were not addressed by the Alabama standards but were addressed by the 17 uniquely developed state-level professional development policies were Measuring, Duration, and Outcomes. Codes related to Measuring were mentioned in 9 of the 17 policies (52.9%) while codes related to Duration and Outcomes were found in 12 of the 17 policies (70.6%).

A table showing the percentage of the 26 major study themes that appeared in each of the 17 state-level professional development policies that were not adapted or adopted from the Learning Forward *Standards for Professional Learning* is included below in Table 35. If the major study theme appears in the Alabama *Standards for Effective Professional Development*, the middle column is marked with an “X”. The rows that contained codes that did not appear in the Alabama *Standards for Effective Professional Development* were highlighted. This distinction was made so that it was easy to see which standards, that did not appear in the Alabama standards, appeared with the greatest frequency in the state-level professional development policies of the 17 states that have not adopted or adapted their standards from the Learning Forward.

Table 35

Percentage of Major Study Themes Found in State-level Professional Development Policies of States that have not Adapted/Adopted the Learning Forward Standards

Major Study Themes	Major study themes that Appear in the Alabama Standards for Effective Professional Development	Percentage of major study themes that appear in the 17 state-level professional development policies of states that have not adopted/adapted the Learning Forward standards
Communities	X	47.1%
Collaboration	X	47.1%
Stakeholders	X	17.6%
Technology		5.9%
Data	X	76.5%
Content	X	88.2%
Location		23.5%
Duration		70.6%
Goals	X	70.6%
Measuring		52.9%
Resources	X	64.7%
Presenter		23.5%
Reflection		23.5%
Delivery	X	47.1%
Follow-up		35.3%
Modeling		17.6%
Administration	X	35.3%
Adult Learning Theory	X	70.6%
Outcomes		70.6%
Assessment	X	41.2%
Professional Development Plan		23.5%
Needs Assessment		11.8%
Classroom Practice	X	58.8%
Culture and Climate	X	58.8%
Research Based	X	17.6%
Professionalism		29.4%

Examining State-level Professional Development Policy by NAEP Rankings

Using the 2015 8th grade mathematics NAEP data, 53 distinct educational programs were identified. This number includes the 50 United States, the District of Columbia, the United States Department of Defense’s educational program, and Puerto Rico. It is important to note that the inclusion of NAEP data in this study has been done only as a means of sampling the various educational programs in terms of student test scores. A link between NAEP scores and state-level professional development policies has not been established at this time. Additionally, this

study will not attempt to link NAEP scores with effective professional development policy or student achievement.

Using the 2015 NAEP scores as a ranking tool, the list of 53 educational programs was ordered from highest academically performing states/organizations to lowest academic performing states/organizations, and then the list was divided into four quartiles. Thirteen states were assigned to each quartile, except for the 4th (lowest) quartile where 14 states were assigned.

Since only 41 state-level professional development policies are included in this study, the number of states in each quartile varied due to state-level professional development policy availability. In total, there were state-level professional development policies available for 9 states assigned to the 1st quartile; 9 states assigned to the 2nd quartile; 12 states assigned to the 3rd quartile; and 11 states assigned to the 4th quartile. A list of the 41 state-level professional development policies in rank order, the percentage of students who scored “At or Above Proficient” on the 2015 8th grade mathematics test in each state, and the quartile to which each State belongs is listed in Table 36 below:

Table 36

Quartile Rankings by 2015 NAEP Results

	State Name	Rank	% At or Above Proficient		State Name	Rank	% At or Above Proficient
1 st Quartile	Massachusetts	1	51	3 rd Quartile	Kansas	27	33
	Minnesota	2	48		North Carolina	28	33
	New Hampshire	3	46		Illinois	30	32
	New Jersey	4	46		Rhode Island	31	32
	Vermont	5	42		Alaska	32	32
	Washington	8	39		Missouri	33	31
	North Dakota	9	39		New York	34	31
	Utah	12	38		Hawaii	35	30
	Nebraska	13	38		Tennessee	36	29
2 nd Quartile	Virginia	14	38	4 th Quartile	Delaware	37	29
	Iowa	15	37		Michigan	38	29
	Connecticut	17	36		Georgia	39	28
	Pennsylvania	18	36		Kentucky	40	27
	Ohio	21	35		California	41	27
	Arizona	22	35		Florida	42	26
	Maryland	23	35		Nevada	43	26
	Idaho	24	34		South Carolina	44	25
	Oregon	25	34		Arkansas	45	25
				Mississippi	47	22	
				New Mexico	48	21	
				West Virginia	49	21	
				Louisiana	51	18	
				Alabama	52	17	

Once the 41 States with available state-level professional development policies were assigned to quartiles, the Excel spreadsheet was sorted to reflect the ranking of each State in terms of the codes assigned to the 26 major study themes. The spreadsheet was then examined to determine how many of the major study themes could be found in the most academically successful states (the states in the 1st quartile) and how many of the major study themes could be found in the least academically successful states (the states in the 4th quartile). The data were also examined to determine if there was a difference between the frequency at which each study

theme appeared in the 1st quartile states, and the frequency at which each study theme appeared in the 4th quartile states. If the study theme appeared more often in the 1st quartile state-level professional development policies, the difference column was coded green. If the study theme appeared more often in the 4th quartile state-level professional development policies, the difference column was coded red. This new grouping strategy resulted in the data found in Table 37 below.

Table 37
Percentage of Major Study Themes Found in the State-level Professional Development Policies of 1st and 4th Quartile States

Study Theme	All State-level professional development policies	1 st quartile professional development policies	4 th quartile professional development policies	% difference
Communities	78.0%	66.7%	72.7%	+6%
Collaboration	43.9%	55.6%	27.3%	-28.3%
Stakeholders	29.3%	11.1%	18.2%	+7.1%
Technology	12.2%	11.1%	18.2%	+7.1%
Data	87.8%	77.8%	90.9%	+13.1%
Content	95.1%	77.8%	100%	+22.2%
Location	19.5%	11.1%	36.4%	+25.3%
Duration	75.6%	88.9%	63.6%	-25.3%
Goals	82.9%	77.8%	100%	+22.2%
Measuring	26.8%	55.6%	18.2%	-37.4%
Resources	80.5%	55.6%	81.8%	+26.2%
Presenter	12.2%	33.3%	0%	-33.3%
Reflection	21.9%	11.1%	9.1%	-2.0%
Delivery	39.0%	33.3%	54.5%	+21.2%
Follow-up	24.4%	11.1%	27.3%	+16.2%
Modeling	12.2%	11.1%	9.1%	-2.0%
Administration	68.3%	66.7%	63.6%	-3.1%
Adult Learning Theory	85.4%	88.9%	81.8%	-7.1%
Outcomes	68.3%	77.8%	72.7%	-5.1%
Assessment	36.6%	22.2%	36.4%	+14.2%
Professional Development Plan	17.1%	22.2%	27.3%	+5.1%
Needs Assessment	9.8%	0%	9.1%	+9.1%
Classroom Practice	53.7%	44.4%	54.5%	+10.1%
Culture and Climate	63.8%	44.4%	81.8%	+37.4%
Research Based	53.7%	44.4%	54.5%	+10.1%
Professionalism	41.5%	33.3%	45.5%	+12.2%

Examining the data in the table reveals that 17 of the 26 major study themes appeared more often in the 4th quartile state-level professional development policies, and 9 of the 26 major study themes appeared more often in the 1st quartile state-level professional development policies. The study themes that appeared more often in the state-level professional development policies of the more academically successful 1st quartile States centered around a wide variety of topics. The most significant difference was found in the “modeling” study theme. 55.6% of the state-level professional development policies of the academically highest performing states contained information pertaining to modeling as it relates to demonstrating/modeling the targeted information, strategies, and activities of the professional development session either during the professional development session itself or as part of the follow-up activities that take place after a professional development delivery is complete. Only 18.2% (a difference of -37.4%) of the state-level professional development policies of the states found in the 4th quartile contained the modeling component.

Another difference was found in the “presenter” study theme. 33.3% of the 1st quartile state-level professional development policies contained standards or guidelines related to the qualifications and/or expertise of the presenter of the professional development session. None of the 4th quartile state-level professional development policies contained any information pertaining to the presenter.

The most significant finding, however, came from the “measuring” study theme. 55.6% of the 1st quartile state-level professional development policies contained information related to measuring the professional development to determine if the goals of the professional development session or initiative were met, if the professional development had any impact on

student achievement, or if educator growth took place. Only 18.2% (a difference of -37.4%) of the 4th quartile state-level professional development policies contained standards or guidelines related to measuring professional development.

Conversely, 17 of the 26 major study themes appeared with greater frequency in the state-level professional development policies of the States found in the 4th quartile. Some of the most significant differences were found in “culture and climate”, “resources”, and “location”. The standards related to culture and climate, like collective responsibility, a shared purpose for student learning, and a culture that values teacher/student learning were found in 81.8% of the 4th quartile state-level professional development policies while these same standards were found in only 44.4% (a difference of -37.4%) of the 1st quartile state-level professional development policies. Standards related to adequate funding, pooling resources, and analyzing data to allocate resources appeared in 81.8% of the 4th quartile state-level professional development policies, while these same standards appeared in only 55.6% (a difference of 26.2%) of the 1st quartile state-level professional development policies included in this study. Finally, 36.4% of the 4th quartile state-level professional development policies contained standards that addressed the major study theme of “location”. On-line professional development, time being made available during the workday, and/or job embedded professional development was mentioned in 36.4% of the 4th quartile state-level professional development policies while these same standards could only be found in 11.1% (a difference of 25.3%) of the 1st quartile state-level professional development policies.

The analysis of the major study themes found in the state-level professional development policies of the most academically successful States versus the least academically successful States (as determined by the 2015 8th grade mathematics NAEP scores) revealed little useful

information. The pattern of elements of effective professional development policy found in the 1st versus 4th quartile States was not definitive, and in fact, more of the elements of effective professional development appeared in 4th quartile States than in 1st quartile States. The only recommendations that will be possible to make regarding elements of effective professional development that less academically successful States should adopt will be “Modeling”, “Presenter”, and “Measuring”.

Summary of Study Findings

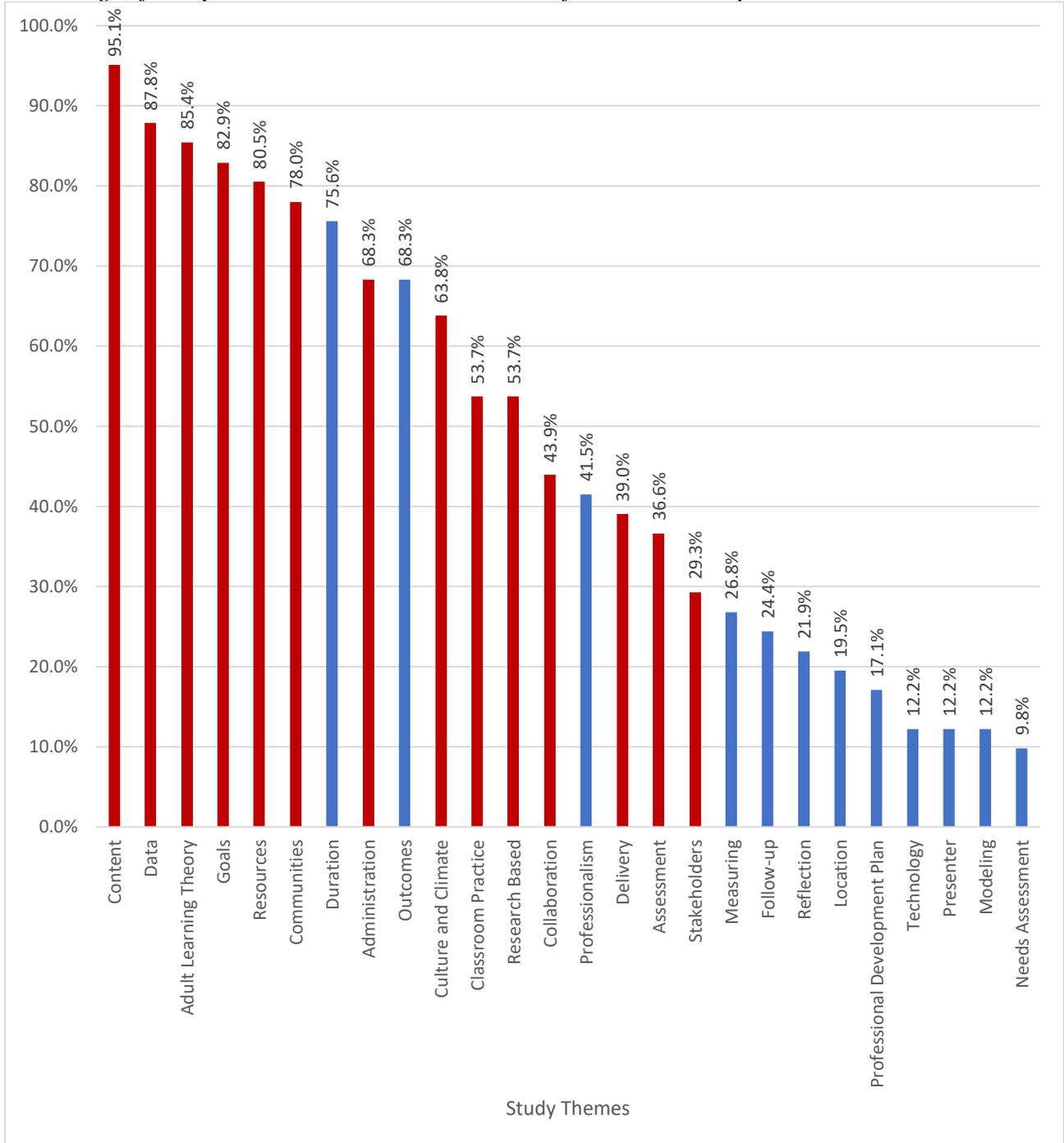
This study examined the state-level professional development policies of 41 States. The professional development policies included in this study were located through internet searches, and email and phone communication with State Departments of Education. It was not possible to locate organizational-level policies for the District of Columbia, the Department of Defense, or Puerto Rico. Additionally, state-level professional development policies did not exist or could not be located for Colorado, Indiana, Maine, Montana, Oklahoma, South Dakota, Texas, Wisconsin, and Wyoming.

The length of the 41 state-level professional development policies ranged from one-page to 203 pages. The oldest policy was adopted in 2000, while four states had adopted state-level professional development policies in 2019. Twenty-four states have adopted or adapted the Learning Forward *Standards for Professional Learning* as their State standards and 17 States have written their own state-level professional development policy standards.

The examination of the content of the 41 state-level policies resulted in the identification of 189 separate codes that captured the essence of the standards and content of the policies. Care was taken to create new codes when the differences in various state-level professional development policies could not be resolved, and codes were reused when the content of the

standards found in the state-level professional development policies was similar. Using grouping and other analysis techniques, the 189 codes were condensed into 26 major study themes; Communities, Collaboration, Stakeholders, Technology, Data, Content , Location, Duration, Goals, Measuring, Resources, Presenter, Reflection, Delivery, Follow-up, Modeling, Administration, Adult Learning Theory, Outcomes, Assessment, Professional Development Plan, Needs Assessment, Classroom Practice, Culture and Climate, Research Based, and Professionalism. The major study themes were studied to determine in which state-level professional development policies they appeared and at what frequency. A chart showing the percentage of the 26 major study themes found in the 41 state-level professional development policies is included in Figure 5 below. If the study theme appeared in the *Alabama Standards for Effective Professional Development*, the column is “red”.

Figure 5
Percentage of Study Themes Found in State-level Professional Development Policies Ranked



Using the literature review from Chapter 2, the level and type of research-based support that could be found for each of the 26 major study themes was described. Through this process, two of the major study themes (Technology and Professionalism) were discarded for a lack of

support in the literature and/or because they were not characteristics of a state-level professional development policy that would lead to more effective professional development.

Next, the Alabama state-level professional development policy was described, and the other 40 state-level professional development policies were examined in terms of the 26 major study themes. A comparison was made between the Alabama *Standards for Effective Professional Development* and the Learning Forward *Standards for Professional Learning*, and an additional comparison was conducted to look for similarities and differences between the Alabama state-level professional development policy and the policies of the 40 other state-level professional development policies included in this study. Finally, the 41 state-level professional development policies were sorted into quartiles based on the 2015 8th grade mathematics NAEP data. The 1st and the 4th quartiles were examined to determine which major study themes could be found in each one and the frequency at which the study themes were found.

CHAPTER 5

Professional development is a pervasive component of the educational landscape, and state-level professional development policies and guidelines have been created to guide the professional development process in schools and school systems. These state-level professional development policies vary widely in their length, origin, scope, and content. An examination of the 41 available state-level professional development policies included in this research has yielded an interesting view of where these policies originated, what these policies contain, and what these policies do not contain.

This research was undertaken with the intent of providing state-level professional development policymakers in the State of Alabama with recommendations for ways that the existing Alabama professional development policy could be revised to create a more viable teacher professional development policy. The current twelve Alabama *Standards for Effective Professional Development* provide minimal guidance for developers and practitioners of professional development within our state. Comparing the current Alabama professional development policy with the existing literature related to effective professional development and the professional development policies of other States has revealed gaps and omissions that need to be addressed. A more comprehensive and thorough Alabama professional development policy could provide Alabama educators with the guidance needed to select and implement the types of professional development activities that have the potential to make a meaningful impact on teacher practice and ultimately student achievement in our state.

Challenges Establishing a Definitive List of Professional Development Characteristics

What are the characteristics of effective professional development for teachers as identified in the literature? This is not an easy question to answer. Researchers have described the difficulties in establishing a finite list of characteristics of effective professional development (Guskey, 2003). The underlying issue appears to be a lack of consensus among educational researchers and practitioners of professional development regarding specific criteria of effectiveness. Different researchers and educational organizations have used very different criteria in their research studies and lists of effective professional development characteristics. These differences make the development of a manageable list of effective professional development criteria very difficult.

The difficulties in establishing a definitive list of effective professional development can have wide reaching implications for professional development policymakers. There are a substantial range of issues associated with professional development policy. This research identified 26 different themes associated with professional development, but there was no single state-level professional development policy that contained all 26 of these themes. When professional development policymakers choose a subset of the available themes to include in their state-level professional development policies, there are inevitably themes that are not included or simply ignored. This can perpetuate ambiguity in professional development policy with different states' policies containing different themes and characteristics.

This research will seek to provide recommendations to Alabama state-level professional development policymakers to aid in the creation of a more effective state-level professional development policy. These recommendations will be grounded in the research contained in this study and the best practices identified from the literature. These recommendations will take two

forms: general recommendations not specific to the State of Alabama and Alabama specific recommendations intended to address gaps or omissions in the current *Alabama Standards for Effective Professional Development*.

General recommendations regarding state-level professional development policy

GR1: Review of Existing Professional Development Policy

The first general recommendation that has emerged from this professional development policy analysis is for all States, not just Alabama or other academically struggling States, to consistently review their professional development policies, ideally every 5 to 7 years, or as the changing educational landscape dictates. According to an analysis of the available adoption dates of the 41 state-level professional development policies, the average age of a state-level professional development policy is almost 9 years, with the oldest state-level professional development policy almost 20 years old. The current *Alabama Standards for Effective Professional Development* were adopted in 2002, making them almost 18 years old (Alabama State Department of Education, 2002). Given the ever-changing nature of Education, it is almost certain that a professional development policy written almost 2 decades ago will fail to address some of the more recent innovations, topics, and issues that have arisen in teaching and learning.

Online professional development has become more prevalent in recent years in part due to the flexibility that online teacher professional development offers schools, districts, and states to tailor professional development topics and deliveries to meet the individual needs of the faculty members. Some researchers estimate that more than 1/3 of schools, districts, and states are offering some type of online professional development for their teachers (National Research Council, 2007). Online professional development is appealing for many schools and school systems because of the advantages that it offers. One of the most obvious benefits of learning

online is the ability to extend beyond the confines of the local school system or learning community. If expertise in a desired or needed topic does not exist locally or in the district, educators can access the knowledge and experience of those who are located elsewhere using the Internet. Additionally, online courses are generally more affordable than their in-person counterparts, making it a more cost-effective choice for districts (Elliot, 2013 December 18).

Online professional development does have some marked disadvantages, however. Healy, Block, and Judge (2014) surveyed 400 physical education teachers and identified what the respondents felt were three disadvantages of online professional development: lack of social interaction, limited practical applications, and technology issues. The study participants stated that they felt that online educational opportunities limited their opportunities to share ideas, collaborate with others, and to communicate effectively. Participants also commented that online professional development limited their ability to communicate effectively with the instructor. One study participant commented that online education “is not authentic enough” and “there is no substitute for hands-on experiences.” Finally, many of the study participants cited computer compatibility, navigation, and technical issues as concerns with taking an online course. Additional research cited reduced quality, lack of face-to-face interactions, and the unwillingness of teachers to give up their out-of-school time as negative factors associated with online professional development (Martin, Kragler, Quatroche & Bauserman, 2015).

As online professional development continues to increase in popularity and other types of teaching and learning concerns that will be addressed through professional development emerge, state-level professional development policies should be reviewed and revised to meet the unique challenges that can be associated with alternate forms of professional development. Updated

professional development policies can help ensure that online professional development is effective and accomplishes the purpose for which it was intended.

Technology use in the classroom has grown exponentially in the past 40 years. In the late 1970s, the cost and availability of computers reached a level at which it was practical to place computers in K-12 schools (Russell, 2006). By 1988, there were an estimated 3 million computers in U.S. schools (Saettler, 1990). The U.S. Department of Education's National Center for Education Statistics (U.S. Department of Education, 2018) found that in 2015, about 88 percent of 8th-graders and 83 percent of 4th-graders reported that they used a computer at home, and 80 percent of 8th-graders reported using a computer for schoolwork on a weekday. A survey by MidAmerica Nazarene University found that 73 percent of teachers said their students use tablets or laptops daily, and 86 percent of teachers have Wi-Fi in their classrooms (Nagel, 2018). Despite the increase in technology usage, only 12.2% of available state-level professional development polices contain any language addressing technology in their standards.

Technology use in the classroom is by no means limited to computers, tablets, or laptops. The use of Learning Management Systems like Blackboard Learning System, Share-Point LMS, ANGEL Learning Management Suite, Sakai, and Moodle have provided administrators, teachers and students with opportunities to collaborate and communicate online in real-time across geographic distances (A History of Education Technology, n.d.). New technological devices like document cameras, digital projectors, and smartboards have become standard in many of our classrooms. These innovations provide students with additional learning opportunities and alternate ways for teachers to engage students in the teaching and learning process. For example, smartboards can be highly interactive and engaging for both students and teachers and they can

accommodate a variety of student learning styles. Tactile learners can physically interact with the boards, visual learners can view videos and images, and auditory learners can listen to lessons.

Artificial intelligence and adaptive learning continue to gain ground in the educational landscape as well as teachers and students use individualized computer-based programs to evaluate student knowledge, identify weaknesses and then present supporting materials. Augmented Reality (AR) and Virtual Reality (VR) are being used in many classrooms to present realistic scenarios for students. Virtual worlds can help students gain valuable hands-on experience that otherwise would not be available (Jarman, 2019). Unfortunately, many teachers lack the skills and expertise that are needed to successfully navigate the digital and technological advances making their way into many modern classrooms. Additional targeted professional development opportunities will likely be needed to help teachers meet these challenges. Without training and support, it is possible that teachers who are reluctant to embrace technology in the classroom will simply fail to incorporate new technology into their teaching routine.

With the array of advances in educational technology, and advances yet to come, it is important to ensure that state-level professional development policies continue to evolve and adapt to meet the new content demands. An examination of the 41 state-level professional development policies included in this research seems to point to a lack of comprehensive guidelines related to technology and professional development. For example, only 5 States (Arkansas, Florida, New York, Utah, and Virginia) mention technology in their state-level professional development policies. These policy components were related to either incorporating technology into the delivery of the professional development or instructing teachers on how to use technology in their classroom instruction. However, the challenges related to technology often reach beyond just teaching students how to use a new device or computer program.

Teachers are reporting that they are struggling with the practical day-to-day implementation of technology in their classrooms. In the study by MidAmerica Nazarene University, 70 percent of teachers said that student use of phones causes "tension and disruptions in the classroom." Thirty-six percent of the teachers surveyed said they deal with phone disruptions daily, and 61 percent said technology makes students physically less active (Nagel, 2018). These concerns reveal a new set of instructional and behavioral considerations that will likely be addressed through additional professional development activities and probably would not have been considerations when most of the current state-level professional development policies were written.

The need to periodically review and revise state-level professional development policies extends beyond addressing new developments like technology in the classroom. Many States (24 total) have adopted or adapted the Learning Forward *Standards for Professional Learning* as their state-level professional development policy. Given that the most recent version of these standards was written in 2011, these standards should also be revisited for timeliness and accuracy. States that have adopted these standards, or an earlier version of the Learning Forward standards, should revisit their standards to ensure that they are still meeting the needs of the schools and school systems that they serve.

If state-level professional development policy is going to accurately and efficiently drive the development and delivery of professional development that has a real chance of increasing educator effectiveness and increasing student achievement, these professional development policies should be timely and thorough. Adopting a state-level professional development policy for the sake of adopting a policy and then never reviewing, revising, or revisiting it equates to little more than a checkmark in a box on some list.

A state-level professional development policy might be written by local educators or adopted from recommendations provided by educational organizations. Ultimately, the source of the policy is less important than the content that it contains. State-level professional development policy makers should ensure that the state-level professional development policy they provide to schools, developers, and participants is timely, accurate, and meets the needs of the educators in their States.

GR₂: More Detailed and Thorough Professional Development Policies

The second general recommendation that has arisen from this research is the need for more detailed and thorough state-level professional development policies. Many states, including Alabama, provide a succinct, no-frills list of professional development standards. It can be difficult to envision how these standards might look in action in a school or school system. For example, in the *Alabama Standards for Effective Professional Development* standard 7 states, “Effective professional development uses learning strategies appropriate to the intended goal”. For a professional development developer, presenter, or attendee, it could be difficult to determine if the intent of this standard has been met or not (Alabama State Department of Education, 2002).

The conventional model of professional development states that the professional development process impacts student learning through a three-step process: professional development alters teachers’ knowledge, which in turn alters teachers’ practice, which in turn alters student learning (Kennedy, 2016). State-level professional development policies and standards have been adopted to facilitate the professional development process, but in many cases vague wording and confusing language make it almost impossible to use the standards to guide the professional development that is being offered for teachers.

Several of the state-level professional development policies included in this study provide much more detail, and in some cases indicators, exemplars, and descriptors, for the standards included in their policies. For example, in the Massachusetts Standards for Professional Development, each of the 10 High Quality Professional Development (HQPDP) standards is further described through a series of indicators. The Massachusetts Standard 8 says “HQPDP makes use of relevant resources to ensure that the identified goals and objectives are met”. This standard is further explained through two indicators: 8.1 – Sufficient resources (time, funding, staff, materials, technology, etc.) are available to provide sustained support over time for full implementation of learning to attain goals and learning objectives, and 8.2 – Professional development resources are allocated equitably to address high-priority needs (Massachusetts Department of Elementary and Secondary Education, 2012). In this case, the standard provides the expectation, but the indicators provide a checklist or rubric for Massachusetts educators to use when determining whether the intent of the standard has been met.

The Minnesota *ABE Professional Development Standards* also provide sample indicators for each of the 10 state-level standards. Standard 7 states “Models theories of adult learning and development” (Minnesota Department of Education, 2009). As it is written, this standard does not provide a great deal of information for a potential professional development provider or attendee to use when designing or considering a professional development activity. The intent of this standard is made much clearer with the addition of four sample indicators that state: PD activities have theory and application components; PD activities build on participants’ prior knowledge; PD activities foster motivation and build confidence of participants; and PD activities promote active learning, a spirit of inquiry, and reflection (Minnesota Department of Education, 2009). While these may seem like minor additions to state-level professional

development policies, the inclusion of these additional indicators can provide professional development presenters and designers with additional information regarding how to best meet the requirements and intent of the Professional Development Standards in that State.

Other state-level professional development standards require developers and presenters of professional development to provide a description of how the professional development activity is meeting the state-level standards. As part of the Hawaii Professional Development policy, submitters of proposed professional development activities must include a specific description of how the Hawaii *Elements of Quality Professional Development* are addressed by each professional development delivery. The Hawaii professional development policy also requires professional development participants to complete a Learning Results Portfolio where the recipients of professional development explain how they incorporated the new learning into their classroom practice (Hawaii State Department of Education, 2001). Ensuring that a professional development delivery is meeting all or most of the state-level professional development standards can play an important role in the quality of the professional development that is delivered. Similarly, the Learning Results Portfolio can provide teachers with an opportunity to review and reflect on the professional development implementation process as well as evaluate the effects of the professional development on their students and themselves.

While these components may initially seem like effective ways to monitor how closely each professional development offering is aligned to the Professional Development Standards for an individual State, or how individual teachers are using what they learned through the professional development process, there are related concerns that should be addressed. If States mandate the submission of a written plan for how a professional development activity is meeting the State Professional Development Standards, then it stands to reason that someone at the State

level would be assigned the role of reading and evaluating those plans. In a State where hundreds, if not thousands, of professional development activities are scheduled per year, this assessment process could quickly become an overwhelming task. Similarly, the development of a Learning Results Portfolio could provide state-level professional development policy makers with valuable information about how professional development activities are implemented within their State. However, it would require hours of development time by the teachers and would need to be reviewed by someone at the school, district, or state level.

Alabama Specific Recommendations Regarding State-level Professional Development Policy

The remaining five recommendations are specific state-level professional development policy recommendations intended for policymakers in the State of Alabama but could also be adopted by any State seeking to revise or update their existing state-level standards. These recommendations are derived from the available empirical research and the analysis and coding of the 41 available state-level professional development policies included in this study. Triangulation of the 189 codes found in the 41 state-level professional development policies resulted in 26 major study themes. When the Alabama Department of Education *Standards for Effective Professional Development* were compared against these 26 major study themes, it was revealed that Technology, Location, Duration, Measuring, Presenter, Reflection, Follow-up, Modeling, Outcomes, Professional Development Plan, Needs Assessment, and Professionalism do not appear in the Alabama standards. The available research and the study data were then examined to determine which, if any, of these missing study themes should be included in professional development policy recommendations for Alabama state-level professional development policy-makers.

When considering which study themes to include as professional development policy recommendations, the first step was to determine how many state-level professional development policies shared each study theme and whether that study theme was supported by the available research literature. Technology appeared in the state-level professional policies of only 12.2% of the States included in this study. As previously addressed, it is likely that technology appears in so few of the state-level professional development policies due, at least in part, to the age of many of the policies. When many of the current state-level professional development policies were adopted, technology, as a means of delivering professional development or as component of classroom instruction, was likely a non-issue. As professional development regarding incorporating technology into the classroom and professional development that is presented using technology becomes more common, policymakers may need to address these issues through content and/or delivery standards. At this time, however, recommendations regarding technology and professional development will not be included as part of this research.

Similarly, the major study themes of Presenter, Location, and Professionalism will not be addressed as professional development policy recommendations even though Presenter appeared in 12.2% of the state-level professional development policies studied, Location appeared in 19.5% of the state-level professional development policies studied, and Professionalism appeared in 41.5% of the state-level professional development policies studied.

The codes tied to “Presenter” were *HQ facilitator/presenter, for-profit and nonprofit outside entities, and sponsored by experienced providers*. Despite the significant role that the professional development presenter plays in the professional development process, there is little empirical research pertaining to the qualifications of the individual leading the professional development. Bayar (2014) found that teachers found professional development to be effective

when it was conducted by high-quality instructors, but ultimately, there is not enough data to support the inclusion of “presenter” recommendations as part of this research.

While this research will not recommend standards related to the presenter, there are several factors for schools and school systems to consider when planning for professional development activities. The presenter of a professional development session should be knowledgeable about the topic they are presenting, should use active engagement strategies to involve the participants in the learning, should model the activities and strategies being presented (when applicable), and should provide the participants with follow-up support during the implementation stage. The role of the presenter in a professional development activity cannot be undervalued. Even though the major study theme of presenter appears in only 12.2% of the state-level professional development policies included in this study, the presenter serves as the figurehead of the session and sets the tone for the entire professional development process. The presenter should demonstrate a thorough understanding of the content they are presenting and use active engagement strategies to communicate new information to the attendees.

The codes tied to “Location” dealt with professional development standards related to having professional development be *job embedded, making time available during workday, on-line professional development, and flexible and/or creative scheduling that creates time during work-day*. Again, there is not enough empirical research on how the location of the professional development impacts the effectiveness of the professional development process to include recommendations regarding Location as part of this research.

There are several factors related to location that schools and school systems should consider when selecting professional development activities. Many professional development sessions are offered in appealing, high-demand locations to attract attendees. Schools may be

tempted to allocate limited resources to professional development opportunities offered in enticing locations, but the strengths and merits of these sessions should be weighed and examined to ensure that the participants do not ultimately end up attending low-quality sessions with few benefits. Professional development opportunities offered locally or at an individual school may appear appealing on the surface due to lower travel costs and shorter travel times, but even these opportunities require time out of the classroom that many teachers are unwilling to give up.

The codes tied to “Professionalism” dealt with *PD record keeping, educator performance, maintaining accurate records, showing professionalism, and teacher performance*. These professional development standard components are directly tied to the Danielson Framework for Teaching. This teaching model has been adopted by a limited number of states. In many of these States, professional development policy requires that individual professional development activities support the Danielson Framework for Teaching. Since the Danielson Framework for Teaching is not found in all States, recommendations regarding the inclusion of Professionalism standards will not be included as part of this research.

As a result of this research, the following four recommendations are being made for state-level professional development policymakers in the State of Alabama. These recommendations are intended to address the gaps that were identified in the existing Alabama state-level professional development policy. These recommendations are not exclusive to Alabama and could be adopted by any State or educational organization seeking to update or amend their existing professional development policy or standards.

AR1: Coaching and Modeling

Recommendation: The current State of Alabama Professional Development Policy should be amended to include guidance for schools and school systems regarding coaching and modeling for teachers during the acquisition and implementation phases of professional development. This guidance should include techniques and strategies to help teachers take full advantage of the content that is presented during professional development sessions as well as incorporating the new learning into their existing practice. A comprehensive Professional Development Plan at each school or school system should detail how the period of coaching and modeling will be structured, implemented, and monitored.

Effective professional development policy should provide professional development participants with opportunities to see the new learning being presented during a professional development session in practice; either through modeling during the professional development session or through classroom demonstrations conducted by instructional coaches, lead teachers, or other content area experts.

The current Alabama state-level professional development policy does not contain any standards that focus on teachers taking what is learned during professional development and putting it into practice. It can be very difficult for teachers to internalize the information that is provided during a professional development activity and successfully incorporate that into their day-to-day classroom routine. Researchers have found that teachers may need as many as 50 hours of instruction, practice and coaching before a new teaching strategy is mastered and implemented into the classroom (French, 1997). Without supports in place, many teachers, even those with good intentions, may find they cannot determine how to best implement their new

learning or simply fail to incorporate what they have learned once they return to the demands of their classrooms.

School and district administrators can play a significant role in the implementation process by planning for sustainability. The effective implementation of professional development requires a plan for the duration of the project, not just the delivery of the professional development (Martin, Kragler, Quatroche, & Bauserman, 2014). Effective professional development policy should provide schools and school systems with guidance regarding conducting a needs assessment and developing a professional development plan. The selection of professional development should be based on a data-driven analysis of the identified needs of a particular school, content area, or teacher. Once the needs assessment is completed, schools and school systems should use these data to develop a professional development plan that is designed to close the identified gaps. The professional development plan is vital in ensuring that the needs of the teachers are being met, and that the professional development that is being offered is not fragmented or disjointed. A well-designed professional development plan can provide program coherence and guide the school improvement efforts of a school or school-system. This plan should include the scheduling and implementation of coaching and modeling.

Moyle and Erfurt (2016) define coaching as a process that helps another individual realize his or her professional goals by fostering self-awareness through conversations aimed at self-directed learning. Mentoring describes a relationship where a more experienced individual shares their skills and knowledge with less skilled practitioners through formal and informal structures like observations and feedback, learning communities, peer observations, and appraisals. Both coaching and modeling play an important role in helping teachers incorporate new learning into their classroom routines.

Darling-Hamming, Hyler and Gardner (2017) examined 35 studies that demonstrated a positive link between teacher professional development, teaching practices, and student outcomes. These researchers found that professional development that incorporates models of effective practice was proven to promote teacher learning and support student achievement. They found that modeling of instruction, and curricular and instructional models could help teachers to develop a vision of effective practice to which they could anchor their own learning and growth. This modeling could take many forms including video or written cases of teaching, demonstration lessons, unit or lesson plans, peer observation, and curriculum materials including student work samples and sample assessments.

Coaching and expert support can also play a major role in helping teachers incorporate their learning into practice. Experts, typically teachers themselves, often support teacher implementation through modeling instructional practices, initiating and supporting group discussions, guiding the collaborative analysis of student work, and sharing their expertise about content and evidence-based practices. In their analysis of 30 research-based studies that examined incorporating coaching and expert support into various professional development models, Darling-Hamming, Hyler and Gardner (2017) found that teachers who received coaching were more likely to demonstrate the desired teaching practices and apply them more appropriately than the teachers who received more traditional professional development.

Schools and school systems have several available options to consider when planning for coaching and modeling during professional development implementation. Martin, et al (2014) described three coaching techniques found in Early Reading First (ERF) and No Child Left Behind-Increasing Teacher Quality (NCLB-ITQ) grants. The first of these coaching techniques is demonstration where the coach teaches the class while the teacher observes and takes notes on

classroom organization, content presentation, and classroom management strategies. The authors also describe shadow coaching where the coach demonstrates a short, simple procedure. Then the teacher immediately implements what the coach just modeled. Finally, the authors examined side-by-side coaching across several lessons. In this model, the coach demonstrates an instructional strategy with specific content while the teacher watches. The teacher and the coach then implement the new strategy with new content while working together, and finally, the teacher implements the instructional strategy while the coach watches. Each of these techniques can provide excellent foundations for schools to begin their own coaching and modeling activities as part of their professional development follow-up activities.

Support through coaching and modeling during the implementation phase of professional development is also found in the professional development standards recommendations of several leading educational organizations. The Learning Forward *Standards for Professional Learning* contain a standard that directly addresses *Implementation*. This standard states that “Professional learning that increases educator effectiveness and results for all students applies research on change and sustains support for implementation of professional learning for long-term change” (Learning Forward, 2011). The National School Boards Association Center for Public Education also provides a standard that addresses the implementation phase of professional development as part of their *5 Principles of Effective Professional Development*. Standard 2 states that “There must be support for a teacher during the implementation stage that addresses the specific challenges of changing classroom practice.” (Center for Public Education, 2013). The organization goes on to say that “If school districts want teachers to change instruction, the implementation stage must be included and supported more explicitly in

professional development offerings, as this is the critical stage where teachers begin to commit to an instructional approach.”

AR2: Structuring the Time Following Professional Development

Recommendation: The current State of Alabama Professional Development Policy should be amended to include guidance for schools and school systems regarding the period of time following a professional development activity. This guidance should include techniques and strategies to help schools and school systems support teachers as they incorporate new knowledge, and checkpoints and/or timelines to ensure that the implementation of professional development stays on track.

Effective professional development policy should provide developers and presenters of professional development with guidelines regarding structuring the period of time following a professional development session. This period of reflection, implementation, and follow-up should include structures designed to support the teachers as they incorporate the new learning into their classroom practice. Initially, this recommendation may seem very similar to the first recommendation found in this chapter, but there are important distinctions. Recommendation 1 calls for mentoring and coaching structures to be put into place to support teachers as they work through the acquisition and implementation phases of new professional development. This second recommendation will be tailored around the other types of activities that take place during the period of time after a professional development activity has concluded.

The current State of Alabama professional development policy does not include any standards that address what happens after a professional development activity has ended, and the participants return to their schools and classrooms. In many ways what happens after the

professional development is concluded is just as important that what happens during the professional development. Without a plan for implementation, many professional development initiatives wither and die in the harsh environment found in many schools. Administrators and school leaders may approach professional development with high expectations for significant improvements in teacher knowledge, teacher performance, and student achievement. The initial professional development training may be extremely successful and well received, the appropriate teachers and staff are onboard with the new initiative, and the implementation is off to a phenomenal start only to find at the end of the school year few, if any, of the anticipated outcomes were realized.

A period of reflection as a component of the time following professional development has been addressed by several researchers and educational organizations. Ende (2016) found that reflection time was important for the school system and the presenter of the professional development to determine what worked and what still needs improvement after the conclusion of a professional development cycle. The American Federation of Teachers (2008) provides guidelines to guide educators through the individual and collective improvement of teaching practice. One of these recommendations states that time must be provided for teacher reflection, networking, and observation of models or practices in action. Still another recommendation states that the organization of the school day should promote and provide time for continuous reflection on teaching and learning.

Corcoran (1995) discovered that professional development could be improved if teachers were provided with opportunities for meaningful conversations with their fellow teachers and reflection about their practice. The reflection period should be structured in such a way that “the main thing stays the main thing”. In other words, during these conversations and reflection

periods, the teachers should focus on the implementation of the professional learning and not become bogged down with things that cannot be changed. This reflection period is not a time to air grievances and complaints that are not related to the professional development initiative. Lieberman and Wilkins (2006) recommend that “Reflections should include an emphasis on the relationship between the professional development provided and the impact on student learning”. In other words, the reflection period should focus around how and why the professional development activity successfully increased student learning. If the anticipated student learning did not take place, the period of reflection should provide teachers with opportunities to investigate how and why the professional development was less than successful and what can or should be changed moving forward.

Follow-up during the implementation period of professional development can also impact the success or failure of a professional development initiative. Several of the state-level professional development policies included in this research contained standards that addressed what happens after the professional development has ended. Many state-level professional development policies offer ways that the follow-up period can be structured to improve the possibility that the professional development content will be implemented to fidelity. The Delaware Administrative Code (2012) calls for professional learning to include a variety of supports for individual teachers, instructional teams, or schools during the implementation phase. The Hawaii, New Mexico, New York, and South Carolina professional development standards specify that teachers need enough time to attain and implement new learning (Hawaii State Department of Education, 2001; New Mexico Department of Education, 2004; New York State Education Department, 2009; South Carolina State Department of Education, 2000). New Mexico takes this a step further and says that not only do teachers need time to implement new

learning, they also need a safe environment to implement learning that allows them to try new ideas without fear of repercussions if their efforts fail to bear fruit (New Mexico Department of Education, 2004).

The South Carolina *Standards for Professional Development* (South Carolina State Department of Education, 2000) offer one of the most intriguing follow-up strategies. Standard 9 says that “Effective professional development provides a framework for integrating and relating innovations to the mission of the organization”. This standard is further explained through three sample indicators; *Improvement plans include a carefully and thoughtfully designed framework for integrating the innovations to be implemented, all implementation efforts include descriptions of how each innovation relates to other ongoing programs and to the mission of the organization, and successful practices are maintained and unsuccessful practices are abandoned when decisions are made to change goals or strategies*. This standard provides guidance for how the professional development will be implemented, how the professional development fits into the overall goals of the school or school system, and how and when decisions will be made to continue or discontinue professional development initiatives.

One option that is available to schools and school systems to create a framework for integrating and relating new professional learning is the creation of a Professional Development Plan (PDP). For many schools and school systems the first step in the creation of a comprehensive PDP is a Needs Assessment that helps schools to determine what area(s) need to be improved (Lieberman & Wilkins, 2006). This step is important as it helps schools to avoid the “flavor of the month” selection of professional development described by Ende (2016), and it helps to promote the levels of program coherence described by Newmann, Smith, Allensworth, and Bryk (2001). Using data to guide improvement efforts is not a new concept in Alabama and

is included in the *Alabama Standards for Effective Professional Development* in Standard 4 which states, “Effective professional development uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement” (Alabama State Department of Education, 2002). In fact, using data to drive the selection of improvement efforts through professional development activities was found in 87.8% of the 41 state-level professional development policies included in this research.

The second step in the PDP process calls for using the Needs Assessment to determine the professional development pathway that will address the identified needs. A Needs Assessment is not a new concept in Alabama either and is addressed in Standard 5 which says, “Effective professional development uses multiple sources of information to guide improvement and demonstrate its impact” (Alabama State Department of Education, 2002). Step 3 of the PDP model calls for reflection and step 4 calls for revisiting the School Improvement Plan to determine next steps and the direction that future PDPs will take (Lieberman & Wilkins, 2006).

While the *Alabama Standards for Effective Professional Development* describe using data to select professional development topics and guide improvement efforts, what is missing from the Alabama standards is guidance related to the period of time after the initial professional development activity is completed and teachers and schools are left with the task of implementing the new learning. Guidance is something that schools and school systems could easily incorporate into their existing Professional Development Plans through the inclusion of descriptions of available supports, time lines and checkpoints for implementation stages, the development of safe learning environments where teachers can experiment with new techniques, and teacher feedback.

AR3: Measuring Professional Development

Recommendation: The current State of Alabama Professional Development Policy should be amended to include guidance for schools and school systems regarding measuring the effects of professional development. This guidance should include techniques and strategies for measuring levels of implementation of a professional development initiative, changes in teacher practices as a result of the professional development activity and increases in student achievement as a direct product of the professional development activity.

Effective professional development policy should provide guidance regarding measuring the effects of the professional development session. This measurement can take many forms including measuring increases in student achievement and/or educator effectiveness, measuring levels of professional development topic implementation in the school or classroom, requiring a Learning Results Portfolio, or any other measurement designed to determine if the intended results of the professional development session were achieved. These measurements will require schools and school systems to be able to accurately determine the outcome of a professional development session. The measurement instrument or method used should not take the form of a satisfaction survey.

Codes related to measuring professional development were found in 26.8% of the state-level professional development policies included in this research. The various state-level professional development standards addressed *measuring professional development, engaging in a process of ongoing evaluation, evaluating professional development to determine if the intended results were achieved, and measuring educator growth.*

The National Staff Development Council (2001) included a recommendation for evaluating professional development as part of their twelve suggestions to improve the effectiveness of professional development. Their recommendation stated that the evaluation of professional development should be based on multiple sources of information to guide the improvement efforts and monitor the impact of the professional development session on teaching and learning. Similarly, the No Child Left Behind Act of 2001 set five criteria for high-quality professional development, including a stipulation that professional development should be evaluated for its effects on teacher effectiveness and student achievement (Regional Educational Laboratory, 2007).

Measuring the effects of professional development can be quite challenging. Many of the instruments currently in use are little more than satisfaction surveys that do not provide accurate information about the effectiveness of the professional development process (Bredson & Johansson, 2000). In other cases, school leaders attempt to measure the effectiveness of professional development by examining the changes in the achievement levels or test scores of the students whose teachers participated in a professional development activity. The challenge here often lies in allowing enough time to pass to achieve full implementation before attempting to take measurements (Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2003).

An additional challenge in measuring the effects of professional development is the lack of existing measurement instruments. Soine and Lumpe (2014) have created and tested an instrument designed to measure teachers' perception of five characteristics of professional development; duration, active engaged learning, focus on content knowledge, coherence with teachers' needs, and collective participation. Main, Pendergast, and Virtue (2015) have also developed an instrument for measuring the effectiveness of professional development based off

the following features of effective professional development: content focus, active participation, coherence, duration, and collective participation. At this time, this instrument only measures participants' reactions (satisfaction with the experience) and participants' learning (the new knowledge and skills gained).

Educational researchers and state-level professional development practitioners should continue to explore and develop new ways to measure the effects of professional development. These new measures should be centered around the characteristics of professional development that have been shown to be crucial in increasing teacher knowledge and skills and improving their practice, and which hold promise for increasing student achievement; content focus, active learning, coherence, duration, and collective participation.

While new measurement instruments are being developed, schools and school systems should explore alternative methods to measure the effects of professional development. Learning portfolios could be an excellent alternative method for teachers to demonstrate how professional development has impacted their teaching practice. The Hawaii Professional Development policy requires that each professional development participant submits a quality learning results portfolio that is reflective of the course content learned and implemented (Hawaii State Department of Education, 2001). Other schools and school systems may find that collegial inquiry provides information about the implementation of a professional development activity via reflection through writing or dialogue (Drago-Severson, 2009). Even simple classroom observations or walkthroughs by the school administration or leadership team could be used to easily measure the level of implementation of a professional development initiative. These alternate forms of measurement tend to take more time to complete, which ultimately may make them less appealing to school leaders.

AR4: Format and Duration of Professional Development

Recommendation: The current State of Alabama Professional Development Policy should be amended to include guidance for schools and school systems regarding the duration of professional development activities. Schools and school systems should be cautioned to avoid the one-day workshop model and instead be encouraged to provide professional development activities that include substantial contact hours provided over a longer period of time. Schools and school systems should also be encouraged to explore alternative methods of professional development that have been shown to increase teacher effectiveness and student achievement.

Effective professional development policy should provide developers and presenters of professional development with guidance regarding the format of professional development. Developers and presenters should be encouraged to avoid the one-day workshop model and should instead implement professional learning opportunities of a longer duration that connect and build upon each other. When possible, these professional development opportunities should be job embedded or provided by making time available during the workday. Professional development should be viewed as being an integral part of the school or classroom and part of the day-to-day culture of the school.

Desimone (2009) described five core features of effective professional development that have been associated with changes in knowledge, teacher practice, and student achievement: Content focus, Active learning, Coherence, **Duration**, and Collective participation. The current *Alabama Standards for Effective Professional Development* do not contain any standards that are related to the duration of a professional development activity. However, the major study theme of duration appears in 75.6% of the 41 state-level professional development policies studied. The

codes related to duration were; *Provided over time/ongoing/sustained focus, Sessions connect/build, Sustained/Rigorous, Sustained Approach for improving teacher effectiveness, Continuous professional development, Continuous Improvement, Occurs regularly, Part of day-to-day school culture, and Integral work of school/classroom.*

Desimone (2009) defined duration as the time spent in professional development activities, including how the session was structured and the number of hours the professional development included. Martin, et al (2014) found that the effectiveness of professional development was increased by longer duration in two ways. First, professional development initiatives of longer duration provide additional opportunities to internalize, explore, and reflect on new learning. Second, professional development activities of longer duration allow for the incorporation of other effectiveness components: depth of subject-matter content and reinforcement of coherence. The value of professional development activities of longer duration applied to both the professional development activity itself and to the period of time during which follow-up activities are supported and the professional development is integrated with other improvement activities taking place in the school or district.

There is a great deal of support in the literature for the effectiveness of professional development activities of longer duration. Wei, Darling-Hammond, and Adamson (2010) found that professional development that was sustained over time and contained a substantial number of contact hours on a single concept was most effective. These researchers defined “substantial” number of contact hours as an average of 49 hours and a high of 100 hours per single focus. Yoon, et al (2007) found that the only types of professional development programs that impacted student achievement were those that were lengthy and intensive. Similarly, research by Darling-Hammond, Wei, Andree, Richardson, and Orphanos (2009) found that professional development

that provided substantial contact hours, ranging from 30 hours to 100 hours and spread over 6 to 12 months, showed a significant positive effect on student achievement. Bayar (2014) also found that duration was an important component of effective professional development. The elementary teachers in this Turkish study indicated that any professional development could be effective if it was organized around an identified need and was provided for a long time.

Federal legislation, as well as recommendations provided by professional educational organizations, offers guidelines involving professional development effectiveness and the duration of a professional development activity. The No Child Left Behind Act of 2001 required that professional development be sustained, intensive, and content focused (Regional Educational Laboratory, 2007). According to guidelines included in the Elementary and Secondary Education Act, professional development should be sustained, intensive, and classroom focused, and should not be in the form of a short-term workshop (U.S. Department of Education, 2006). Additionally, the Center for Public Education (2013), developed a standard recommendation that stated that professional development must be of sufficient duration and must be ongoing to allow the teachers time to learn a new strategy and work through the difficulties of implementation.

States may also decide to investigate other forms of professional development that extend beyond the workshop model. For example, Burbank and Kauchak (2003) explored collaborative action research as part of an urban teacher preparation program. These researchers found that action research actively involved teachers in professional reflection, confirmed educators as producers of knowledge, and recognized the teacher role in professional development and decision making. Mentoring and coaching have also been shown to be effective methods of professional development implementation. The Community of Practice model described by

Kennedy (2014) emphasizes the value of learning in communities, viewing the existence of individual knowledge and the combinations of several individuals' knowledge through practice, as a powerful mechanism for the creation of new knowledge.

The State of Florida recently explored the lesson study model (Akiba & Wilkinson, 1999) as an alternative to the traditional workshop-based professional development. This model includes teachers working in a small groups, collaborating with one another, meeting to discuss learning goals, planning actual classroom lessons, observing how their ideas work in live lessons with students, and then reporting on the results so that other teachers could benefit from it. While the lesson study model in Florida was not implemented to fidelity, lesson study continues to offer promise as a means for teachers to learn from each other, explore new teaching methods, and ultimately improve their practice.

Corcoran (1995) explored joint work, job enrichment, teacher networks, and partnerships between higher education and schools as ways to tap into the wealth of teacher experience and expertise that exists in many schools. This researcher found that these alternative methods of professional development could facilitate professional development that is integrated with teachers' work, takes advantage of the expertise of accomplished teachers, and recognizes teachers as a valuable source of information regarding effective professional development. Corcoran also advocated creating professional development or practice schools where novice and expert teachers could work in tandem with university faculty, in a professional setting, to work toward improving teaching practice through observation, low-risk experimentation, reflection, and coaching. Finally, Corcoran recommended pursuing National Board Certification as an alternate means of improving teaching and learning, and ultimately student achievement.

Meta-Reflection on Research Design

This research was conducted as a policy analysis of available state-level professional development policies with the intention of providing recommendations for ways that the current Alabama professional development policy could be revised to create a more viable teacher professional development policy. Document analysis using coding allowed for the development of 189 distinct codes. These codes were consolidated into 26 major study themes. Each of these study themes were examined to determine if they were supported by the literature and to determine how many of the 41 available state-level professional development policies contained each study theme.

Coding the State-level Professional Development Policies

To begin the process of document analysis, a hard copy of each professional development policy was printed. If the state-level professional development policy was lengthy, only the portion of the policy containing the professional development standards was printed. If a state-level professional development policy was only available in an on-line format, the content was either copied to a Word document or screen shots of the policy were taken. Once a paper copy of each policy was obtained, the policy was studied, and all codes related to professional development were highlighted. These codes were transferred to a spreadsheet and marked to indicate in which state-level professional development policy each was found.

The coding process proved to be a challenge. Many of the state-level professional development policies contained wording that encompassed the same intent as content found in another states' policy but was worded very differently. For example, several state-level professional development policies contained language that dealt with collaboration. In some states this term was addressed as collaborative inquiry, facilitating collaboration, or even

learning grounded in a culture of collaboration. It was very difficult to decide when concepts were similar enough to allow for the reuse of an existing code, and when concepts were different enough that a new code would need to be generated.

If there was any question as to whether a new code would be needed, a new code was produced to ensure that researcher bias would not interfere in the coding process. This uncertainty may have led to more codes than were needed or indicated for this study. For example, there were multiple codes associated with goals. These included *Goal Alignment - State/local*, *Clear goals and objectives - Student Outcomes*, *Educator learning goals based on data*, *Analysis of data related to goals*, *School-wide Goals*, *Aligned to state/district/school goals*, *Data informed decisions about learning goals/objectives*, *Clear goals/related objectives for educator outcomes*, *Clear goals/related objectives for student outcomes*, *Formative evaluations of progress toward goals*, *Individual Educator Goals*, and *Summative evaluations of attainment of goals*. If I were to do this study again, or conduct similar research, the coding process might look very different with fewer codes for related topics. As a more experienced investigator, in future research I might minimize the number of individual codes by consolidating the codes into fewer categories on the front end. Ultimately, I do not believe that any potential excessive codes impacted the overall research in any way as the codes were eventually merged into major study themes.

Issues with Collecting the State-level Professional Development Policies

Another challenge that was associated with this research was the process used to locate and obtain the state-level professional development policies included in this study. These state-level professional development policies were initially gathered through a series of internet searches. If a State's professional development policy could not be located through an internet

search, then phone calls were placed to the State Department of Education for that State and email requests for more information regarding the state-level professional development policies were sent. One difficulty in trying to communicate with State Departments of Education was a lack of information concerning the correct department or individual to contact. Once a state contact was identified and email contact was initiated, several state representatives did respond to my emails. Some States provided information about their state-level professional development policies, some provided information that was not relevant to my research, and others responded that their state did not, in fact, have a state-level professional development policy. Phone communication was even more problematic, and I did not receive a return phone call from any of the State Departments of Education that I contacted.

Difficulties with locating state-level professional development policies was an issue in this research. Ultimately, I was able to locate 41 state-level professional development policies, but I was not able to locate state-level or organizational-level policies for nine States, the Department of Defense, the District of Columbia, or Puerto Rico. I remain uncertain how these additional state-level or organizational-level professional development policies could have been located, or if they even exist. Any pertinent information that could have been uncovered in these policies was not included in this research and could have potentially impacted my study results.

Overall, I was very satisfied with the research design that was chosen to complete this study. The document analysis and coding allowed me to identify 26 major study themes, or in this case 26 characteristics of state-level professional development policies. Without the process of coding, I am unclear how I would have systematically determined the common characteristics of the 41 state-level professional development policies studied.

Entering the codes into a spreadsheet allowed me to sort the codes into major study themes, determine which state-level policies contained certain characteristics, sort the policies by the source of the state-level professional development policy, and sort the policies by academic ranking using the 2015 Mathematics NAEP scores. Again, without engaging in the process of systematically coding the original documents and utilizing a spreadsheet to track those codes, I am uncertain how I would have determined the major study themes.

By examining each of these different rankings and combining this information with the literature review, I was able to identify 11 areas or major study themes that the Alabama *Standards for Effective Professional Development* did not address. Not all of the major study themes became part of state-level professional development policy recommendations; however, this research allowed me to create four recommendations for Alabama professional development policy-makers to incorporate when writing and revising professional development policy in the State.

Meta-reflection on the Personal and Professional Impact of this Research

The unit of analysis for this research was state-level policy and the resulting information allowed me to develop four recommendations for state-level professional development policymakers in the State of Alabama. However, engaging in this study has changed my personal practices in very specific ways, and it is my hope that these research findings will also be used by other practitioners of professional development to improve the development and delivery of professional development in the State of Alabama.

The practical implications of this study are significant and have impacted my daily work in ways that I hope have already made me a better professional development provider. Many of the 100+ professional development deliveries that I provide each year are created to meet the

specific requests of a school or school system. Through this research I have been able to identify areas where my professional development offerings can be improved, and I have worked with other individuals in my company to educate schools and school systems as to the types of professional development that have the best chance of changing teacher practice and ultimately improving student achievement.

One way that I have changed my professional development delivery methods as a result of this research is through providing my participants with more opportunities to collaborate and communicate during professional development sessions. One of my company's most popular professional development offerings is a Data Meeting where we provide teachers with the disaggregated results of their state testing data. In the past we have simply provided the teachers with their results and then provided them with recommendations for how they could raise their test scores. More recently, I have begun to provide the teachers with their data, guide them through an examination of that data, and help them draw their own conclusions regarding the strengths and weaknesses that the data reveal. The teachers then plan their own actions and strategies to improve test scores.

Another area where I have made significant changes in my own practice is in the duration of the professional development. As a result of the research I conducted as part of this study, I have been able to steer school systems toward professional development activities that are conducted over longer periods of time. For example, I am currently leading a year-long strategic teaching implementation in a local school system. The initial training for this professional development initiative was conducted during the Fall semester with a team of lead teachers from each school. The teachers on the Leadership team at each school turned that initial training around with their faculty and conducted classroom observations to check for levels of

implementation. During our next meeting, each team reflected on the successes and challenges associated with the initial roll-out and shared this information with the larger group. I then trained the teachers on the next component of the professional development initiative, and the teachers returned to their home schools to turn this training around with their teaching staff. This process has been repeated every 4 to 6 weeks as we have rolled-out each subsequent piece of the initiative. This gradual release of the training components has allowed the Leadership Team and the teachers back at their home schools to implement, practice, and reflect on each new component before the next training takes place. This professional development initiative will conclude during the Spring semester with a series of instructional walk-throughs at each school to check for levels of implementation of the professional development initiative.

The design of the professional development activity described above has allowed for the inclusion of many of the major study themes identified by this research. The teachers have had ample opportunities to *collaborate* during the entire process by working within their professional learning *communities*. We have examined the *data* generated by the walk-throughs and classroom observations to make decisions regarding next steps in the professional development delivery and to determine if our *goals* are being met. The longer time span of the professional development *design* has allowed teachers to *model* the strategies for their fellow teachers and *follow-up* with and support teachers who may be struggling to implement the new instructional strategies.

Other small changes are making their way into our other professional development deliveries as well. In the past, we have relied heavily on the one-day workshop format. Once I started this research, I began working with my fellow presenters to develop professional development deliveries of longer duration with more opportunities for participant collaboration

and active involvement. For example, the Alabama Department of Education has developed a new assessment in grades 3 – 8 called the Alabama Comprehensive Assessment Program (ACAP) (Rains, 2018). Schools and school systems want and need more information about this new assessment platform. Using the characteristics of effective professional development discovered through this research, we have designed professional development activities that not only give teachers information about this new test but also allow them to explore the new item types, write their own sample questions, practice the sample questions with their students, and discuss the weaknesses and strengths that exist in the knowledge base of their students.

Overall, this research provides some interesting considerations for anyone selecting, developing, or presenting professional development activities for teachers. When choosing professional development opportunities, administrators and central office personnel should ensure that the outcome of the learning opportunity will support the overall Professional Development Plan in their schools. Too many unaligned or fractured sessions can cause teachers to lose sight of the goals that the school has in place. Professional development should be selected on the basis of a comprehensive needs assessment, be part of the overall plan of the school, and be followed up with modeling, coaching, and time for reflection.

Administrators should also support professional development activities within their schools with their time, talents, and attention. Effective professional development can change the culture and climate of a struggling school if it is implemented to fidelity and supported with appropriate resources and a plan for implementation. The administrator plays a vital role in this process as he/she sets the tone for the school. If a professional development initiative is perceived by the staff to be unimportant to the school leader, many teachers also being to question how important the professional development is to them.

Presenters and developers of professional development activities should also consider several factors when building professional development. The most effective professional development opportunities provide teachers with opportunities to create their own knowledge through peer collaboration, active engagement, and reflection. These activities should take place over longer periods of time with ample time for coaching, mentoring, and follow-up. The professional development should have clear goals and outcomes that need to be communicated to the participants, and there should be some type of measurement instrument to determine if the goals of the professional learning have been realized.

Next Steps in Research on Topic

There are several areas in which further research on effective professional development is needed. At the time of this research, the literature still lacks a definitive definition of effective professional development. Different states, groups, and educational organizations have defined effective professional development with an array of features and components. Each of the 26 major study themes identified in this research can be found in at least one of the 41 state-level professional development policies included in this study. While 26 professional development components create a substantial catalog, they still might not comprise a complete and comprehensive list. Researchers should continue to seek to develop a definitive list of effective professional development characteristics, as well as explore professional development components that have not been previously considered. In the end however, we may find that all of the 26 major study themes identified by this study, as well as other professional development components not identified by this study, are essential characteristics of effective professional development and should all be included in any future description of effective professional development.

Considering the previous paragraph, there are some areas of professional development that this research has identified as needing to be studied and refined. Using technology to deliver professional development to teachers should continue to be examined to judge its validity as a delivery method. Some of the limitations associated with online professional development mentioned in this paper are legitimate concerns when designing and selecting professional development. Lack of interaction with the presenter, lack of hands-on practice with the content being delivered, reduced quality, and the inability to collaborate with others have all been cited by teachers as reasons they do not like online professional development. Educational researchers should continue to examine whether online professional development provides the same benefits as more traditional professional development models. If online professional is not as effective as traditional professional development, then researchers should explore ways to increase the effectiveness of online professional development. If online professional development is found to be just as effective as or even more effective than traditional professional development, then researchers should explore ways to make online professional development more appealing to teachers by incorporating more of the components that teachers find facilitates an effective professional development session.

While there are some promising new innovations, researchers should continue to explore ways to measure the effectiveness of professional development. Our current methods for assessing professional development tend to be little more than satisfaction surveys, which do not provide the kind of information that is needed about the effectiveness of a professional development delivery. Being able to measure whether the goals of a professional development were realized or if the teachers were able to incorporate the new learning into their daily practice may ultimately require something more than just a survey instrument. Researchers should begin

to explore alternate methods for measuring the outcomes of a professional development activity. A Learning Results Portfolio, or other written documentation, could be an excellent way for teachers to document the learning that occurred as a result of professional development as well as provide a means for teachers to reflect on the successes and challenges of implementation.

Finally, even if all of the recommendations contained in this study are followed and teachers receive an exemplary professional development experience, there is one factor that can have a huge impact on the success or failure of a professional development initiative:

Implementation fidelity. There are many reasons why a professional development program might not be fully executed. If the topic of the professional development does not fit into the overall professional development plan of the school, it could be abandoned for reasons related to time and resources. Lack of teacher buy-in, difficulties with implementation, lack of teacher support, lack of administrative guidance, and limited resources can all impact whether a professional development initiative finds success or failure in a school. Further research should be conducted to determine why professional development implementations are not executed to fidelity. If researchers could identify the most common reasons why professional development initiatives fail, then these issues could be addressed proactively during the design stage of professional development.

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APPENDIX

Appendix 1
IRB Letter



April 3, 2019

Gene Burchfield, MS
Department of ELPTS
College of Education
The University of Alabama
Box 870302

Re: IRB Requirement for "A Policy of the State-Level Professional Development Policies of High-Performing versus Low-Performing NAEP States"

Dear Gene Burchfield:

This letter comes as a response to your communication received April 3, 2019. According to the Office for Human Research Protection (OHRP) under policy 45 CFR 46.102(e) the proposed work is not human subjects research.

Because the work is not considered human subjects research, it does not require IRB approval and is therefore excluded from review by the IRB.

If you have any questions or if I can be of further assistance please do not hesitate to contact me.

Sincerely,

A black rectangular redaction box covers the signature area.

Director & Research Compliance Officer